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## SOCIAL ENTREPRENEURSHIP AND EMPLOYMENT CHALLENGES OF PERSONS WITH MENTAL DISABILITIES

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**Abstract.** In developed countries there is a valuable experience how to include people with disabilities into society: involve in several activities and let them know as people valuable for the society. More and more academic research is devoted to those aspects as well as public policy is developed to create and support social entrepreneurship. Aim of the paper is to analyse findings and good practice of employment of people with mental disabilities in several countries and analyse the situation and possible developments on employment of people with mental disabilities in Latvia. Tasks of research: 1) analyse results of academic findings on good practice and challenges in employment of people with mental disabilities world-wide; 2) analyse the developments and trends on employment of people with mental disabilities in Latvia; 3) propose possible development scenarios on employment of people with mental disabilities in Latvia. Research methods used in research: scientific publications analysis; analysis of legislative documents on employment of people with mental disabilities, analysis of statistical data on employment of people with mental disabilities. Research results have shown that in recent years many important steps in employment of people with mental disabilities in Latvia has been reached but there are some difficulties in realise of sustainability in this aspect.

**Keywords:** *social entrepreneurship, disability, communities, job security, market integration, social exclusion.*

**JEL code:** I32, J14, J24

### Introduction

In society there are several groups of people which need special attention from the society – they are persons with disabilities. In developed countries there is a valuable experience how to include people with disabilities into society: involve in several activities and let them know as people valuable for the society. More and more academic research is devoted to those aspects as well as public policy is developed to create and support social entrepreneurship.

Aim of the paper is to analyse findings and good practice of employment of people with mental disabilities in several countries and analyse the situation and possible developments on employment of people with mental disabilities in Latvia.

Tasks of research: 1) analyse results of academic findings on good practice and challenges in employment of people with mental disabilities world-wide; 2) analyse the developments and trends on employment of people with mental disabilities in Latvia; 3) propose possible development scenarios on employment of people with mental disabilities in Latvia.

Research methods used in research: scientific publications analysis; analysis of legislative documents on employment of people with mental disabilities, analysis of statistical data on employment of people with mental disabilities.

### Literature Review

There are many academic publications where it has been examined how employment and work environments promote mental health. Main conclusion in most of research findings state that employment is generally better for mental health than non-employment (Llena-Nozal, 2009) and can be a crucial influence on recovery from a mental health condition (Andren, 2014; Doroud et al., 2015). Employment appears to promote recovery via provision of routine and structure, social connectedness and belonging, hopefulness and purpose, sense of identity, and empowerment (Leamy et al., 2011). Other benefits include improved quality of life and well-being, providing (Woods, et al, 2019). Often important aspects of research are social entrepreneurship and ways how to integrate people with mental disabilities into the labour market. Social needs arise with each new era of human history, and these needs are



brought forth to public consciousness through social movements. Social movements provide external influence to which organizations adapt (Foo & Hall, 1997; Schein & Schein, 2017), or they drive the creation of new organizations that evolve to resolve unmet social needs. Social movements affect how employees develop in an organization committed to social action (Zielinska, Kowzan, & Prusinowska, 2011) and model how an organization can create greater impact with social responsibility (Ferrell, Fraedrich, & Ferrell, 2015), (Bennett, McWhorter, 2019).

The social entrepreneurship literature has been criticized for being overly preoccupied with definitional debates about who the social entrepreneur is or what elements constitute the boundaries of social entrepreneurship (Starnawska, 2016). In the last decade, the concept of development and promotion of the social economy and social entrepreneurship are part of EU policy to tackle the social exclusion of persons in a vulnerable position. Also, the model of social economy is one of the key tools for achieving social goals within the framework of sustainable and inclusive growth. The social benefits are measured by the integration and employment of disadvantaged people, the contribution to the process of social inclusion by other vulnerable people, and the economic indicator is expressed by the public funds spent on social welfare, on one hand, and the additional funds social costs of long-term unemployment. (Terziev, Venelin<sup>1</sup>, Bencheva, Nelly<sup>2</sup>, 2019). In its turn, the Latvian Association of Latvian Social Entrepreneurship has been established with the aim of promoting the development of social entrepreneurship in Latvia. (Social entrepreneurship support Network of the Baltic sea region, 2018). Social entrepreneurship in Latvia is implemented in several projects: "Social entrepreneurship development in the Baltic Sea region" and "Improvement of the social entrepreneurship networking and educational possibilities in the Baltic Sea region" are executed under the Erasmus+ program and co-financed by the European Union. This paper will serve as an opportunity to explore how entrepreneurship can be part of the solution for. Social entrepreneurship is a business model with a social impact as a priority above profit. Jones and Donmoyer (2015) articulated the relationship between social enterprises and non-profits in their paper on the multiple meanings of social entrepreneurship and 3 social enterprise, stating that society has three sectors — public, private, and non-profit.

Psychological functioning is of great importance. Psychological functioning is centered on positive life engagement where "purpose-seeking, realization of personal talents and capabilities, and enlightened self-knowledge" are central to the notion of living well (Ryff, 2014, p. 10). More specifically, psychological functioning involves pursuing life goals (e.g., accomplishing challenging tasks, maintaining meaningful relationships, persevering in the face of adversity, or engaging in purposeful activities) that are valuable for their own sake in the sense that they engender realization of one's full potential as a human being (Ryan & Deci, 2017); (Nikolaev, et al, 2019).

Competence—the ability to make effective decisions and perform well—is essential to human functioning as it focuses on how individuals use their personal strengths and abilities to take advantage of different opportunities in their lives (Harter, 1978; Ryan & Deci, 2000; White, 1963); (Nikolaev, et al, 2019).

Strong ties provide regular positive experiences and a sense of importance in one's close social community (Putnam, 2000) and are one of the strongest determinants of subjective well-being (Diener & Seligman, 2002; Diener & Biswas-Diener, 2008; Helliwell, 2006; Layard, 2011) as well as other scientific findings in this field.

### **Research results and discussion**

Next aspects analysed on current situation in Latvia on

- Disability in Latvia;
- How many social enterprises have been established in Latvia?
- What industries are developing in social entrepreneurship?

Analysis of definitions of disability – there are several approaches in defining disability by different institutions. Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. An

impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations (World Health Organization, 2016). According to the World Health Organization disability is an umbrella term that has three components: (1) impairments, (2) activity limitations, and (3) participation restrictions. This is a broadly-based definition included for medical classification referenced to as International Classification of Functioning established by the World Health Organization (2011). Disability is thus not just a health problem. It is a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she lives. Overcoming the difficulties faced by people with disabilities requires interventions to remove environmental and social barriers (World Health Organization, 2016).

People with disabilities have the same health needs as non-disabled people – for immunization, cancer screening etc. They also may experience a narrower margin of health, both because of poverty and social exclusion, and also because they may be vulnerable to secondary conditions, such as pressure sores or urinary tract infections. Evidence suggests that people with disabilities face barriers in accessing the health and rehabilitation services they need in many settings. Disability is a reality for many people globally and has been identified by the World Health Organisation to be a challenge faced by all nations, due to two primary reasons, an ageing global population and increasing rates of chronic disease (World Health Organisation, 2011).

Psychological functioning is of great importance. Psychological functioning is centred on positive life engagement where “purpose-seeking, realization of personal talents and capabilities, and enlightened self-knowledge” are central to the notion of living well (Ryff, 2014, p. 10). More specifically, psychological functioning involves pursuing life goals (e.g., accomplishing challenging tasks, maintaining meaningful relationships, persevering in the face of adversity, or engaging in purposeful activities) that are valuable for their own sake in the sense that they engender realization of one's full potential as a human being (Ryan & Deci, 2017); (Nikolaev, et al, 2019). Competence—the ability to make effective decisions and perform well—is essential to human functioning as it focuses on how individuals use their personal strengths and abilities to take advantage of different opportunities in their lives (Harter, 1978; Ryan & Deci, 2000; White, 1963); (Nikolaev, et al, 2019). This includes people with mental and physical disadvantages that are affected by society in which they live. Based on statistic data for 2017 of the European Union (EU) population aged 16 or over have been reported with long-standing disabilities in 2017. This means that they felt some, or severe limitations in performing everyday activities such as studying at school, work, housekeeping or in participating in leisure activities, for a period of six months or longer. According Eurostat data (Eurostat, 2017) Latvia has the highest indicators on long-standing disabilities which are one of the reasons for slow economic growth from one side but from other side society has to take care on persons with disabilities and involve them in everyday activities and realise social inclusion to feel the persons with disabilities as members of the society. Some activities are taken by the state by organising support for activities of the social enterprises including special legislative regulations. Main statistical data on support for persons with disabilities in subsidized workplaces are included in table 1.

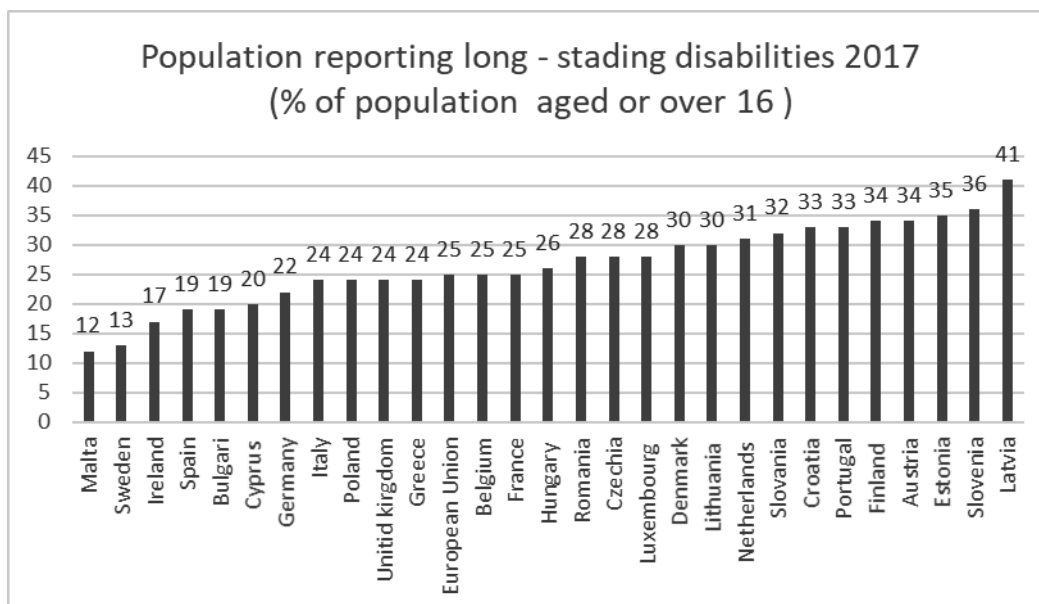
Table 1

#### Main indicators of persons with disabilities in Latvia in 2003-2018

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Number of disabled persons in subsidized jobs employed during the reference year</b>															
755	462	432	409	459	494	168	837	745	497	289	520	305	522	481	840
<b>Share of persons with disabilities who are employed by VSSA (% of all adults with disabilities)</b>															
-	-	-	-	-	24	19	20	20	23	24	25	24	25	25	26,6

Source: Author's construction based on data from Ministry of Welfare of Republic of Latvia in 2019

Share of persons with disabilities in EU is included in figure 1.



Source: Author construction based on Eurostat data in 2018

Fig. 1. Population reporting long - standing disabilities in 2017 (% of population aged over 16)

In Latvia as a whole, in 2018, 191815 persons with mental uses were registered. None of these are 23,145 individuals who are mentally ill and 1st and 2<sup>nd</sup> and 3 disability groups. 1506 persons were with mental markings and 3rd disability groups. About 8,000 adults receive institutional care. There are 8251 children with functional applications related to 1268 children (Ministry of Welfare of Republic of Latvia, 2018). Statistics show that more people are being used each year as well as mental uses. That affects the socio-economic situation in the country. There is no denying the boom in the number of people, the more social cost of benefits. One of the most significant societal impacts due to disability is the impact on the economy; in particular the lower participation rates in the labour force. Based on statistic data in Latvia, every year there is growth for employed people with disabilities. In table 2 are included data on ESF project support for social entrepreneurship in Latvia.

Table 2

ESF project support for social entrepreneurship in Latvia (statistic data on 31.12. 2018.)

No.	Indicator	Number	Sum million EUR
<b>Pilot project – enterprise (registered before 01.04.2018.)</b>			
1.	The event has been granted participant status together	98	-
2.	incl. Ltd. is a limited liability society	48	-
3.	Non-governmental organizations (associations and foundations)	50	-
<b>Social enterprise legislation documents</b>			
1.	Assigned social enterprise status	27 (+5*)	-
2.	Social enterprise status disapproved	7	-
<b>Altum grant</b>			
1.	Grant applications have been submitted to Altum	99	-
2.	Been awarded grants by Altum	36	2,629
3.	Altum has rejected the grant or the applicant has not applied	31	
4.	Altum has concluded grant agreements	31	2,350
5.	incl. with social enterprise	6	0

Source: Ministry of Welfare of Republic of Latvia in 2019

Now in Latvia social enterprise is developing the most. Social enterprise goal is to make product, deal with social, financial well-being resolving issues in process so society are pleased. Social enterprise priority is to use business methods to make higher social value. However, according the author view social enterprise shouldn't be the only resources, where people with mental illness should work. Government must think long term regarding for making sure

that people with mental illness has long time employment, making sure workplace has environment regarding's to each individual capability.

The Social Enterprise Law was adopted by the Saeima (Parliament of Republic of Latvia) on 12 October, 2017 and came into force on 1 April, 2018. The purpose of the Social Enterprise Law is to improve the quality of life and to promote employment for groups at risk of social exclusion, through creation of an economic environment supportive to social enterprises (Līcīte, 2018). The Law creates the legal framework by providing both the criteria for obtaining the status of a social enterprise and the procedure for state support for this type of entrepreneurship.

A social enterprise as defined in the Social Enterprise Law is a limited liability company which has been granted the status of a social enterprise in accordance with the procedures laid down in the Law and which conducts an economic activity creating a positive social impact (e.g., provision of social services, formation of an inclusive civil society, promotion of education, support for science, protection and preservation of the environment, animal protection, or ensuring of cultural diversity). A decision to grant the status of a social enterprise is taken by the Ministry of Welfare. The Register of Social Enterprises is maintained and published on the website of the Ministry of Welfare.

The Commission for Social Enterprises is established to provide a motivated opinion to the Ministry of Welfare on the compliance of the applicant with the status of a social enterprise.

Meanwhile the ESF co-funded project “Support for Social Entrepreneurship” has been launched by the Ministry of Welfare in 2016. The purpose of the project is to identify and verify the optimal solutions for creation and development of social enterprises, including the support to work integration. The project includes such activities growth and society, as well as the development of a support system for social enterprises and the promotion of social start-ups. Financial grants for social enterprises, both start-ups and already operating companies, and wage subsidies for employing vulnerable groups are provided within the project (Ministry of Welfare of Republic of Latvia, 2018).

Social exclusion a situation in which some people who are poor or who do not have a job do not feel part of the rest of society (Cambridge Dictionary, 2019), by World Health Organisation “Exclusion consists of dynamic, multi-dimensional processes driven by unequal power relationships interacting across four main dimensions - economic, political, social and cultural - and at different levels including individual, household, group, community, country and global levels. It results in a continuum of inclusion/exclusion characterised by unequal access to resources, capabilities and rights which leads to health inequalities” (WHO, 2019). People with disabilities are those people, who suffer from a physical, mental or intellectual disability, are one of the main groups at risk by the lack of communication and adaptation to the rest of the society.

In Latvia, the Ministry of Welfare together with Latvian planning regions and municipalities throughout Latvia are achieving their project, which includes EU funds financial support (deinstitutionalization project received 98 million euro) instances will be able to make platform which will allow for children who are living in social care home to grow in family like environment as well as children with functional disability could get needed social care and rehabilitation in their community.

As well as grown people with mental disability based on their capability and with specialist help could choose to live independently and work in appropriate job based on their capability. In that way based on project in Latvia you'll be able to witness deinstitutionalization, that way the bigger social care homes will be replaced by environment which will be more social as well with more services for family like environment (Ministry of Welfare of Republic of Latvia, 2019).

Based on author's long-term experience as a (leader, manager, supervisor) in VSIA “slimnica Gintermuiza”, long term social care and social rehabilitation centre for people with mental handicap. There is still stereotype in society, for example, if person has gotten back ability and well-being has increased on the level that they are able to live in

shared flats or houses supervised by health care assistance. Everyone has to know their ability's; they have to train their ability and they have to be confident about their knowledge. It's important that society value individuals equally, so they can feel proud about achievements and it can boost their confidence. For this to work it's important to have mentoring with employed staff and people with mental handicap who are living in this home, flats. From author's experience working as (supervisor, manager) in rehabilitation facilities at VSAC "Zemgale" filiale "Lielberze" collaborating with The Ministry of Welfare of Republic of Latvia have made project. Later on, we achieved our goals in our project which was 140 owls (souvenir's) for European Union work and the Ministry of Welfare which we gave as a gift in informal meeting.

Owls (souvenirs) were made by people with mental handicap (E. Anča. 2016) People with mental handicap can be employed based on their ability. It is important to find job and suit the best possible job task for each individual. The biggest issue with people with mental handicap is to find the job. Poor health is one of the reasons for unemployment. Based on statistics in Europe as well as in Latvia, social enterprise goal is not only to get work vacancies but important recurs is also deinstitutionalization realization, so people with mental handicap can feel as a part of society. This is most important steps to make sure people with mental handicap are able to live independently (L.Vilka, 2017).

Social exclusion a situation in which some people who are poor or who do not have a job do not feel part of the rest of society. People with disabilities are those people, who suffer from a physical, mental or intellectual disability, are one of the main groups at risk by the lack of communication and adaptation to the rest of the society and as it was indicated in the figure above, Latvia has the biggest share of disabled people in the European Union. Latvia has many problems in this field and there it is on great importance to conduct deeper research to develop further recommendations for policy improvement.

### **Conclusions, proposals, recommendations**

1. Social entrepreneurship in Latvia is lacking of legislation and regulation and very complicated available entrepreneurship models.
2. Social enterprises in Latvia are lacking corporate identity issues, lacking of public awareness, lacking of visibility, and social enterprises in Latvia have difficulties in access to investment markets
3. The social entrepreneurship of the respective social enterprise company is often mixed and misunderstood as the social cooperative responsibility in the company.
4. Social enterprises and municipalities often struggle to find common approach and the ways for effective and productive partnerships and approach. Often this co-operation of social enterprises and municipalities is more complex and time consuming than previous expected.
5. Creating meaningful, productive and lasting partnerships between social enterprises and partnerships with local authorities is at the same time a challenge and an opportunity in access to investment markets.
6. Social entrepreneurship is employment that is focusing on long-term results. People with mental disabilities often work in agriculture, crafts, industry, etc., and the work of people with mental disabilities often is successful and very important to them that improve their social and economic status.
7. The most important thing for people with mental disabilities in social entrepreneurship is to enable us to develop as skills are acquired, we can talk about employment in terms of labour supply, demand and payment for work.
8. Mentally disabled people develop a sense of belonging to the community, develop personal achievements and increase self-esteem through social entrepreneurship and such aspect is important for social inclusion.



9. Social entrepreneurship is essential for people with mental disabilities; it is an important part of their recovery process and get positive feelings on their contribution for the society as also most of persons with health problems want to be useful and important for society.
10. One of the most important negative factors affecting a person's mental health is downtime.
11. It is important to be sure and prepare conditions that social enterprises will be able to survive in the long term when the European co-financing ends.
12. It is important to be sure and prepare conditions that people with mental disabilities will be involved in further employment activities and develop further research for social inclusion also for persons with disabilities and especially with mental disabilities.

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## PHARMACEUTICAL ENTERPRISES' MARKET ENTRY STRATEGIES

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**Abstract.** The pharmaceutical sector encompasses a wide range of business activities – research and product development, manufacturing, marketing, international business, wholesale, retail and services. Consequently, it is facing the contemporary challenges of globalisation, sustainable development, social, economic and political change. At the same time, pharmaceuticals have a significant impact on the provision of health care, which limits the freedom of business. In framework of this research the applicability of the International business theories to pharmaceutical sector, as well as the major factors influencing the enterprise' choice of the market entry mode are explored. The organisation of healthcare and its financing system are important external factors influencing the market entry strategy of the pharmaceutical company. Focusing on the healthcare market as a platform for medical entrepreneurship and significant regulatory interventions, it should be noted that, in a context of globalization, healthcare is characterised as both an international business and an area to strong government influence and demand generation. In the process of market entry strategy development, pharmaceutical enterprises more often choose the direct exporting, contractual modes and foreign direct investments as the market entry modes. In these circumstances, the Managed Entry Agreements become topical to ensure the availability of new medicines for patients and to encourage the pharmaceutical enterprises to come into market.

**Keywords:** *market entry strategy, pharmaceutical enterprise, Managed Entry Agreements.*

**JEL code:** F2

### Introduction

The European Commission, in the Communication on Effective, Accessible and Resilient Health Systems (European Commission, 2014), stated that European health systems have faced common and growing challenges in recent years: rising healthcare costs, aging populations, resulting in increased rates of chronic illness and mortality, there is also greater demand for health care, health professionals, equity in access to health care. Health is a prerequisite for economic prosperity, and human health affects economic outcomes in terms of productivity, labour supply, human capital and public spending. In its turn, medicines and medical treatment are one of the main medical technologies. As stated in the Communication from the European Commission (European Commission, 2008) on a Renewed Vision for the Pharmaceutical Sector, the pharmaceutical sector contributes significantly to the well-being of Europe and the world by making medicines available, contributing to economic growth and sustainable employment. Most importantly, with innovations in human medicines, patients have received treatments that would not have been possible a few decades ago.

At the same time, the pharmaceutical sector is also facing contemporary challenges. Divergent national pricing and reimbursement systems pose a complex situation in the European Union (EU), while Member States share a common challenge of striking a balance between three key objectives: optimizing the use of resources to ensure sustainable healthcare financing for an aging European society, availability of medicines for patients and incentives for pharmaceutical innovations. The High-Level Pharmaceutical Forum (2005-2008) had produced 10 sets of recommendations for further action by EU Member States, one of which aims to promote rational use of resources:

- allocation of national budgets according to patients' needs;
- developing national drug pricing and reimbursement policies that will ensure effective price control at the supply and demand stages, as well as promote price competition;
- exchange of information and experience between Member States' competent authorities on pricing and reimbursement of medicines;

- further activities towards mechanisms such as risk sharing, conditional pricing, tenders and generics use.

The recommendations remain relevant, given that the measures to be taken will be implemented slowly and without appropriate cooperation between countries. It should be borne in mind that, as laid down in the Treaty on the Functioning of the European Union, the Member States are responsible for the definition of their health policy and for the organisation and delivery of health services and medical care. The responsibilities of the Member States include the management of health services and medical care and the allocation of resources assigned to them (Intergovernmental Conference, 2007).

The problems of healthcare and pharmaceutical market fragmentation are reflected in European Union policy planning documents and policies, are addressed at national level and scientifically researched, but the practical solutions for these problems are not complete and not always universally applicable for all countries. Availability of medicines mostly depends on the pharmaceutical value chain, which consists of manufacturing, distributing and dispensing the medicine. This research mainly focuses on the pharmaceutical manufacturing enterprises' market entry strategies, taking into account that the largest pharmaceutical enterprises are running as the Transnational Corporations, and factors which influence their decisions. The hypothesis of this research is defined as an assumption that pharmaceutical enterprises have the additional significant elements which are applied in process of development of the market strategy and choosing the market entry mode, in comparison with classical market entry strategies, and these preferences can be influenced by external factors, such as amount of the public pharmaceutical expenditures of particular country. Based on the topicality of these issues, the author defines the aim of this research – to identify the specific elements applied in process of development of the pharmaceutical enterprise's market strategy and choosing the market entry mode; and characterise the specific external factors that mainly influence these choices.

To achieve the aim of this research, the following research tasks are defined:

- 1) to study the international business theories and their applicability to the activities of pharmaceutical enterprises;
- 2) to study the factors influencing the choice of the market entry mode of enterprises and to identify the most applicable for pharmaceutical enterprises;
- 3) to conduct the empirical analysis of pharmaceutical enterprises' market entry strategies applied in Latvia.

The research methods (quantitative and qualitative) used to perform the research tasks are theoretical (literature analysis, document content analysis, electronic resource analysis) and empirical research methods. The selected research work covers multidisciplinary aspects, combining international business and health care. Consequently, the specialised literature on international business and health care was used to achieve the aim of this research. The scientific publications, materials prepared by the European Union institutions and international organisations, normative acts and development planning documents, general and special literature, as well as statistical data have been used as the resources. Descriptive analysis of both pharmaceutical enterprises and conventional business strategies assumes some problematic issues of the applied research approach (e.g. possible selection bias by working data).

Limitations of the study are set according to the aim and tasks of this research. The health care system is viewed in a generalised way, whereas the pharmaceutical sector focuses on the activities of pharmaceutical companies, as they are mainly marketing authorisation holders and more interested in transnational activities than wholesale pharmaceutical companies and pharmacy networks. At the regional level, the study focuses on the Member States of the European Union.

Pharmaceutical manufacturing is a high-tech industry, the creation, research and development of a medicine requires significant investments to ensure its efficacy and safety. The life cycle of a new medicine begins with a new chemical (biochemical) compound, usually discovered in fundamental research by originator companies or

independent research bodies (universities, specialised laboratories), often with public funding. The originator companies then test whether the product containing such a chemical compound will be safe and effective. During the development phase, potential medicinal products are first evaluated in laboratory tests (including on animals) in the so-called pre-clinical phase. The first step involves the creation of a structure for the main chemical compound of the medicine using several specific test techniques to test its safety, efficacy and effectiveness. This is followed by clinical trials (in humans) consisting of three phases. Clinical trial is a study performed to investigate the safety or efficacy of a medicine. Once studies show that the new medicine is effective and safe, the company takes intellectual property protection measures (earlier in some cases) and applies for a marketing authorisation from a regulatory agency – either the European Medicines Agency (in the case of centralised registration) or the national competent authority (the State Agency of Medicines in Latvia). In parallel, commercialisation efforts are underway and the implementation phase of the life cycle begins.

The final phase of clinical trials is the post-authorisation monitoring, which takes place after the product is authorised and marketed, and collects additional safety data for a large number of patients. The registration of a medicine is followed by an active marketing phase, which allows the medicine to enter the market as quickly as possible before new competitors appear, considering that this is the most profitable phase of the medicine's life cycle.

Before launching into market – in pre-clinical and clinical stages – the development of new medicinal products may be a source of competitive pressure on existing medicinal products as well as on other medicinal products during the development phase. After entry, new medicines compete for prescribing, either by relying on market share for other drugs or by stimulating overall market demand. At this stage, competitive pressure is mainly exerted by other similar medicines. As the end of the exclusivity period for the originator medicine (patent protection is lost), the pressure from generic versions of the same medicine begins to increase. When generic medicines enter into market, the sales of the originator company usually fall significantly and average market prices fall sharply (European Commission, 2019). A generic medicinal product is a medicinal product which has the same qualitative and quantitative composition in active substances and the same pharmaceutical form as the reference medicinal product, and whose bioequivalence with the reference medicinal product has been demonstrated by appropriate bioavailability studies (The European Parliament and the Council, 2001). The price of a generic medicinal product is lower because the expenditures do not include the cost of clinical trials and patenting.

### **Literature Review**

In the context of *International trade theories*, the research limitations focus on the *Product Life Cycle Theory* specific to the pharmaceutical sector as a representative of the modern trade theories. The theory is written by Raymond Vernon, who formulated product life cycle stages (introduction, growth, maturity, depreciation), product categories (new products, maturity products or standardized products) and marketing strategies at each stage of the life cycle (Vernon, 1966).

According to the *Product Life Cycle Theory*, new product development takes place in highly developed countries, as there are more appropriate circumstances for research and development (R&D), highly qualified professionals and innovation potential. For a limited time, the producer (including the state) maintains a monopoly on production and exports. In the future, as technology are standardised, the production can be relocated to middle-developed countries to benefit from skilled, but lower-wage labour, and to expand production. Originator companies do not seek to shift production of finished products to developing countries. Developing countries are mainly used for contract production of raw materials. In the case of medicines, the moment when the originator company loses market exclusivity and generic medicines enter the market plays an important role. In order to maintain market positions for as long as



possible, originator companies have developed a new strategy in recent years, creating units that produce generic medicines for their originator medicines at significantly lower prices and compete with other generic companies.

In terms of pricing and market differentiation, the activities of pharmaceutical companies can also be seen in the context of the *Porter's Generic Competitive Strategies Model* proposed by Michael Porter. In next chapter of this article, the author offers a variant of M.Porter's model for description of the activities of pharmaceutical companies. The *Porter's Diamond Model* remains relevant, but since the 1990s several extended models have been created. The model expansion took place mainly because the classic Diamond Model did not consider the transnational operation of companies, whereas the Double Diamond provided two dimensions of classic Diamond – global and local, with the potential for dynamic change. The nine-factor model introduced a distinction between internal factors (physical and human) and external factors (such as global economic and political changes). The Dual Double Diamond is a combination of the Double Diamond Model and the Nine Factor Model, which offers a comprehensive analysis of competitiveness for countries with heterogeneous characteristics (Cho, 2013).

In context of factors influencing the enterprise' decision on the market entry mode, the *Eclectic Theory* developed by John Harry Dunning, a British economist and one of the founders of *International business theory*, especially in the field of *Foreign Direct Investments* (FDI), is crucial. The classical *Eclectic Theory* provides the OLI model (Ownership, Location, Internalisation) to identify and assess the benefits before making an investment decision. The FDI theories are largely in line with Raymond Vernon's *Life Cycle Theory* discussed in Subsection 1, assuming that the investments are in compliance with the product's life cycle. The model of eclecticism has been revised several times by the author himself, as well as by other authors (Tallman, 2003).

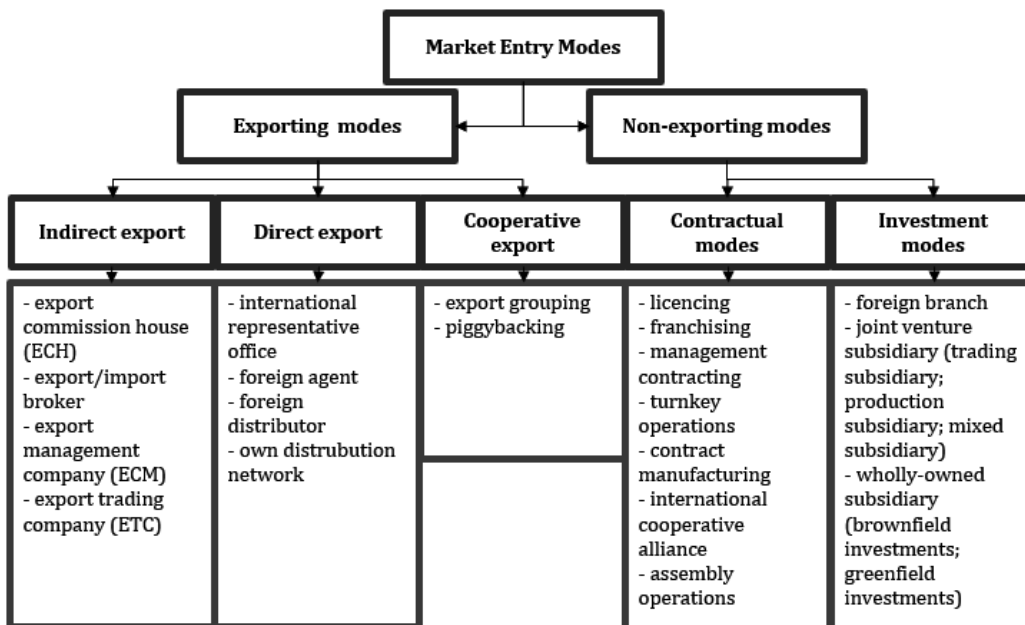
Under the concept of *Investment Development Trajectory* created by J.H. Dunning, each country undergoes five stages of investment development that characterise its ability to be an importer or exporter of direct investments (Dunning, 1998). Depending on the level of each country on the 'Investment Development Trajectory', the country's investment policy is shaped accordingly, which also significantly influences the decision of foreign entrepreneurs to enter the particular market. The potential of a country also depends on the relationship between OLI values (Dunning, 2001). Analysing the classic OLI model, the scientists had pointed out some of the weaknesses of this model, which mainly ignore internationalisation and confusing the way of entering the market. As a result, the OLIM model was offered as a solution that incorporates both the internationalisation dimension and adds a 'M' (Market entry mode) to the OLI (Batalla, 2015).

In preparation for entering a foreign market, a company must carefully develop a strategy and a detailed plan, using all available information on the macro and micro environment in a particular country, industry and market. There are several modes of market entry, which are basically divided into exporting and non-exporting modes (Fig. 1).

The export modes are the most popular, as these modes provide less financial risk compared to contractual modes and investment modes, but also offer less control and potential profit opportunities (Fig. 1). In indirect export modes, the manufacturer uses the independent exporting agents located in the country, so the producer has no direct contact with international customers or partners and the transaction is treated as domestic. The types of indirect export agents are (Hollensen, 2007; Cullen et al., 2010):

- the export commission house (ECH) that is a representative of foreign buyers and is located in the exporter's home country, offering services to the foreign buyers such as identifying potential sellers and negotiating prices;
- the export / import broker as specialist in performing the contractual function, and does not actually deal with the products for sale and purchases, but facilitates contact between a seller and a buyer;

- the export management company (EMC) that is an intermediary specialising in specific products or in particular countries or regions;
- the export trading company (ETC) that is an EMC-like intermediary, but usually takes the claim to the product before exporting.



(Cavusgil et al., 2008; Wach, 2014; Shen, 2017)

Fig. 1. **Market entry modes** (compiled by the author using sources)

In reason of the direct exporting modes, the exporters take on the duties of intermediaries and establish direct contacts with customers in the foreign markets. There are several ways to make a direct exporting, most often using (Hisrich, 2010; Stone McCall, 2004):

- own representative office, operating on a transfer of rights and obligations of the parent company, since its functions is reduced to marketing activities,
- a foreign agent acting on behalf of the exporter and its name,
- a foreign distributor acting on its own behalf and account,
- its own distribution network abroad, when exporting is combined with FDI, mainly in the form of a trading or commercial subsidiary.

The representative office can act as a seller of foreign trade contracts (negotiating the terms of delivery and conduct the market analysis, which is necessary for organising of the direct exporting). There are three ways in which sales agents in a given country can act:

- an own employee of a company delegated to work abroad for a given period,
- an own local employee of a company directly employed by the parent company abroad,
- a local business partner (representing only the interests of the parent company authorised).

Cooperative exporting is particularly recommended for small and medium-sized enterprises, due to their limited resources (mainly financial and human). There are two main types of cooperative exporting: the export grouping (export consortium) and piggybacking. Export consortia are most often defined as voluntary alliances companies tied to foreign joint promotion of products or services its members. Their cooperation may be formalised or based on free cooperation between enterprises, especially micro, small and medium-sized enterprises (SMEs). Their greatest advantage is the sharing of the cost of organising export among the consortium members, which allows SMEs to overcome one of the main obstacles to internationalisation, which is their limited financial resources.

Piggybacking (Hollensen, 2007; Terpstra and Chwo-Ming, 1990) is the market entry mode where two entities, known as a rider and a carrier, are the contract parties. The first one is usually a small entrepreneur, while the other one is a large company. The carrier is established in foreign markets, offering the rider to use its own distribution network. For the access of network, it charges a commission from the entrepreneur planning to start exporting. The products offered by the cooperating companies should be complementary. This type of export is beneficial to both parties, but also involves some risks. The carrier can thus complement its product range with lower network maintenance costs, as they are partially covered by the partner. However, a partner's potentially poor product quality can endanger the company's reputation and lead to problems with the timeliness of deliveries. The biggest advantage for the rider is access to the foreign distribution network, while the disadvantage is the loss of control over the distribution of its products. This type of market entry modes is recommended for micro and small businesses that are unable to make significant foreign investments.

Contractual modes for market entry are mainly based on cooperative relations implemented through contacts with foreign partners, mostly manufacturers. These modes include international licensing, international franchising, international subcontracting and other joint contracting.

International licensing is a contractual arrangement between a domestic licensor and a foreign licensee (the licensor usually has a valuable patent, technological know-how, trademark or business name that it provides to the foreign licensee) (Cullen, 2010).

International franchising is similar in nature to licensing, but it is applied to sales and distribution in the broader service industry. Since the cost of setting up such activities is much lower, this form is particularly popular among the SMEs, self-employed and micro-enterprises, particularly in the European Union (Stone, 2004).

Management contracting is a type of knowledge-based service of management (know-how). A foreign firm purchases operational management services from a domestic firm, that after the execution of the contract usually does not intend to be present in the market, although the accumulated experience may prove to result of permanent presence in foreign markets (Wach, 2014).

The turnkey operations contain an element of cooperation, and they are carried out as de facto export of services, but their main characteristic is contractility. This is a type of contracts between an importer (buyer) and an exporter (seller), whereby the seller undertakes to make the investment specified in the contract, in a given period of time in accordance with the requirements of the buyer, resulting in a turnkey investment. Often, these investments are monitored by the importer's agents (Onkvist and Shaw, 2004).

Contract manufacturing, also known as international subcontracting, is used by companies that outsource part of their production resources, mainly to reduce labour or raw material costs. According to J.H. Dunning's concept, such activities are related to the search for resources and motives for improving efficiency. SMEs are the most often involved in contract manufacturing. Subcontracting may deal with components or semi-finished elements and, in these circumstances, it takes the form of the exporting. As a finished product is outsourced to a finished product, the parent company performs control, marketing and sales as well as R&D functions. Whereas for complete products, it is done as means of production outsourcing, and the parent firm only takes control, marketing and trading, as well as research and development functions (Hollensen, 2007).

Assembly operations rely on a certain form of cooperation between companies, whereby the foreign company contracts to a local company, which performs extensive and precise operations in accordance with the contractual instructions (Onkvist and Shaw, 2004). These modes of entry can be divided into a number of specific options, such as:

- part fit-up and shimming operations during which a semi-finished product which is sent abroad to continue to undergo various stages of production or processing and then returns to its country of origin,
- drilling operations and fastener installations, in which well-known companies outsource their products in accordance with the specifications, based on supplied designs, projects, and sometimes using customer materials,
- repairs and overhaul operations, where goods are sent abroad for repair and then returning to the country of origin.

An essential feature of investment modes is the physical and permanent presence of multinational companies in foreign markets by investing in the establishment of foreign branches or foreign subsidiaries (partially or fully depended). The investment modes are based on FDI, which provide lower production costs and direct presence in a foreign market. Foreign investment can be invested in two ways – brownfield investment that is the mergers and acquisitions (M&A) of local companies; and greenfield investment that is by investing from the beginning. As for organisation term, the investment modes are usually divided into two basic types: a foreign branch, and a subsidiary company (Czinkota and Ronkainen, 2007).

The foreign branch is wholly owned by the parent company. It does not have a separate legal status as an integral part of the parent company, and thus subject to both the legislation of the country of origin and the host country. The division operates under the management of the parent company and its liabilities are fully consistent with those of the parent company. The scope of activities of the branch may not extend beyond this of the parent company. Branches are early modes of hierarchical forms of internationalisation that, due to their success, very often lead to the transformation into subsidiaries (Hollensen, 2007).

The concept of a subsidiary is not clearly defined in the literature. In practice, it more often refers to an enterprise in which the parent company holds a majority of shares or other resources that are controlled. In the case of a wholly-owned subsidiary owned by the parent company, it is referred to as a wholly-owned subsidiary, or partly as a joint venture subsidiary (minority interests, joint control, majority interests). The subsidiary has a separate legal status and it is a separate company operating under the law of its home country, but the legal subsidiary must be established in one of the forms of commercial activities recognised in the host country (Poynter and White, 1984).

Each market entry mode has certain advantages and disadvantages that companies need to consider when planning and operating in external markets. Scientists offer the different insights into the key factors a company should take into considerations, such as capital, management, control, risk management, expected investment, and potential returns. The performed empirical analysis show that the pharmaceutical enterprises more often choose the direct exporting, contractual modes and foreign direct investments as the market entry modes in the process of market entry strategy development. The internationalisation of business is largely viewed in the context of SLEPT (social, legal, economic, political, and technological), focusing on the situation in particular country.

### **Research results and discussion**

In context of International business theories the author offers a variant of M.Porter's model for the description of the specific activities of pharmaceutical companies, which is illustrated in Figure 2. The Segment 1 (Fig. 2) demonstrates a generic medicinal product's entry into the market that was considered in the context of the *Product Life Cycle Theory*. The Segment 2 is characterised by market differentiation. Pricing policies between pharmaceutical manufacturers and sometimes pharmaceutical wholesalers are characterised by price differentiation for groups of customers with different consumer rents (horizontal price differentiation) or with different elasticity of demand (vertical price differentiation), both within the national territory and offering the product in different countries and markets. However, vertical differentiation allows for a larger share of the pharmaceutical market than horizontal differentiation.

Differentiation of medicines' prices also leads to a phenomenon called as a parallel import and parallel distribution (depends on marketing authorisation form). It is known that the same product (which may differ in the excipients used and in the language of the label) is marketed by the manufacturer in different countries at different prices depending on the purchasing power of the population in particular country. In view of these trends, the wholesalers of medicines, where they are financially viable, buy medicines from wholesalers in low-income and, consequently, lower-priced countries and sell them in higher-income countries at prices below their manufacturer's prices in those countries, thus creating so-called parallel imports. Parallel imports create a disadvantage for manufacturers and some competition, while at the same time discouraging excessive pricing.

		COMPETITIVE ADVANTAGE	
		LOWER COST	DIFFERENTIATION
COMPETITIVE SCOPE	BROAD TARGET	<b>1. COST LEADERSHIP</b>  <i>Generic medicines</i>	<b>2. DIFFERENTIATION</b>  <i>Market differentiation (results - paralel import and distribution)</i>
	NARROW TARGET	<b>3A. COST FOCUS</b>  <i>Personalised medicines</i>	<b>3B. DIFFERENTIATION FOCUS</b>  <i>Biological medicines produced by SMEs (initially - in labs)</i>

Fig. 2. Performance of Pharmaceutical Companies in the Context of M.Porter's Global Competitiveness Strategies Model (adapted by the author, based on (Porter, 1985))

The Segment 3A (Fig. 2) may be related to personalised medicine and personalised pharmaceuticals. Personalised medicine is a model of the treatment process that relies on a molecular approach to choosing the appropriate therapeutic strategy for a given patient at a given time, taking into account the predisposition to the disease and providing timely and targeted prevention. Personalised medicine is a new approach that uses data generated by new technologies to better understand the specific state of a person's health and provide the right care at the right time for the right person. New technologies open up wider use of information on the genome and other aspects (such as molecular profiling, imaging, environmental and lifestyle data), helping doctors and scientists better understand, predict, prevent, diagnose and treat diseases (European Commission, 2018 (1)). The basic principles of personalised treatment require the pharmacogenetic tests performed prior to initiation of therapy to determine as accurately as possible the outcomes of the treatment, to avoid inefficiencies for the individual patient, and to minimise the potential adverse reactions.

However, the author notes that, in the context of *M.Porter's Global Competitiveness Strategies Model*, personalised treatment is not unambiguously specific to segment 3A because, although it tailors treatment to meet the needs of a narrow group of patients, this method requires additional costs. The benefits of personalised treatment come in the long term, as the savings by avoiding of ineffective treatment (medicines) for the individual patient and the reducing needs to treat the consequences of adverse reactions. Currently, pharmaceutical companies are actively involved in the development of personalised treatment, expanding their activities in the field of diagnostics and offering complex solutions.



The pharmaceutical segment 3B (Fig. 2) may be represented by manufacturers of biological medicines. Innovations in the pharmaceutical sector, particularly for biologicals, are shifting from large pharmaceutical companies to small players. While large companies continue to invest heavily in clinical trials and bring innovation to the market, today most of the major innovations comes from small and medium-sized enterprises (SMEs). However, innovative SMEs in Europe face financing problems, partly because European public markets are fragmented (European Investment Bank, 2018). Biological medicinal products contain active substances of biological origin, such as living cells or organisms (human or animal and micro-organisms). They are often manufactured using advanced technologies. Compared to chemically synthesised medicines, biologicals are usually much more difficult to produce, therefore biological therapy is one of the most expensive therapies, but its usage is steadily increasing. In 2017, 13.7% of sales of pharmaceuticals were spent on research and development of new drugs, while 24% was spent on biologicals (European Commission, 2018 (2)).

The personalised approach is associated with implementation of personalised medicine and rapid entry of new medicinal products (especially those of biological origin), high prices and high levels of uncertainty about treatment outcomes, as well as a lack of experience with these medicines. In a time of high uncertainty, some countries gradually introduce the Managed Entry Agreements (MEAs). A MEA is an arrangement between a manufacturer and payer that enables access to coverage (reimbursement) of a health technology subject to specified conditions. In the author's view, these agreements can be classified as an additional element which distinguish the pharmaceutical enterprises' market entry strategies and conventional business strategies (Fig. 3)

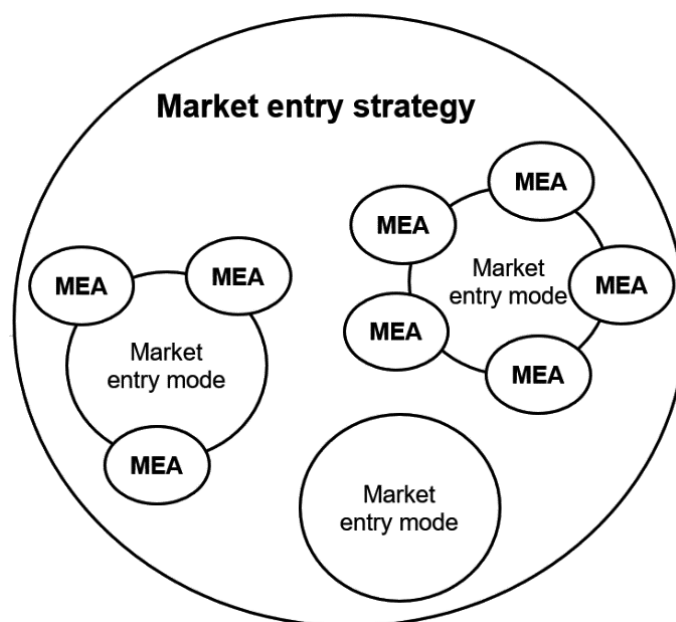


Fig. 3. The main elements of the pharmaceutical enterprises' market entry strategy

(MEA – Managed Entry Agreement) (*the author*)

The MEAs' nature and volume are highly depending on public pharmaceutical expenditures of particular country. The influencing circumstances can be either financial or health outcome-based, and different types of MEAs exist for each of these two main groups (Ferrario and Kanavos, 2013). These arrangements can use a variety of mechanisms to address uncertainty about the performance of technologies, to reduce uncertainty around the clinical effectiveness and cost-effectiveness, and to limit the budget impact of a technology in real life, to manage the adoption of technologies in order to maximise their effective use or limit their budget impact.

In accordance with the report 'Managed entry agreements for pharmaceuticals: the European experience', prepared in framework of the European Medicines Information Network (EMINET), the most common features of MEAs across

European countries are Price-volume agreements (39% of total MEAs), followed by requirement for data collection (29.5%) and limited access to eligible patients (13.1%) (Ferrario et al., 2017). MEAs are often used for high-cost patented drugs for which there is limited evidence of effectiveness in a noncontrolled environment and of their long-term effects.

Initially, countries prefer financial schemes because they are clearer and easier to administer, whereas performance-based contracts require precise and measurable criteria and are more complex to administer, but they provide the patient with an opportunity to be treated with medication, which gives them additional expectations over the alternative treatment available. Among Western European countries, MEAs is more widely used in the UK, Sweden, Germany, Austria and Italy.

Later MEAs are introduced in Central and Eastern European countries. Across the five countries with available data on the number of different MEA instruments implemented by type (Slovenia, Hungary, Latvia, Estonia and Romania), the most common MEAs implemented were confidential discounts ( $n = 495$ , 73%), followed by payback ( $n = 92$ , 14%), price-volume agreements ( $n = 37$ , 5%), free doses ( $n = 25$ , 4%), bundle and other agreements ( $n = 19$ , 3%), and payment by result ( $n = 10$ , 1%). Although the implementation of health outcome-based agreements is allowed in Estonia, Hungary, Latvia and Romania, most of the agreements implemented were financial ( $n = 668$ , 99% financial vs.  $n = 10$ , >1% health outcome-based agreements) (Ferrario et.al. 2017). The existing and potential MEAs in Latvia are shown in Figure 4.

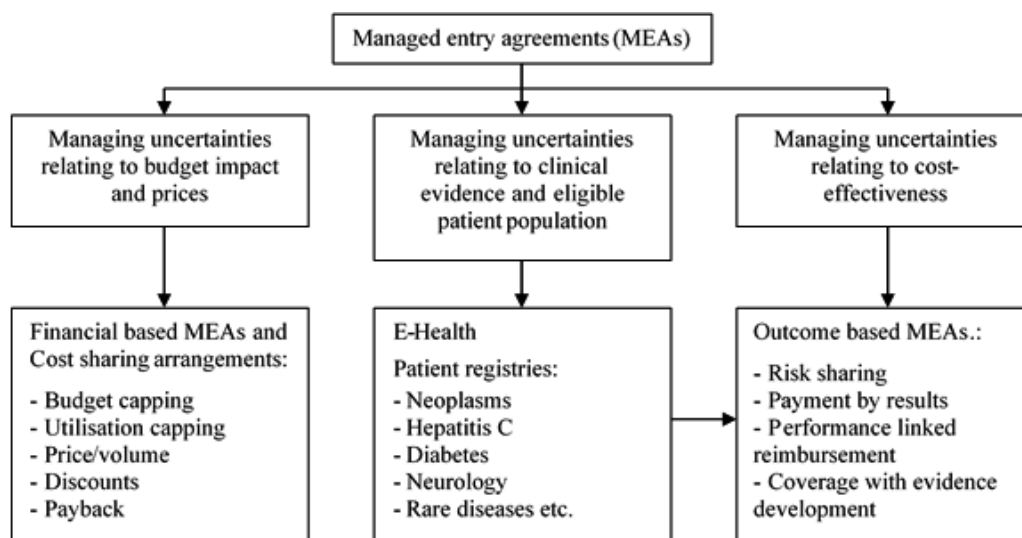


Fig. 4. Existing and potential Managed entry agreements in Latvia (the author)

The MEAs allow decreasing the uncertainties, which exist in case of new medicines, on clinical and economic evidence, fair price and budget impact, as well as eligible patient population (Fig. 4). Generally, the MEAs should encourage the entry of new medicines into the market. At same time there are some risks for countries with low purchasing power:

- new medicines initially are launched in countries with high purchasing power and their prices are set according to the purchasing power of the wealthiest EU countries,
- confidential agreements can decrease competition on prices of innovative medicines,
- agreements for confidential discounts are mostly agreed by the external price reference systems, which exist almost in all EU countries, and significantly decrease the transparency of pricing due to hiding the real prices.

The hypothesis of this research is justified, that the pharmaceutical enterprises have additional significant elements (MEAs) which are applied in process of development of the market strategy and choosing the market entry mode, in comparison with classical market entry strategies, and these preferences can be influenced by external factors, such

as amount of the public pharmaceutical expenditures of particular country. In circumstances of the strictly limited state budget a necessity to use the additional possibilities to optimise the resources allocation to the health care programmes and prevention activities remain topical.

### Conclusions, proposals, recommendations

1. Focusing on the healthcare market as a platform for medical entrepreneurship and significant regulatory interventions, it should be noted that, in a context of globalisation, healthcare is characterised as both an international business and an area to strong government influence and demand generation.
2. In the pharmaceutical field, the international business is more typical for manufacturing enterprises and pharmaceutical wholesalers that may also be holders of a marketing authorisation for a medicinal product. In light of the international business theories' applicability to the pharmaceutical companies, international trade theories (particularly R.Vernon's *Life Cycle Theory* and M.Porter's *Model of Global Competitiveness Strategies*), as well as the Foreign Direct Investment (FDI) Theory (particularly John H. Dunning's *Eclectic Theory* and *Investment Development Trajectory Concept*) are more relevant.
3. The organisation of healthcare and its financing system are important external factors influencing the market entry strategy of the pharmaceutical enterprise. Pharmaceutical enterprises more often choose the direct exporting, contractual modes and foreign direct investments as the market entry modes.
4. The Managed Entry Agreements (MEAs) become topical to ensure the availability of new medicine for patients and to encourage the pharmaceutical companies to come into market. Explicitly dominated financial contracts, while performance-based contracts are more likely to be awarded in the pay-for-performance category.
5. The MEAs provide both advantages and disadvantages in circumstances of uncertainty. Therefore, the additional measures and multi-criteria decision analysis should be applied in process of creation of the MEAs to improve their quality and transparency.

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## PRODUCTIVITY TRENDS AND INCOME INEQUALITY IN LATVIA

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**Abstract.** Increasing labour productivity is a key driver for prosperity. Although Latvia's productivity growth rates are among the highest in the EU, productivity growth has declined in recent years. With the productivity dynamics slowing down, the pace of convergence is also slower. The benefits of the recent economic recovery in Latvia have not been evenly distributed among households and income inequality has not diminished significantly. The recent OECD and academic studies point to a correlation between falling productivity and increasing income inequality. The more unequal a society is, the more it affects productivity growth and the sustainability of growth. Improving productivity has the potential to affect inequalities in a positive and negative way. To find suitable policy answers therefore is extremely challenging.

The research describes the dynamics of productivity and income inequality, their interaction in Latvia. The research is based on existing data, studies, and policy documents. It aims to integrate the available data from a broad range of international and domestic sources from the perspective of Latvia. The research argues that easy gains from catching up are over, keeping productivity dynamic will not be easy, as the factors that provided relatively high productivity rates in previous periods are likely to be exhausted and companies are approaching the limits of existing technology. Continued progress in implementing structural reforms will be needed to reduce the productivity gap, only systemic implementation of all policies and structural reforms can provide a desirable outcome. In order to reduce income inequality, it is important to strengthen the competitiveness of the regions of Latvia and to improve the tax and benefit system.

**Keywords:** *productivity, income inequality, economic policy.*

**JEL code:** E24, E25, O15, O47, J24

### Introduction

Productivity growth is an important factor in ensuring higher living standards. The large difference in per capita income between countries is directly linked to differences in productivity. The recent OECD and academic studies show that there is a close correlation between the decline in productivity and increasing inequality. While promoting growth and market efficiency is a prerequisite for raising living standards, it does not in itself solve the problems of inequality and inclusion.

Strengthening the potential for long-term economic growth by increasing productivity and growth rates, while reducing income inequality, is one of Latvia's key challenges in the face of globalization, an aging population, rapid technological progress and the need to increase climate-related investment.

Dynamics of productivity and its impact on inequality are influenced by a number of factors, the identification and study of which is important not only for researchers and entrepreneurs, but also for policy makers. Without understanding the factors driving productivity dynamics and inequalities, it is impossible to apply the appropriate policy instruments to ensure sustainable economic growth.

The aim of this study is to analyse the dynamics of productivity and income inequality and its interaction in Latvia. The research is based on existing data, studies, and policy documents. It aims to integrate the available data from a broad range of international and domestic sources from the perspective of Latvia.

The research questions need to be answered: What are trends and dynamics of productivity? How reforms could be translated in higher productivity growth? What is relationship between productivity and income inequality? What reforms are key to diminish income inequality?

The first section of the study gives an insight into the literature on the subject. In the second chapter, the authors describe the dynamics of productivity in Latvia (general trends, sectoral trends, cross-country comparison). The third chapter deals with the development of productivity in regional terms, which is one of the main causes of income inequality in Latvia. The fourth, concluding chapter gives a description of income inequality in Latvia, comparisons with other countries, and the correlation between income inequality and productivity. The article concludes with the main conclusions, proposals and recommendations of the study.

#### Literature Review

Addressing productivity and inequalities is gaining more momentum in scientific, public and political debate. While in the past income inequality was seen as accommodating growth, there is now rising awareness that income inequality may under certain circumstances be negatively correlated with economic growth. The recent OECD report on the Productivity-Inclusiveness Nexus gathers the most recent empirical evidence on the main factors behind slowing productivity gains and rising inequality (OECD, 2018a). This report proposes a new comprehensive approach to promote better productivity performance and reduce inequalities. It not only gathers the most recent empirical evidence on the main factors behind slowing productivity gains and rising or persisting inequalities but also suggests possible common foundations and linkages between these two trends.

This OECD study provides good guidance for analysing these issues also in the Latvian context. However, it should be noted that so far these issues have not been sufficiently researched in Latvia, especially on the relationship between productivity and income inequality. Mostly these phenomena are studied independently of one another.

The thorough literature review shows that before 2019, only one Latvia Competitiveness Report (which includes both productivity and sustainable developments aspects) has been produced (Stockholm School of Economics, 2013). This was done in 2011 by the Stockholm School of Economics in Riga (SSE), written by the team of authors from the Baltic International Centre for Economic Policy Studies (Zane Cunska and Alf Vanags), Harvard Business School (Christian Ketels) and SSE Riga (Anders Paalzow). Since then analytical studies on productivity and competitiveness in Latvia have mostly been limited to the papers and assessments elaborated by international financial institutions like the OECD, the EU and the IMF.

The OECD studies on economic trends in Latvia highlight several factors that hamper productivity. For example, the OECD *Economic Surveys: Latvia 2017* (OECD, 2017) note that Latvia's low productivity is due to the relatively low participation in global value chains and the specialization of exporting companies in low-tech manufacturing. Reference is also made to the slow uptake of modern technologies, hampered by skills shortages and inadequacies. Conversely, limited access to vocational and higher education for low-income students and limited affordability of affordable housing in the region of Riga, which has the highest employment growth, are hampering skills development and better matching. Productivity growth is also hampered by underinvestment in R&D and weak innovation and cooperation between science and industry.

Productivity issues have also been discussed in the International Monetary Fund (IMF) reports on Latvia. The IMF researchers point out that productivity growth is key to maintaining the pace of income convergence and that Latvia has made significant progress in raising productivity. At the same time, it is stated that maintaining productivity growth will not be simple, as easy gains have likely already been exhausted and firms are approaching their technology frontiers. Continued progress in implementing structural reforms will be needed to reduce the productivity gap improving the governance of public enterprises, improving the business environment, modernizing public infrastructure, and strengthening the judiciary (International Monetary Fund, 2016).

Similar conclusions can be found in the European Commission's materials. For example, the Staff Working Document states: "Latvia remains a catching-up economy and its main national development focus is on increasing



its GDP per capita. As evidenced by falling productivity growth rates, the easy gains of the early catch-up stage have been exhausted. This means that productivity growth will have to increasingly rely on knowledge-intensive activities. Latvia's weakest point has been innovation, which requires investments in research and development, in developing people's knowledge and skills, and in other intangible assets. Latvia would also benefit from boosting the economic potential of its peripheral regions - increasing their accessibility, and promoting energy efficiency, employment and investment opportunities. Finally, investments in social inclusion and healthcare are needed in order to tackle high inequality and uneven access to employment and public services "(European Commission, 2019a, p.4).

Productivity-related aspects have also been studied in the annual Certus Competitiveness Reports. For example, the Latvia Competitiveness Report 2015 covers challenges affecting important aspects of the Latvian economy - depopulation and regional development, access to finance for small and medium-sized enterprises, as well as analysis of individual sectors of the Latvian economy. The Latvia Competitiveness Report 2017 provides more analysis of opportunities and challenges for ICT, transit, and industrial development.

Certain aspects of productivity in the Latvia's context have been also looked at in the following research publications: productivity measurement (Fadejeva, Melihovs, 2009); effects of export entry on productivity, employment and wages (Benkovskis, Masso, Tkacevs, Vahter, Yashiro, 2018); effects on productivity due to resource misallocations in Latvia during 2007–2014 (Benkovskis, 2018). However, the research has been rather fragmented and did not provide the overarching and comprehensive picture.

Monitoring of Latvia's productivity trends and policy issues to promote productivity are included in several policy planning documents, such as *Latvia's National Reform Program for Europe 2020 Strategy Implementation, the National Development Plan, Latvia's Smart Specialization Strategy* and others.

One of the most recent researches on productivity development in Latvia, including the income inequality aspect, is the monograph "*Raising Productivity: Trends and Future Challenges*" (editor-in-chief – Inna Steinbuka), published in May 2019. The core study of the monograph (O.Baranovs, D.Baranova, G.Berzins, I.Skribane) provides comprehensive insights into the existing research on productivity in Latvia, identifies the topicality of productivity research, and the factors determining productivity. The authors analyse the dynamics of productivity in Latvia, including sectoral aspects. This study has identified main productivity enhancing policies in Latvia, in particular ensuring a stable macroeconomic environment, improving the quality of the business environment, improving the availability and quality of the workforce, promoting higher value-added production, and ensuring sustainable development; strengthening the competitiveness of Latvian regions and Riga. The authors discuss each policy domain in detail and argue that only systemic implementation of all policies and structural reforms can provide a desirable outcome (Steinbuka, 2019, p.8).

There are many studies on income inequality in Latvia. For example, in 2017, a Task Force by SSE Riga was created to carry out an unorthodox, cross-disciplinary research on income and social inequality in Latvia from the perspective of economic, financial, social, educational and health policymaking. Certain aspects of income inequality have been also looked at in the following research publications: the tax-benefit system role to address poverty and inequality (Ivaškaitė-Tamošiūnė V., *The Effect of Taxes and Benefits Reforms on Poverty and Inequality in Latvia*. European Economy Economic Briefs 039, October 2018), effects of tax reform package on income inequality (Pluta, A., Zasova, A. 2017 "Latvia stumbling towards progressive income taxation: episode II", FREE network, Policy brief series).

This article mainly uses the OECD, the European Commission, the United Nations etc. works of international organizations as well as some Latvian experts.

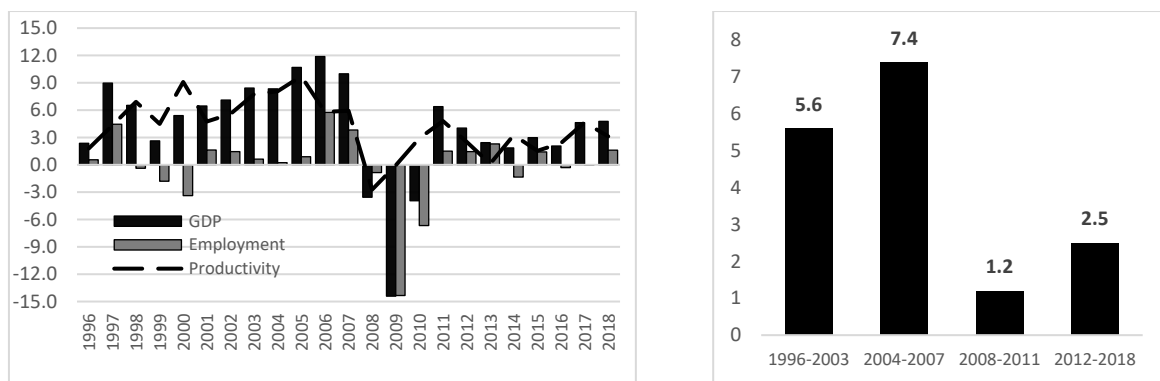
Overall, in Latvia, research on productivity related aspects, in particular their link to the problem of income inequality, is fragmented and lacks a systemic approach.

## 2. Productivity dynamics in Latvia

Productivity dynamics in Latvia have been quite rapid over the last twenty years. Productivity has grown at an average annual rate of 4.2% since 1995 and in 2018 was almost 2.6 times higher than in 1995. However, during the post-crisis period productivity has slowed down. Over the period 2012-2018, annual productivity growth in Latvia averaged 2.5% (Figure 1).

Increase over previous year (%)

Average annual growth rates (%)



Source: author's construction based on the Eurostat data, 2019

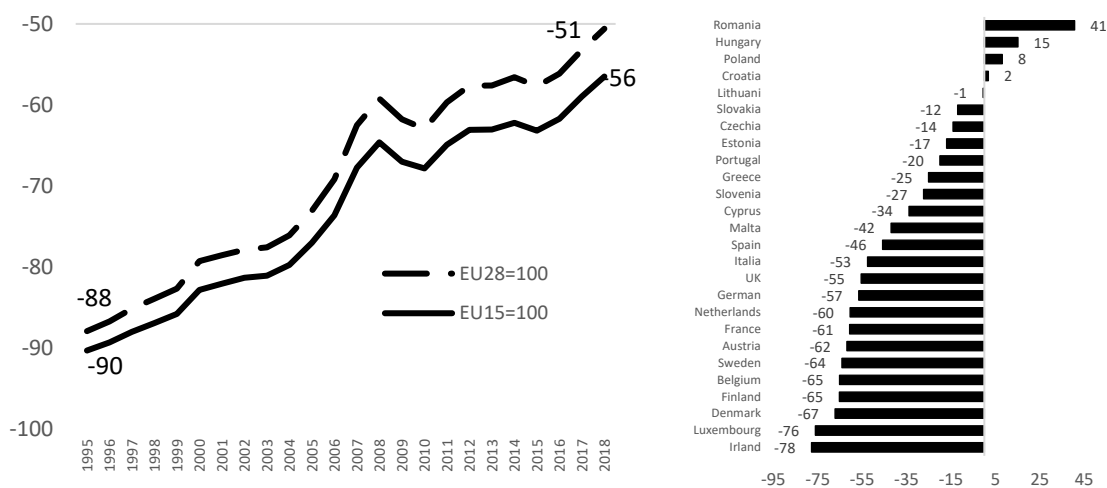
Fig. 1. Annual productivity growth rates in Latvia

Latvia's productivity growth rates are among the highest in the EU. Productivity in Latvia has increased by 18.9% since 2011 (4.8% in the EU28) and the productivity gap continues to narrow (Figure 2). However, there is still a significant backlog compared to several developed countries. Productivity in Latvia in 2018 was only 49.4% (67.3% in PPS) of the EU average, one of the lowest in the EU.

Convergence also slows as productivity dynamics slow down. By 2007, Latvia's lagging behind the EU average had declined by almost 2 percentage points annually, but since 2008, the pace of convergence had slowed to 0.9 percentage points per year. Such trends may exacerbate the risks of a loss of competitiveness, even more so given that wage convergence has accelerated in recent years.

Latvia's productivity gap (lagging behind EU28 and EU15 average, percentage points)

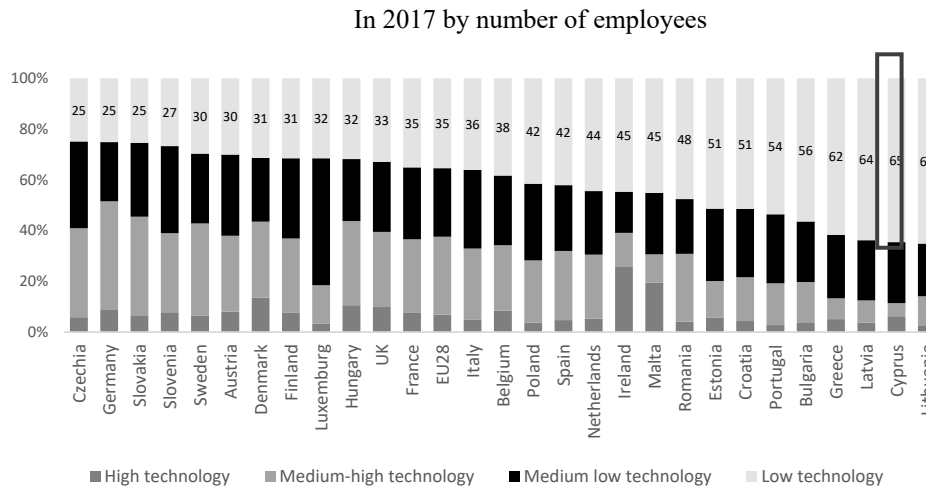
Latvia's productivity gap in 2018 (lagging behind EU level, percentage points)



Source: author's construction based on the Eurostat data, 2019

Fig. 2. Productivity convergence of Latvia with EU28 and EU15 average

The low average productivity in the economy is largely due to the extremely low productivity in manufacturing. According author’s calculation based on the Eurostat data, in Latvia, manufacturing productivity in 2017 was only 98% of the national average, while in almost all EU Member States industrial productivity was above the national average (in the EU in average – 118%). But it is the manufacturing industry that plays an important role in raising overall productivity, which can be explained by the industry's potentially higher innovation capacity. The manufacturing industry is largely oriented towards external markets, which offer wide export opportunities, and has a higher degree of integration in global value chains.

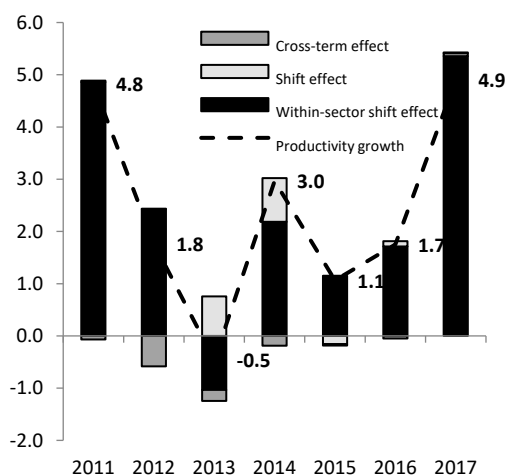


Source: author’s construction based on the Eurostat data, 2019

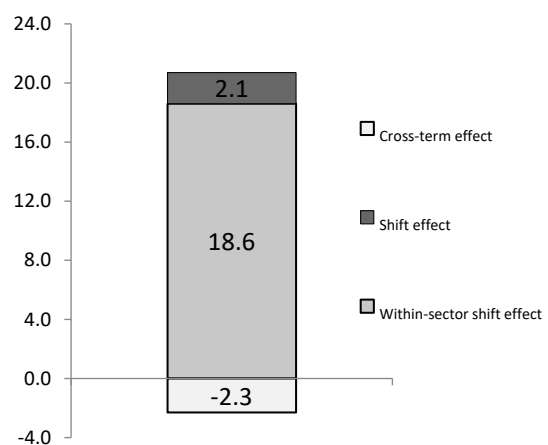
Fig. 3. Structure of manufacturing by technological intensity in the EU

Low value added sectors dominate in Latvia while in the EU its share are much lower (Figure 3). Although the share of high technology sectors in manufacturing has been gradually increasing since 2000 (from 3% in 2000 to 8.2% in 2016), their impact on the productivity of the manufacturing sector and the total productivity in the Latvian economy is still insignificant. The problems of increasing the productivity level of Latvian industry are mainly related to its ability to carry out technological modernization and innovation, expand its participation in global value chains, raise the qualification of the labor force and improve internal labor mobility in the country. The structural transformation of manufacturing and the Latvian economy as a whole to higher value added and higher productivity activities is also crucial.

Increase over previous year (%)



Increase in 2017 compared to 2010 (%)



Source: author’s construction based on the Eurostat data, 2019

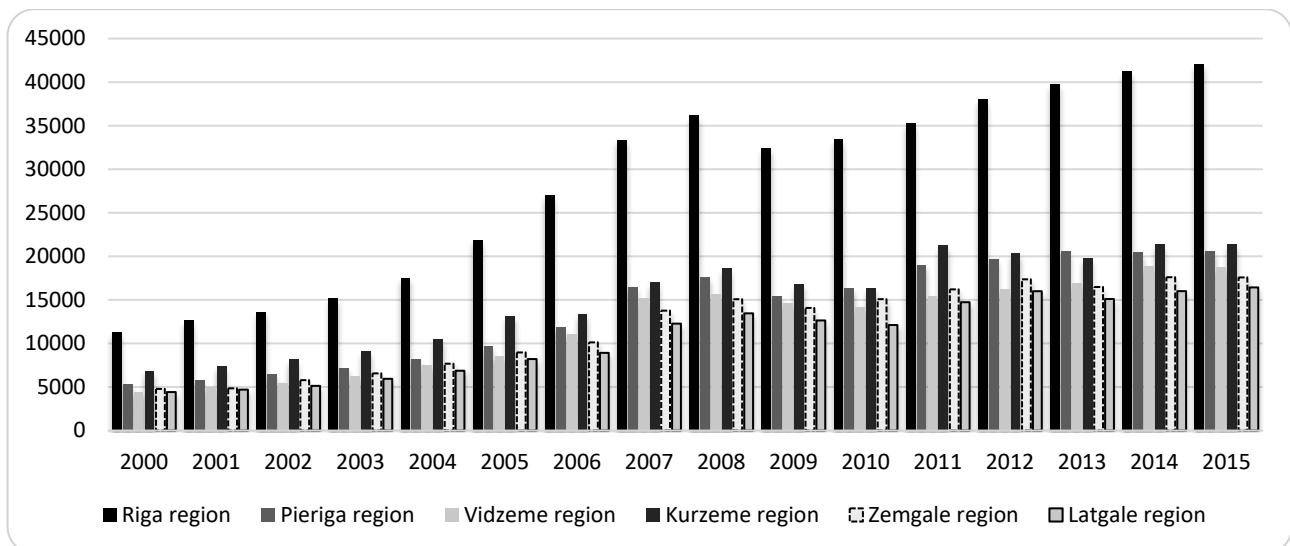
**Fig. 4. The contribution of intra-sector productivity changes and resource redistribution across sectors to productivity growth in Latvia**

According to the authors' calculations, the dynamics of attracting labour force by sectors in the post-crisis period in the Latvian economy show structural changes in favour of higher productivity sectors, which also positively affects the overall productivity level in the country (Figure 4).

However, the pace of structural change is insufficient and the process of reallocating labour from lower to higher productivity sectors is relatively weak. In the context of resource efficiency, low productivity is partly explained by the high share of small businesses in the economy and their low productivity compared to other EU Member States. In 2016, 95% of Latvian companies were micro-enterprises (less than 10 employees). For small businesses, productivity is lower than for large companies, mainly due to the scale effect. In addition, small businesses are much more likely to have difficulties in raising finance for R&D, which in turn limits their innovation capacity. Latvia's productivity gap between large (over 250 employees) and small (less than 10) companies is 55%, which is much more pronounced than in other EU countries. Thus, it can be concluded that the increase of productivity in Latvia is closely related to the transformation of the economy into the production of higher value added products, which in the era of today's scientific-technological revolution (Industry 4.0) are closely linked to the introduction of new technologies. Easy gains from catching up are over and the risks of falling into the "middle-income trap" are multiplying. Weak innovation performance raise concerns about the economy's ability to expand the share of knowledge-intensive activities. The country's growth model will need to change by shifting the focus to ascending in the global value chains. Participating in global value chains enables companies to "climb" up the production chain ladder. Latvia needs a better strategy for investments into research, innovation and human capital. Without sustained and reliable funding of the science base, strong academy-industry-government cooperation, there cannot be any great leaps forward in the national productivity and competitiveness performance.

### 3. Productivity dynamics in regions of Latvia

There are large regional disparities in GDP per capita, employment rates, business activity, including productivity, in Latvia, which have not diminished over the last decade (Figure 5).



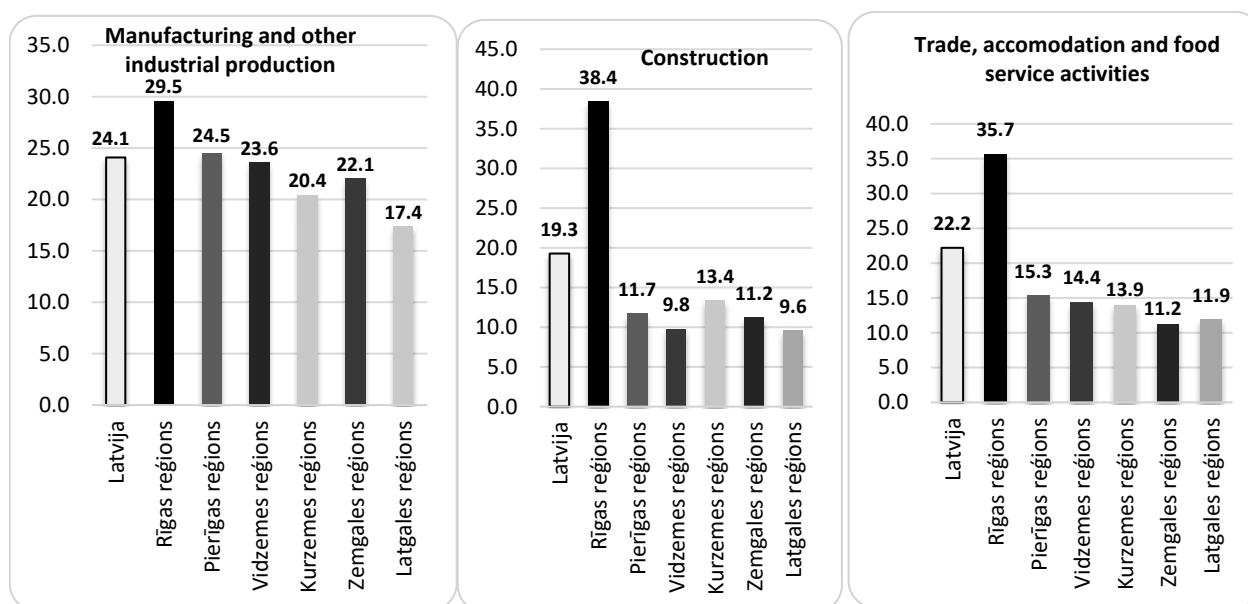
Source: author's construction based on the Central Statistical Bureau of Latvia data, 2019

**Fig. 5. Productivity in the regions of Latvia (current prices, euro per employee)**

In Riga region productivity per capita is about twice as high as in other regions. Between 2000 and 2015, this productivity gap has not narrowed but remained fairly constant. The main cause of the productivity gap is related to structural differences in the economy. Due to higher population density, availability of infrastructure, etc., Riga has

relatively more concentrated economically active companies than other regions, including those with higher added value.

As the authors' calculations show, prices also play an important role, as productivity differences in industry are quite small, while they are much more significant in construction and in several types of services (Figure 6).



Source: author's construction based on the Central Statistical Bureau of Latvia data, 2019

Fig. 6. Productivity in the regions of Latvia in 2015 (at current prices, thousand euro per employee)

In order to remedy this situation, the administrative-territorial division of the country needs to be improved. Currently there are 119 administrative territories in Latvia, including 110 municipalities and 9 cities of the republic. Latvia is characterized by a fragmented administrative-territorial division both in terms of area and population. The smallest county has about 1000 inhabitants and the largest - about 35 thousand inhabitants.

There are several municipalities without strong development centres and insufficient tax revenue base, which are unable to carry out their autonomous functions, concentrate financial resources, perform rational and efficient administration without delegation or joint municipal institutions. Many municipalities lack the financial and human resources to develop their infrastructure, implement EU fund projects, and attract investors.

Thus, one of the prerequisites for economic development and raising productivity is ensuring self-sufficiency of local governments by forming large districts around regional and national development centres.

The core arguments presented in favour of amalgamation are (Centre of Expertise ..., 2017, p. 20-21):

- economies of scale and possible synergies – the assumption that tasks could be performed better and costs reduced in larger territorial units;
- unfavorable demographic trends that cause further population shrinkage in small municipalities and therefore create problems in service delivery – this argument also refers to the unit cost of local services; amalgamation reform in such a case is depicted as a response to the problem of depopulation;
- the need to adapt the administrative division to the developments of settlements and transportation network (mainly in urban areas); in many countries municipal boundaries may be considered ‘outdated’, since formerly separated settlements have become functionally integrated, new settlements have grown or new transportation routes have changed the hierarchical structure of settlement networks;
- economies of scope – the assumption that more public services can be delivered in larger. However, in this case the approaches might be diversified and there has been a very long ongoing debate on the solutions for management of such growing agglomerations.

The forthcoming reform of a new administrative territorial map in Latvia aims to increase the quality and efficiency of local governments. The Environmental Protection and Regional Development Ministry has worked out a new administrative-territorial map of Latvia, cutting the number of local governments to 35 from 119. The new territorial reform would continue the reform started in 1998. The goal would be to complete the reform by 2021, creating administrative territories with a development potential and properly functioning local governments that would be providing high-quality services to residents for adequate costs.

However, regional reform alone is not enough. It is also necessary to strengthen Riga's competitiveness. Slightly more than half (54% in 2015) of Latvia's GDP is generated in Riga region. The value added per capita in Riga is more than twice as high as in other regions. In general, the situation in Riga is much better than elsewhere in Latvia - higher wages, wider job opportunities, etc. As noted in the OECD Economic Survey of Latvia 2017, Riga's international competitiveness is lagging behind equivalent cities in the Baltic Sea region. GDP per capita is on average about 70% of that in other capital cities. Since 2010, the metropolitan Area of Riga performed less well in terms of GDP growth than peer capital cities in Estonia and Lithuania (OECD, 2017, p. 111).

The metropolitan area of Riga is a key driver of growth and employment but lacks adequate governance (OECD, 2017, p. 11). The development of Riga is hindered by inefficient organization of transport and public services, inadequate management of urban sprawl, common regional visions on development of business environment and lack of regional brand.

Ineffective governance is largely due to the lack of cooperation between Riga and its municipalities on traffic organization, capitalization/ spatial planning management, public service organization, location of schools and kindergartens, development of common business environment, use of natural resources (for recreation and tourism), etc. In order to improve the governance of Riga and increase its competitiveness, the OECD recommends create a platform to co-ordinate policies of all municipalities where most residents commute to Riga (OECD, 2017, p. 11).

#### **4. Income inequality in Latvia**

OECD and academic studies (for example, OECD, 2018a) show that there is a close correlation between falling productivity rates and increasing inequality. Increasing productivity is a necessary condition for economic growth, but not a sufficient condition for reducing poverty and inequality. What matters is not the rate of economic growth, but its quality, i.e. inclusive growth, which not only enhances labour productivity and contributes to economic growth, but also enables people to benefit from it.

For example, in the OECD countries, GDP per capita grew by 4.9% on average between 2010 and 2016, while real median household disposable income increased by 3.3% over that period; in Latvia - by 21.7% and 7.2% respectively (OECD, 2018b, p. 51). This indicates that the benefits of the recent economic recovery have not been evenly distributed across households and income inequality has increased. However, in some countries, such as Poland, the Czech Republic, Norway, etc. real median household disposable income has grown more rapidly than GDP per capita over this period, resulting in a more even distribution of income.

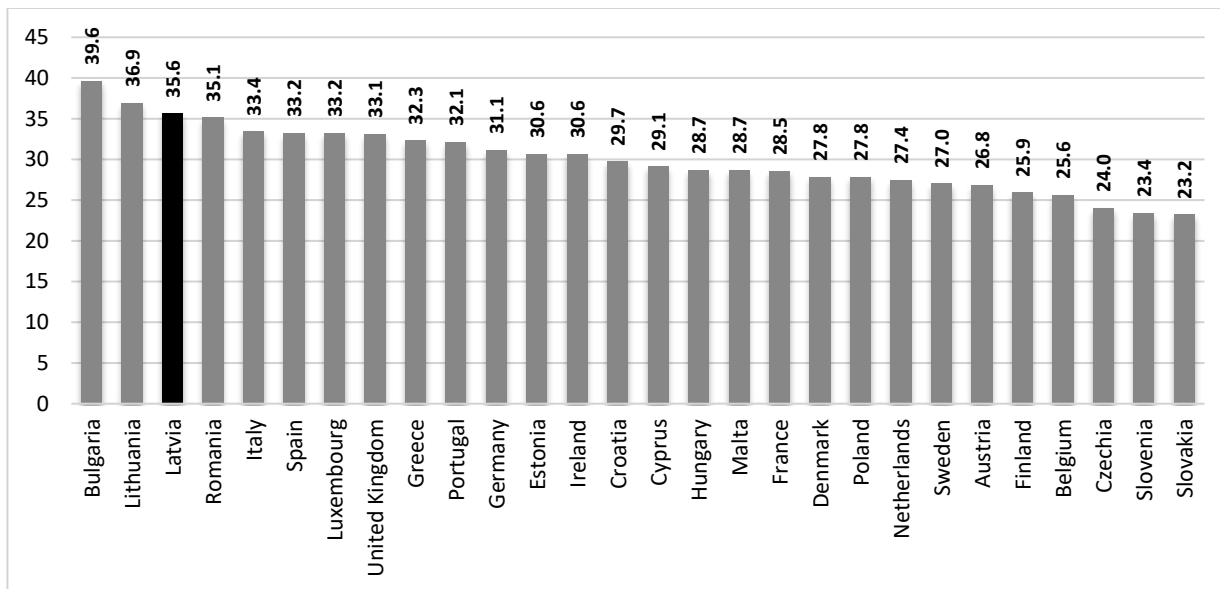
High inequality is also an economic challenge that can reduce growth potential by depriving the country of development and capitalizing on the talents of all, and enabling everyone to contribute fully to growth, thereby benefiting from better jobs, better wages and better career prospects. For example, low-productivity firms with low-productivity employees do not invest in human capital development and these firms do not grow. Conversely, poor and uneducated parents do not invest their children in education. Income inequality reduces the ability of the poor to acquire skills. The more unequal a society is, the more it affects productivity growth, sustainability and growth resilience.



There are several indicators for measuring income inequality. All of these indicate that there is a high level of income inequality in Latvia.

Although the Gini coefficient has slightly improved from 37.5% in 2008 to 35.6% in 2018, income inequality in Latvia is one of the highest in the EU (Figure 7).

The Gini index shows higher inequality in Latvia in the years of rapid growth before the crisis, but inequality decreased during the crisis. In the post-crisis period, however, the Gini coefficient is lower than in the previous decade and ranges from 34.5% to 35.7%.

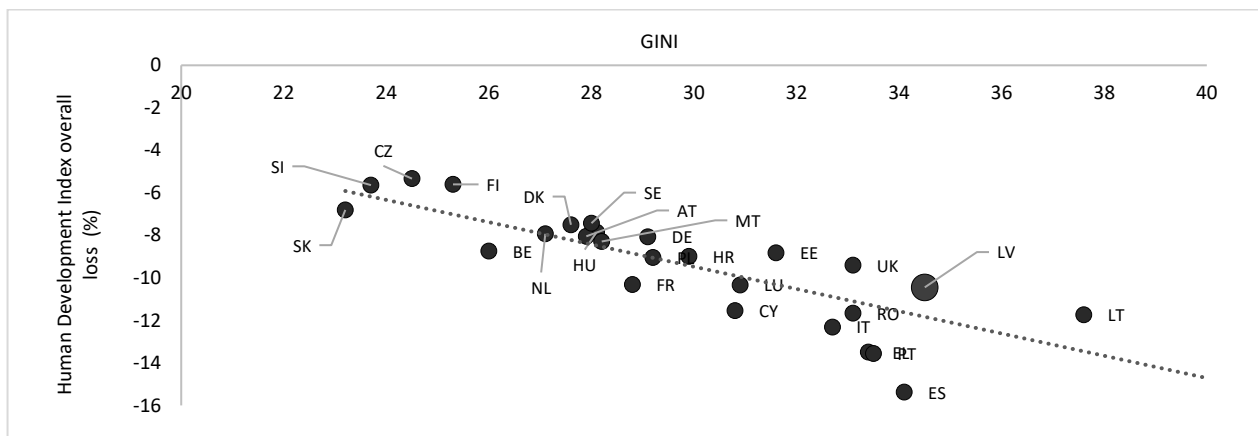


Source: author's construction based on the Eurostat data, 2019

Fig. 7. Gini coefficient in the EU in 2018

Is there a correlation between average income and inequality? As shown in Figure 7, countries with lower average GDP per capita (Bulgaria, Romania, Latvia, Lithuania) also experienced higher inequalities. However, such a relationship cannot be considered a regularity. For example, the UK has a high standard of living but also relatively high inequalities. By contrast, Slovakia, Slovenia and the Czech Republic, while GDP per capita is below the EU average, are among the lowest inequalities in the EU.

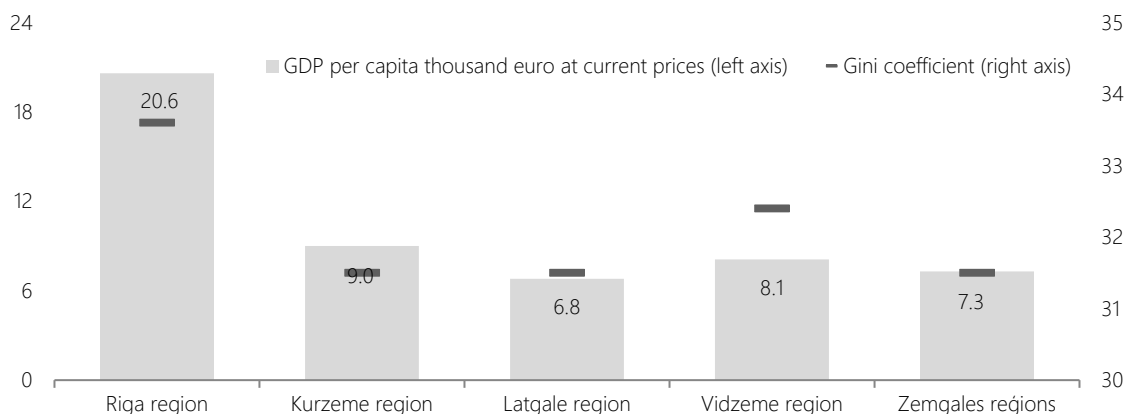
The United Nation Development Programme (UNDP) data shows the negative impact of inequality on the indicators of human development (UNDP, 2019). Among the EU countries, Spain has the largest loss in the human development index due to population inequality (down 15.4%), while the Czech Republic has the lowest loss (down 5.3%). In its turn, Latvia's losses due to inequality are 10.4 percent, mainly due to income inequality (Figure 8).



Source: author's construction based on the UNDP data, 2019

Fig. 8. Level of inequality and total losses of the Human Development Index

Also in Latvia, higher incomes by regions do not guarantee lower income inequality. In 2015, Riga region had the highest GDP per capita, which was more than twice as high as in other regions of Latvia. Nevertheless, the highest income inequality was also observed in Riga region (Figure 9).



Source: author's construction based on the Central Statistical Bureau of Latvia data, 2019.

Fig. 9. Gini coefficient and GDP per capita by the regions of Latvia in 2015

The Gini coefficient is more indicative of the middle class, other indicators are focused on lower income people.

The Eurostat data show, that in 2018, the income ratio of the richest 20% of households and the poorest 20% of households in Latvia was 6.8, which is one of the highest in the EU. In other words, the income quintile (one-fifth) of the wealthiest Latvian population more than 6 times the income of the least wealthy one-fifth. The EU average was 5.1 in 2017, Estonia and Lithuania 5.4 and 7.3, respectively.

Latvia's S80 / S20 income quintile ratio has improved - from 7.3 in 2008 to 6.8 in 2018. True, in 2018, compared to 2017, it increased from 6.3 to 6.8.

One of the quantitative targets defined in the *Europe 2020 strategy* for 2020 is to reduce the number of people at-risk-of-poverty by 20 million. Latvia aims to reduce the number of people at-risk-of-poverty and/ or in low-intensity households by 121 thousand by 2020.

As the European Commission notes, the number of people at-risk-of-poverty and/ or living in jobless households has fallen by 125,000 in 2017 compared to 2008, thus Latvia has met its poverty target (European Commission, 2019, p. 58).

However, the at-risk-of-poverty rate do not show a downward trend in Latvia. Data of the survey conducted by the Central Statistical Bureau show that 446 thousand or 23.3% of the population were at risk of poverty in 2017 or 1.2 percentage points more than in 2016. The unemployed are at a very high risk of poverty - 59.5% and 48.9% in retirement. Single seniors are at very high risk of poverty - 74% if they live alone. The at-risk-of-poverty rate for workers in 2017 was 8.1%. The highest proportion of population at risk of poverty in 2017 was in Latgale (44.2%), the lowest - in Riga (15.6%).

What are the main causes of income inequality and poverty in Latvia?

There is no clear, unique factor that drives the inequality observed in Latvia. Among the factors determining distribution of social returns that most important are unequal regional access to educational resources; migration; the distortive effects of the informal economy. The critical factors differences in private returns are: private rents generated by corruption and the large grey economy; limited redistribution through the tax and welfare system; legacy effects on the skill profile of the labour force by age group (Stockholm School of ..., 2013, p. 130).

In its turn, the European Commission identifies a number of causes of poverty and inequality (European Commission, 2019b, p. 3-4):

- the redistribution through the tax-benefit system is low. Latvia's tax system has been revised and personal income tax progressive. However, the tax burden on labour remains high for low-wage earners and hampers formal employment;
- the shortcomings of the social safety net reflect the high proportion of people at-risk-of-poverty or social exclusion, indicating problems with minimum income, pensions and inclusion of people with disabilities;
- the minimum income level reform, announced in 2014, has not been implemented, which negatively affects the poorest households. The adequacy of social assistance benefits has improved only marginally and remains insufficient;
- the minimum old-age pensions have not been revised since 2006;
- the share of people facing severe housing deprivation is among the highest in Europe and social housing is scarce.

The Baltic International Centre for Economic Policy Studies analysis also confirmed that redistribution through the tax system in Latvia is one of the lowest in the EU and that work incentives are low for the lowest decile of the population because of high participation tax rates and high marginal effective tax rates (Baltic International Centre ....., 2014, p. 86)

In conclusion it should be mentioned that the aspect of income inequality must be considered when promoting productivity. The more unequal a society is, the more it affects productivity growth, sustainability and the sustainability of growth. The tax and benefit system are a powerful tool for tackling poverty and inequality, but it is still not used efficient enough in Latvia.

#### **Conclusions, proposals, recommendations**

1. Addressing productivity and inequalities is gaining more momentum in scientific, public and political debate. However, in Latvia, these issues have not been sufficiently researched, especially on the relationship between productivity and income inequality. Mostly these phenomena are studied independently of one another.
2. Productivity dynamics in Latvia have been quite rapid over the last twenty years. However, during the post-crisis period productivity has slowed down. The dynamics of attracting labour force by sectors in the post-crisis period in the Latvian economy show structural changes in favour of higher productivity sectors, which also positively affects the overall productivity level in the country. However, the pace of structural change is insufficient and the process of reallocating labour from lower to higher productivity sectors is relatively weak.
3. Raising productivity is a multi-faceted challenge, which requires a set of well-balanced policies based on broad economic analysis. In addition, any measure to improve factors affecting productivity must be seen in the context of the overall economic system, where changes in one element undoubtedly require qualitative and quantitative changes in other elements. A country's excellence in one factor of competitiveness cannot compensate for its weakness in other areas.
4. Easy gains from catching up are over and the risks of falling into the "middle-income trap" are multiplying. Weak innovation performance raise concerns about the economy's ability to expand the share of knowledge-intensive activities. The country's growth model will need to change by shifting the focus to ascending in the global value chains. Participating in global value chains enables companies to "climb" up the production chain ladder. Latvia needs a better strategy for investments into research, innovation and human capital.
5. Increasing productivity is a necessary condition for economic growth, but not a sufficient condition for reducing poverty and inequality. What matters is not the rate of economic growth, but its quality, i.e. inclusive growth, which not only enhances labour productivity and contributes to economic growth, but also enables people to benefit from it. Therefore, while promoting productivity and resource efficiency, the potential negative consequences of

economic transformation on the level of population inequality need to be recognized. Productivity promotion policies will be more successful if they are backed up by inequality policies.

6. Income inequality in Latvia is one of the highest in the EU. Regional disparities and limited redistribution through tax and welfare systems are key factors for inequality.
7. Latvia is characterized by a fragmented administrative-territorial division both in terms of area and population. The administrative-territorial division of the country needs to be improved. Although the Riga region is the main driver of growth and employment, it is not properly managed. The development of Riga is hindered by inefficient organization of transport and public services, inadequate management of urban sprawl, common regional visions on the development of business environment and lack of a regional brand.

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## FOREIGN DIRECT INVESTMENTS IN THE CIS COUNTRIES AND THEIR RELIANCE ON THE WORLD BANK'S DOING BUSINESS INDICATORS

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**Abstract.** Foreign direct investment (FDI), especially inflows, has been seen as an important source of technology spillover, improvement in efficiency and growth from the recipient country point of view. FDI plays very significant role for the development of countries of Commonwealth of Independent States (CIS) since they help to reduce the economic and social costs of transformation. There are many different factors which are considered as possible determinants of FDI. The Doing Business (DB) indicators provided by the World Bank are one of the groups of the comprehensive factors for attracting FDI.

The aim of the paper is to identify the most relevant DB sub-indices essential for the investment attractiveness of CIS countries and to prove their significance to FDI performance in those countries. The research methods used in this paper are scientific abstraction, comparative analysis, statistical methods including correlation and regression analysis.

The paper concentrates mostly on empirical issues and presents the results of analysis of the trends of FDI inflows to the CIS countries comparing with the world as a whole, the results of correlation analysis between DB overall index, FDI inflows and FDI inward stock per capita in the CIS countries, the results of regression analysis using the most relevant DB sub-indices and FDI inward stock per capita in the CIS countries. Using correlation and regression analysis the author established that there is a strong link between DB sub-indices “Resolving insolvency”, “Protecting minority investors” and FDI inward stock per capita in the CIS countries at the post-crisis period (2016-2018).

The findings may help CIS countries to improve their business climate in terms of the particular areas of ease of doing business, in order to attract more FDI. It advances understanding of the determinants of the FDI inward stock and may be particularly useful to international organizations seeking to do business in the CIS countries. A proposed logical framework of the analysis might be useful for the conducting similar studies.

**Keywords:** *Foreign direct investment, Doing Business indicators, Pearson Correlation value, linear regression.*

**JEL code:** F21, F23, F36

### Introduction

The importance of FDI for recipient countries cannot be underestimated. Foreign direct investment flows have increased with the economic globalization and technological advances in the fields of information, communication and transportation since 1980s. They played a key role in rapid growth of some countries (Bayar and Ozel, 2014). From the point of view of the recipient country FDI contributes to at least four things of value: financial capital, management skills, technology, and access to export markets, and therefore helps to sustain growth (Baniak, 2003). FDI, especially inflows, has been seen as an important source of technology spillover, improvement in efficiency and growth. Thus, FDI has been studied extensively in the literature.

Different factors are considered as possible determinants of FDI such as labor costs, level of human capital, returns to investment, trade openness, financial openness, the size of countries, natural resources endowment, macroeconomic and political determinants, taxes, as well as investment climate in recipient countries (Bayraktar, 2013)

One of numerous definitions of FDI is given in the Balance of Payments Manual of the International Monetary Fund (1993): Foreign direct investment refers to an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Further, in cases of FDI, the investor's purpose is to gain an effective voice in the management of the enterprise. From the other side, World Bank's Doing Business indices intend to show how friendly the business environment is for starting and successfully performing the economic activities in particular country.



Based on this definition, Doing Business indicators and “ease of doing business” must be one of the important factors motivating higher inflows of FDI. The environment in which firms feel more secure in terms of doing business should be able to help attract more foreign investment to this country (Bayraktar, 2013).

Despite the existence of numerous papers the link between Doing Business indices and FDI performance of recipient has not been studied properly. One of unexplored areas is the understanding of relationship mentioned above for CIS countries. The distinctive feature of these countries is that the inflow of foreign capital was considered as one of the main factors making it possible to reduce the economic and social costs of transformation. And all the governments of CIS countries (excluding Turkmenistan) tend to set ambitious goals in order to get better Doing Business rankings.

Therefore, the author sets forward the aim of the research: to identify the most relevant DB sub-indices essential for the investment attractiveness of CIS countries and to prove their significance to FDI performance in those countries.

According to the research aim, the author intends to study the recent research findings of relation between countries' FDI performance and their progress in DB indices raising. In order to achieve above-mentioned aim, the following tasks are set out:

- to study the methodology of the similar relationships analysis;
- to reveal recent trends in FDI globally and in the CIS countries in particular;
- to test the link between DB overall indices and FDI (inflows and inward stock per capita) in the CIS countries;
- to make a multiple regression model on the base of the most relevant DB sub-indices influenced on attracting FDI to the CIS countries;
- to develop general recommendations, required for the enhancement of investment and business climate at the CIS countries.

In the analysis presented in this paper the author focuses mostly on three research gaps: taking into account specific features of the influence of DB indicators at FDI in the CIS countries, studying the link between scores of DB indices and FDI inward stock per capita, and finding the most significant DB sub-indices for FDI performance in that countries. These relationships appear to be of great importance when governments make decisions concerning the enhancement of investment climate. Furthermore, the author intends to demonstrate that increased business and legal instability leads to adverse selection of the investors and prove that in order to expect significant inflow of long-term non-speculative foreign capital a stable economic and legal environment is needed.

This research is based on a comprehensive review of the literature focusing on FDI reliance on DB indices and utilises the applied methods of scientific abstraction; comparative analysis; statistical tests including correlation and regression analysis. The paper focuses mostly on empirical outlook using the proper methodology.

This paper's theoretical and methodological underpinnings are data provided by the United Nations Conference on Trade and Development (UNCTAD), the World Bank, research, conducted by scientists from both developing and developed countries, and Internet sources.

### **Literature review**

A growing number of studies in the economic literature have been focusing on the role of the investment climate, concerning both foreign investment regime and general investment environment, as an important factor in attracting FDI inflows to the developing countries and transition economies.

A favorable business environment is believed to be important for both domestic and foreign investment and for the development of private sector. This is supported by a growing consensus in economic literature that, specifically, the attractiveness of a given country as a host to foreign investors is determined not only by its comparative advantages in international production but also by its domestic investment climate (Nnadozie and Njuguna, 2011).

Despite the fact that there is no general agreement on which factors affect FDI attractiveness, the importance of business climate is gaining ground in recent years. Although the motivation of reforming the business environment is not limited only to FDI attraction, it is a fact that 119 countries implemented at least one regulatory reform between 2016 and 2017 in order to make the processes of creation and operation of businesses easier (World Bank, Doing Business 2018).

The “Doing Business” is an annual survey comprising of numerous “ease of doing business” indicators. There are different variables defining “ease of doing business”. The World Bank provides comparable measures of several elements of business regulations: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. The indicators are available for 190 countries. They are updated on an annual basis and addresses the concerns any organization might have prior to make an investment decision in a foreign nation (Hossain et al, 2018).

Methodology of the database is based on the survey conducted in collaborations with academic professionals. Each question is based on the scenario how a firm would react to the improvement of business climate. The survey is distributed annually to nearly 8 000 local experts per economy, such as lawyers, consultants, accountants, supply chain professionals, government officials, and other businesspeople routinely administering or consulting foreign firms. The methodology also includes direct contacts with the professionals (World Bank, Doing Business 2018).

There are some empirical studies focusing on the link between FDI and “doing business” indicators. Piwonski (2010) for example shows that by increasing their country’s Ease of Doing Business rank one level, a government can attract in over USD 44 million as FDI. Using a multivariate regression model, the study uses the rankings of countries as a measure of doing business. The researcher finds that there is a strong link between the ranks of countries and FDI inflows.

Morris and Aziz (2011) study the relationship between factors that affect business initiation and the inflow of FDI to Sub-Saharan Africa and Asian countries (57 countries in total). They focus on correlation coefficients between the sub-indices of Doing Business and FDI inflows. They find that two indicators, “registering property” and “trading across borders,” were related to FDI inflows. Their paper provides empirical support to the hypothesis that FDI is related to business climate. However, their research did not rely on sophisticated statistical analysis, like regression for example.

Nnadozie and Njuguna (2011) investigate the link between investment climate, in particular the prevailing business regulations, and FDI in the Africa region. After running regressions which use business regulations as one of the independent variables, they find that business rules and regulations are important for successful FDI attraction.

Similar papers often suggest that higher Doing Business rankings will be associated with more foreign investment, which is believed to create jobs, bring in new technologies and processes and have other beneficial collateral effects on the real economy. And many senior government officials have suggested that a better ranking for an economy implies that its investment climate is more favorable to a foreign investor (World Bank, Doing Business 2013).

Past scientific literature has advanced the understanding of the impact Doing Business indices and sub-indices on inward FDI. For example, Shahadan et al. (2014) demonstrated that starting a business, dealing with construction permits, registering property, getting credit, protecting investors, trade across borders and enforcing contracts indexes have been directly and significantly associated with FDI inflow in Asian economies.

It should be noted, that the majority of empirical studies use the comprehensive Doing Business indicators to investigate the relationship between a country’s business regulatory system and the attraction of foreign investment. Some papers suggest that entry business regulation can play a critical role in determining the level of inward FDI.

Those studies assert that shorter time, smaller costs and ease in procedures required to start a company lead to higher FDI inflows (Bayraktar, 2013; Shahadan et al., 2014; Vogiatzoglou, 2016). On the other hand, another group of researchers found that improvements in some Doing Business sub-indices do not necessarily lead to higher FDI inflows, revealing an insignificant relationship between the two variables (Morris and Azis, 2011; Corcoran and Gillandres, 2015; Hossain et al., 2018).

In order to systematize the methods of analysis, samples and different approaches used by the different scientists the Table 1 has been constructed.

Table 1

**Characteristics of main relevant studies**

Author and year	Title	Number of countries	Dependent variable	Independent variables	Type of model
Piwonski (2010)	Does the “Ease of Doing Business” in a Country Influence its Foreign Direct Investment Inflows?	171	FDI inflow	DBI (rank)	dynamic
Morris and Aziz (2011)	Ease of doing business and FDI inflow to Sub-Saharan Africa and Asian countries	57	FDI inflow	All sub-indices (scores)	static
Bayraktar (2013)	Foreign Direct investment and Investment Climate	144	FDI, % of world flows	All sub-indices (scores)	static
Shahadan, Sarmidi, Faizi (2014)	Relationships between Doing Business Indexes and FDI Net Inflows: Empirical Evidence from Six Asian Countries (Afghanistan, Bangladesh, India, Iran, Pakistan and Sri Lanka)	6	FDI inflow	All sub-indices (scores)	panel data model
Corcoran and Gillanders (2012)	Foreign Direct Investment and The Ease of Doing Business	53	FDI inflow	All sub-indices (ranks)	static
Vogiatzoglou (2016)	Ease of Doing Business and FDI Inflows in ASEAN	9	FDI inflow	All sub-indices (scores)	static
Mahuni and Bonga (2017)	Nexus Between Doing Business Indicators and Foreign Direct Investment for Zimbabwe: A Time Series Analysis	1	FDI inflow	All sub-indices (scores)	dynamic
Hossain et al. (2018)	Ease of Doing Business and Its Impact on Inward FDI	177	FDI inflow	5 sub-indices (scores)	static

*Source: author's construction based on literature review*

It is possible to conclude that studies have been conducted both for small and wide ranges of countries. The prevailing objects of studies are developing countries mostly from Asia and Africa. Researchers predominantly used static regression models as well as dynamic econometric models in order to achieve their aims.

While agreeing with the majority of studies the author considers that scores of Doing Business indicators are better measures than their rankings for the purpose of regression analysis first of all due to the changing numbers of countries rated. Besides in some DB indicators the difference in scores is minimal, while the range in rankings can be more significant at the same time.

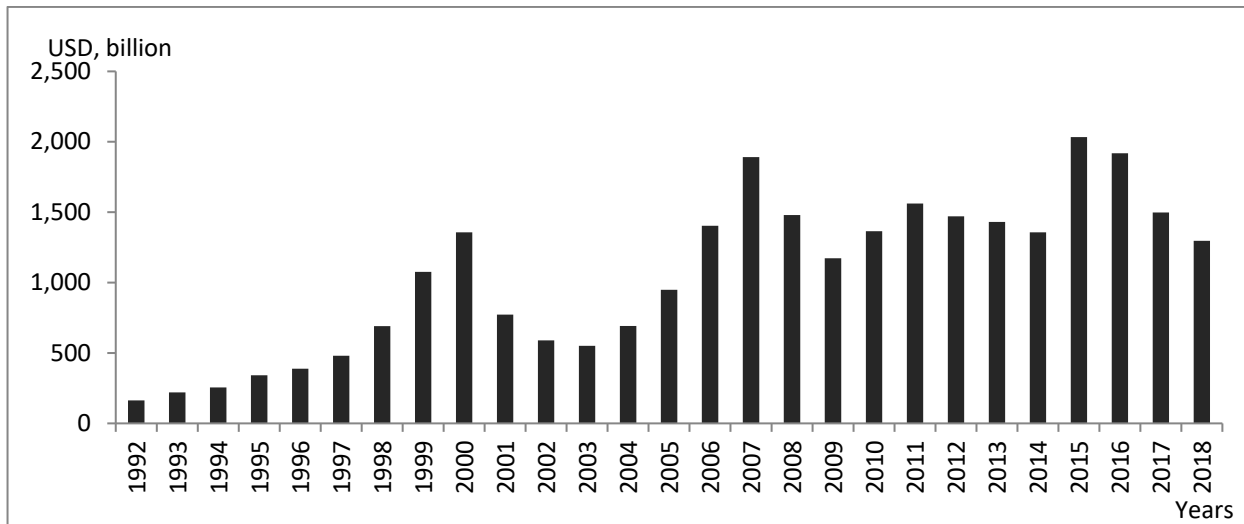
There are no studies exploring similar relationships for CIS countries or transition economies. Besides as it is shown in Table 1 there is no research which used FDI inward stock as a dependent variable. And most of the authors consider either overall DB index score/ranking or all of its sub-indices.

The following section examines trends of FDI inflows globally and in the CIS countries in particular. One of their main recent specific features is the economic crisis in the years 2014-2015 concerned with the conflict in Ukraine and sanctions towards Russian Federation.

## Research results and discussion

### Sub-section 1 Recent trends in FDI

The Commonwealth of Independent States was created at the end of the year 1991 and CIS countries first time separately reported about FDI in the year 1992. In order to provide data in the comparable format the analysis of the FDI inflows trends was conducted between 1992 and 2018. The Figure 1 illustrates the global FDI inflows.

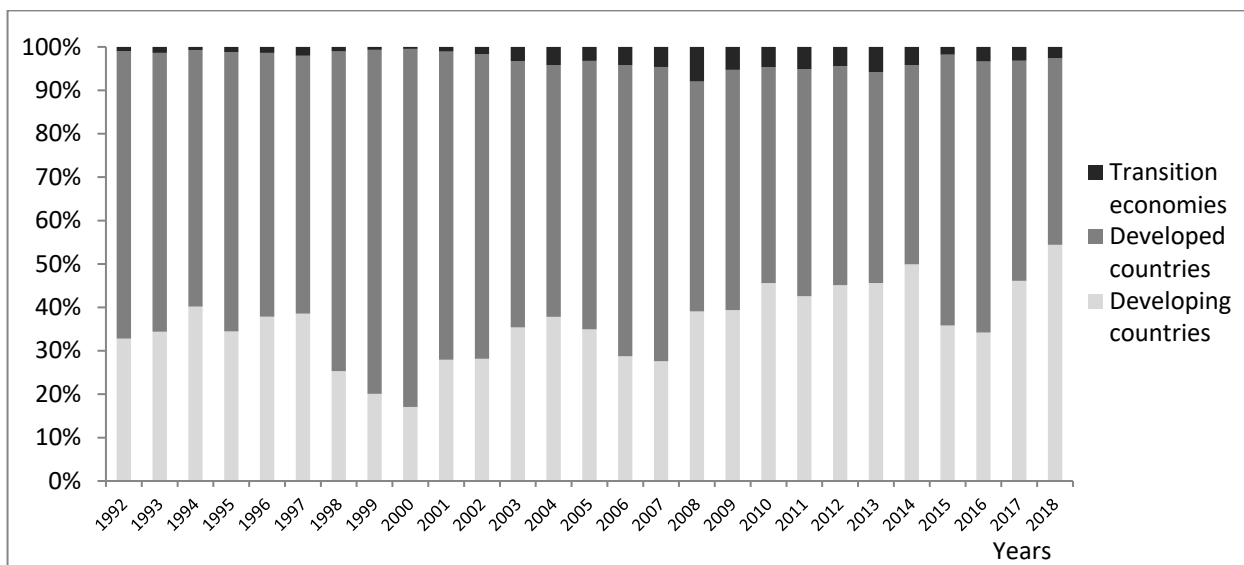


Source: UNCTADstat data

Fig.1. The global FDI inflows

According to this figure there have been three “peaks” in world FDI inflows in recent years: namely in the years 2000, 2007 and 2015. The historical maximum (more than USD 2 trillion) was achieved in the year 2015. The first period of significant growth of FDI global inflows was observed in the years 1997-2000. The second period of growth took place in the years 2004-2007. Then there were 6 years of instability after global financial crisis in the 2008. In 2015 the growth rate was almost 1.5 times higher to the year 2014. During the last three years there has been a significant slowdown. In the year 2018 FDI inflow has decreased to the level even lower than in the year 2010.

Next figure demonstrates the structure of world FDI inflows. According to UNCTAD classification three generalized groups of countries are highlighted: developed countries, developing countries, transition economies.



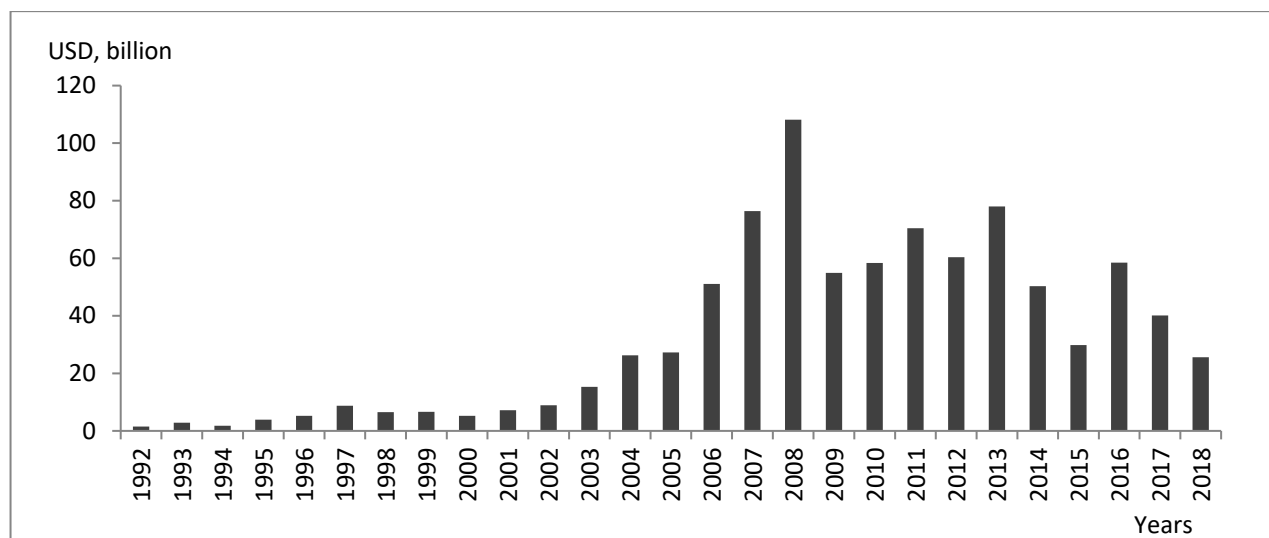
Source: author's construction based on UNCTADstat data

Fig.2. The structure of global FDI inflows

The figure clearly shows that “peaks” at the global FDI inflows are accompanied by the drop in the share of FDI inflows in developing countries (in the year 2000 – 17.1 %, in the year 2007 – 27.6 %, in the year 2015 - 35.8 %). From the one side this demonstrates the tendency to invest in protective assets. From the other side the growing share just mentioned above illustrates that global investors tend to take more risk. The growing share of developing countries is observed in last two years. Comparing this tendency with data on Figure 1, it might be concluded that the interest to invest in developing economies tends to be a mainstream in recent years. In the year 2018 the share of developing countries of world FDI inflows (54.4 %) first time exceeded 50 %. Also in 2018 the minimal share of developed countries was observed – only 42.9 %. One of the drivers is a growing “risk-appetite” of investors in the years 2017-2018.

The share of countries with transition economies is not so large. The most significant achievement is 8 % of the world FDI inflows in the year of 2008 mostly due to record-high growth of oil prices in the first part of this year. Then the share was unstable dropping for example even to 1.8 % in the year of 2015. It should be noted that the share of FDI inflows in the CIS countries varies from 82 % to 98 % in FDI inflows to transition economies.

There are some discussed questions in limitations of countries included in CIS. For example, Turkmenistan is an associated member of CIS. According to some sources Ukraine does not belong to CIS, but initially in December 1991 the agreement was signed by the leaders of Ukraine, Belarus and Russia. Besides in World Investment Report – 2019 “Special Economic Zones” (UNCTAD, 2019) Ukraine is included in CIS and its FDI inflows are summarized there. Georgia left CIS in 2008. Therefore, we include in our overall analysis showed at Figure 3, 11 countries: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Ukraine, Tajikistan, Turkmenistan, Uzbekistan.

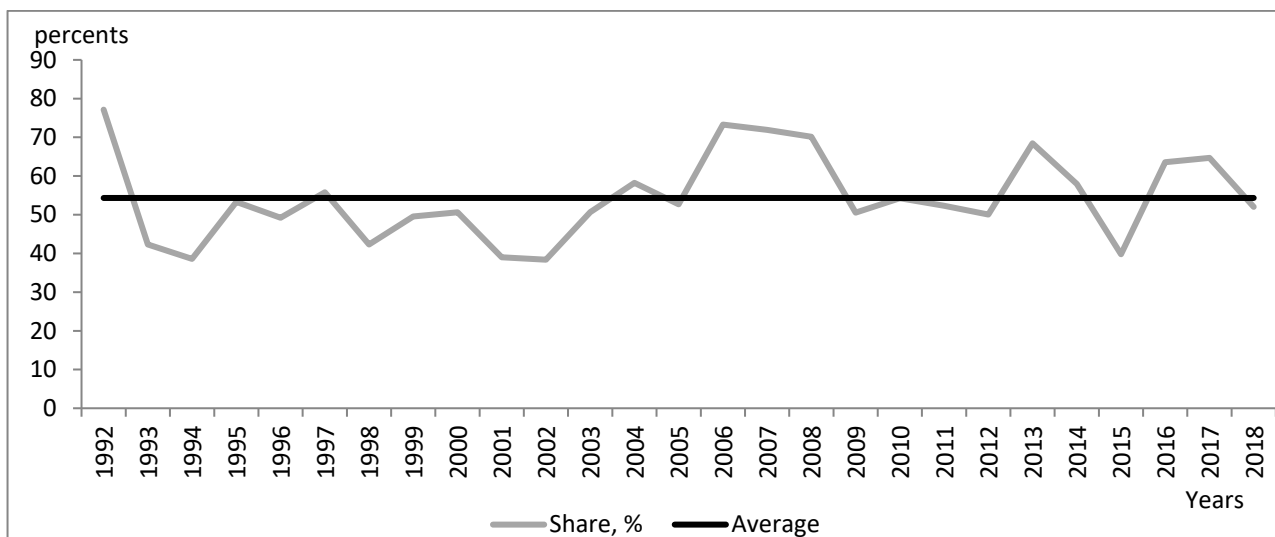


Source: author's construction based on UNCTADstat data

Fig.3. FDI inflows in the CIS countries

The period of significant growth of FDI inflows in CIS countries began in 2006. During that period the FDI inflow in CIS country increased nearly twice comparing to the level of previous year. Such rapid growth occurred also in the years 2007 and 2008. Comparing with the tendencies in world FDI inflows here there is only one “peak” in the year of 2008 (USD 108.1 billion). Moreover, the conflict in Ukraine, followed sanctions towards Russian Federation and dropping oil prices led to the decline of FDI inflows in the year of 2015 to USD 29.8 billion.

The Figure 4 demonstrates the role of Russian Federation in FDI inflows of CIS countries.



Source: author's construction based on UNCTADstat data

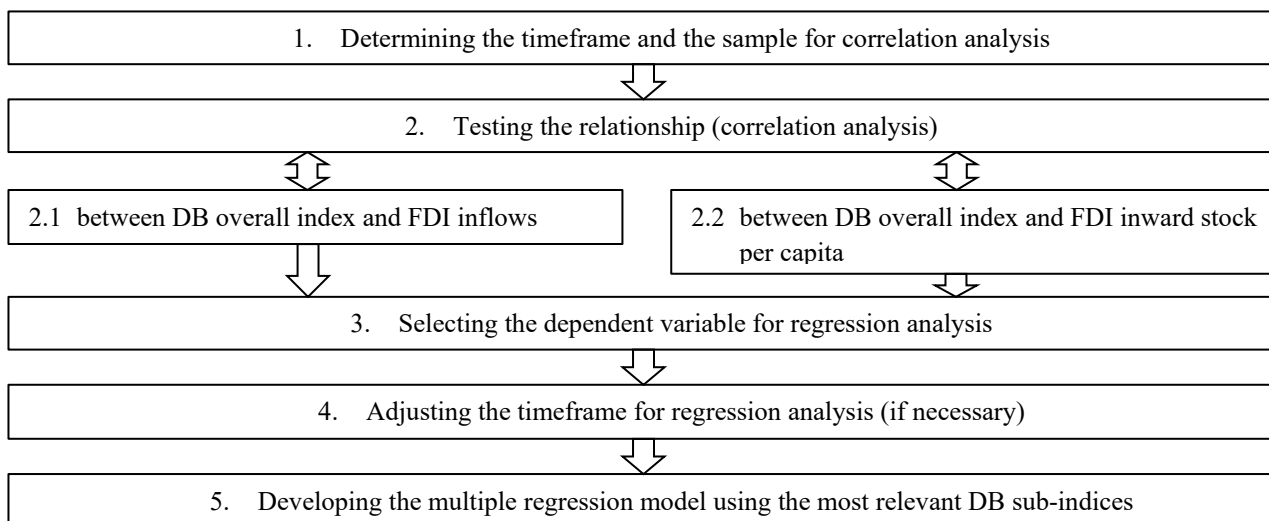
**Fig.4. The share of Russian Federation in FDI inflows to the CIS countries**

Russian Federation with average share of 54.3 % during the period of analysis remains the greatest recipient of FDI among CIS countries. The minimal share of 39.8 % was observed in the year of 2015. In the year of 2018 the rate of decline exceeds the average rate for all CIS countries.

In conclusion, recent two years (2017 and 2018) were characterized by slowing down FDI inflows in the CIS countries, which outlines the high importance to analyze deeper the institutional circumstances of attracting FDI, the role of Doing Business index and its components which are more relevant to the forming the successful business climate and investment policy.

**Sub-section 2 Studying the links between Doing Business indices and FDI in the CIS countries**

The logical framework of the analysis is shown at Figure 5.



Source: author's construction based on Faraway (2002)

**Fig.5. The framework of correlation and regression analysis of the link between DB indices and FDI in the CIS countries**

Taking into consideration the urgency of more detailed analysis of FDI determinants in the CIS countries it is necessary to define the sample and the timeframe for correlation analysis.

As it was mentioned above the author has chosen the overall DB index and its sub-indices as independent variables. So, the main constraint is the availability of all necessary data about them. Since the year 2014 Doing Business indices



have been calculated for 189 countries. Somalia was added in the year 2017. Unfortunately, Turkmenistan (one of the CIS country) is not among these countries. So, the sample for the correlation analysis consists of 10 CIS countries.

Limitations to the timeframe were predominantly related to the availability of DB scores for Russian Federation. These scores are available only from the year 2014. Taking into consideration the role of Russian Federation in FDI inflows to the CIS countries (see Figure 4) it is worthwhile to reduce the timeframe. Another reason for this shortening is changing of methodology of Doing Business index calculation by the World Bank which introduced improvements to all of its indicator sets. In Doing Business 2015, getting credit and protecting minority investors broadened their existing measures. These adjustments were spread by World Bank's experts also for the year 2014.

The first testing relation is the link between DB overall indices and FDI inflows (see Table 2)

Table 2

**The link between DB overall indices and FDI inflows in CIS countries**

Countries	2014		2015		2016		2017		2018	
	DBI	FDI inflow, mil. USD	DBI	FDI inflow, mil. USD	DBI	FDI inflow, mil. USD	DBI	FDI inflow, mil. USD	DBI	FDI inflow, mil. USD
Armenia	65.52	404	66.82	178	69.14	338	70.63	250	71.49	254
Azerbaijan	60.69	4 430	62.34	4 048	65.45	4 500	64.25	2 867	66.83	1 403
Belarus	64.49	1 828	65.67	1 668	68.73	1 238	72.62	1 279	73.58	1 469
Kazakhstan	61.83	8 489	62,71	4 057	70.92	8 511	74.85	4 669	76.88	3 817
Kyrgyzstan	58.32	248	57.82	1 142	61.27	616	61.32	-107	62.36	47
Moldova	62.41	338	66.24	228	71.39	91	72.52	163	72.73	228
Russian Federation	67.46	29 152	69.19	11 858	74.10	37 176	75.26	25 954	76.54	13 332
Tadjikistan	41.75	432	47.25	559	51.84	344	53.44	270	54.34	317
Ukraine	59.94	410	62.38	2 961	64.18	3 284	65.42	2 601	68.09	2 355
Uzbekistan	47.92	757	52.28	66	61.68	134	62.09	98	66.61	412
Pearson Correlation values	<b>0.419</b>		<b>0.469</b>		<b>0.506</b>		<b>0.463</b>		<b>0.514</b>	

Source: author's construction based on UNCTADstat data and the World Bank data catalog

The criterion for the selection dependent variable is Pearson Correlation value of 0.5 or more (at least noticeable link according to the Chaddock scale).

The results of calculations demonstrate a positive relationship between DB overall indices and FDI inflows in CIS countries in each year. But according to the Chaddock scale this link is noticeable only in the years 2016 and 2018. And even for these years the values were very close to 0.5 and did not exceed this established level of the criterion. That is why the author does not take into account the relationship between DB overall indices and FDI inflows for the further regression analysis.

The other testing relation is the link between DB overall indices and FDI inward stock per capita. The main reason to test this relationship is because all the variables reflect a cumulative effect. It is necessary to mention here that DB scores for the next year are formed in previous year and they are usually published in October-November. So, DB indices usually reflect cumulative effects for previous year. For example, DB indices in the year of 2017 reflected the actual changes in its parameters occurred in the year of 2016. That is why to be more comprehensive, the timeframe for DB indices was taken as 2014-2019, and for FDI inward stock per capita – 2013-2018. The method of comparison is just the same as it is shown in Table 2. The results are presented in Table 3.

Table 3

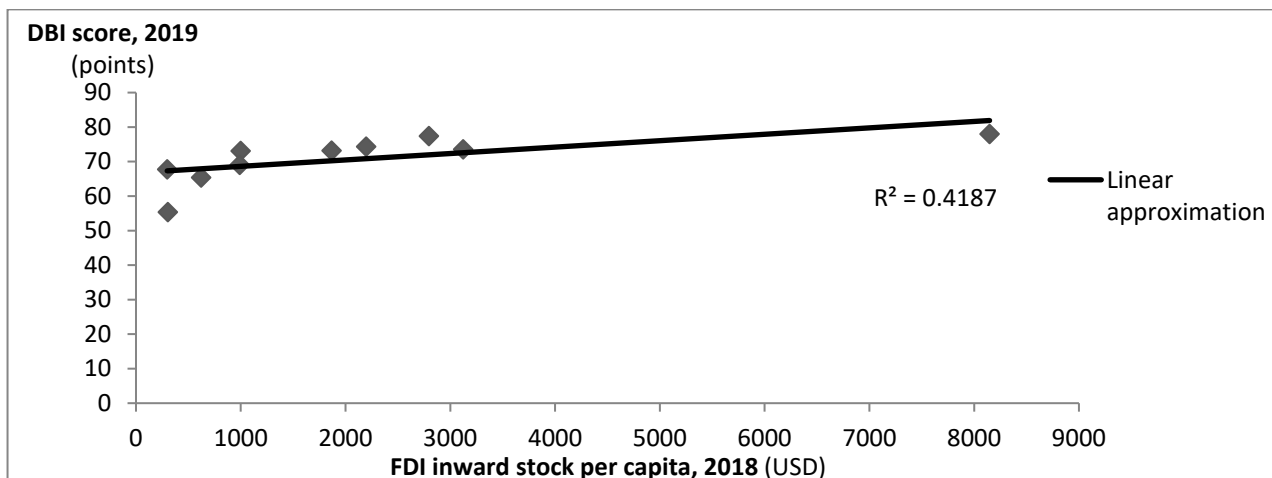
**The link between DB overall indices and FDI inward stock per capita in CIS countries**

Years	2014/2013	2015/2014	2016/2015	2017/2016	2018/2017	2019/2018
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Pearson Correlation values	<b>0.452</b>	<b>0.318</b>	<b>0.452</b>	<b>0.561</b>	<b>0.607</b>	<b>0.647</b>
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Source: author's construction based on UNCTADstat data and the World Bank data catalog

The results of this part of correlation analysis are of great interest. The crisis period (the years 2014-2015 for CIS countries) is characterized by the weak relationship between variables. But since the year of 2016 it has become stronger. The situation in the year of 2018 is shown at Figure 6.



Source: author's construction based on UNCTADstat data and the World Bank data catalog

Fig.6. The link between DBI scores and FDI inward stock per capita in the CIS countries

The R-squared indicates that only 41.8 % of FDI inward stock per capita variation can be explained by DB overall index score variation. That demonstrates another reason for finding some sub-indices which could more relevant to the relation on FDI inward stock per capita. According to the established criterion (Pearson Correlation value of 0.5 or more) and data presented in Table 3 there is a necessity of narrowing the timeframe for the further regression analysis. So the regression model for independent variable “FDI inward stock per capita” would better to be developed for years 2016-2018 (post-crisis period in the CIS countries).

Then according to the logical framework of the analysis (see Figure 5) the most significant DB sub-indices in terms of the relation to the FDI inward stock per capita were revealed. The table 4 shows the relationship between each DB sub-index and FDI inward stock in the CIS countries.

Table 4

**Pearson Correlation values between DB sub-indices and FDI inward stock per capita in the CIS countries**

DB sub-indices	Pearson Correlation values for years		
	2017/2016	2018/2017	2019/2018
Dealing with construction permits	0.600	0.397	0.438
Enforcing contracts	0.382	0.313	0.422
Getting credit	-0.186	-0.014	0.101
Getting electricity	0.325	0.321	0.376
Paying taxes	0.454	0.349	0.327
<b>Protecting minority investors</b>	<b>0.641</b>	<b>0.699</b>	<b>0.685</b>
Registering property	0.286	0.317	0.331
<b>Resolving insolvency</b>	<b>0.762</b>	<b>0.773</b>	<b>0.718</b>
Starting a business	0.159	-0.086	-0.010
Trading across borders	0.062	0.079	0.072

Source: author's construction based on UNCTADstat data and the World Bank data catalog

As it is shown in the literature review, most studies used all DB sub-indices without selecting most important of them. So the author implies here the selection rule for the independent variables according to Sakurai et al. (2009) that requires the simple correlation coefficient value as minimum as 0.5. Following this rule the chosen independent variables are DB sub-indices “Resolving insolvency” and “Protecting minority investors” (see Table 4).

The link between DB sub-index “Protecting minority investors” score and FDI inward stock per capita is noticeable (correlation coefficient is a little bit less than 0.7 during all the observing period), and the link between DB sub-index “Resolving insolvency” score and FDI inward stock per capita is even strong (correlation coefficient is a little bit more than 0.7).

To avoid multicollinearity the author uses the rule that correlation coefficient between independent variables should not exceed 0.8 (Mahuni and Bonga, 2017). The Pearson Correlation values between DB sub-indices “Protecting minority investors” and “Resolving insolvency” didn’t exceed 0.616 during the observing period.

The regression model was developed using STATA for 10 countries in the period of the years 2016-2018 (30 observations). The results are shown in Table 5.

Table 5

#### Results of regression analysis

Independent variables	coefficients	standard error	t-statistics	probability P> t	beta-coefficients	R-squared	adjusted R-squared
Resolving Insolvency (RI)	101.75	23.15	4.396	0.0002	0.552	0.678	0.654
Protecting Minority Investors (PMI)	57.74	18.24	3.167	0.0038	0.397		
Constanta	-5817.52	1074.8	-5.413	0.00001	-		

Source: author’s construction based on UNCTADstat data and the World Bank data catalog

F-statistics is equal 28.44 with probability 0.000003. That proved a reliable relationship between independent variables and FDI inward stock per capita in the CIS countries during the post-crisis period (2016-2018). R-squared is much more than for single independent variable – DB overall index (see Figure 5). It proved that developed multiple regression explains better the behavior of dependent variable that the DB overall index score.

Adjusted R-squared (0.645) shows that during the years 2016-2018 the independent variables mentioned above determined 65.4 % of changing the values of dependent variable – FDI inward stock per capita. Beta coefficients refer to how many standard deviations a dependent variable will change, per standard deviation increase in the predictor variable. From the model derived it is possible to see that “Resolving insolvency” has a relative contribution as 0.552 and the “Protecting minority investors” has a relative contribution as 0.397. These findings are supported by high level of significance proved by probability of t-statistics. That is good result especially in comparison with the results of similar studies. For example, Hossain et al. (2018) received the maximum beta coefficient value of 0.092 (for independent variable “Enforcing contracts”).

The independent value RI (DB sub-index “Resolving insolvency” score) has a beta coefficient value of 0.552 which shows a positive impact on FDI inward stock per capita. Besides it has a significant value of 0.0002 indicating the positive significant impact which DB sub-index “Resolving insolvency” has on FDI inward stock per capita. The beta coefficient value of PMI (DB sub-index “Protecting minority investors” score) shows also a positive impact it has on FDI inward stock per capita. It also has a significant value of 0.0038 which further indicates that DB sub-index “Protecting minority investors” has a positive significant impact on FDI inward stock per capita.

It is possible to conclude that governments of CIS countries should pay more attention to such sub-indices of Doing Business index as “Resolving insolvency” and “Protecting minority investors”. Results of regression analysis clearly show that these World Bank indicators are crucial in the post-crisis period (2016-2018) for effective FDI attraction in the CIS countries. But gaining the progress in improving these indicators is not so simple as for example “Starting a business” or “Registering property” indicators. This will require much deeper structural reforms.

The Doing Business indicators discussed in this paper are, of course, not the only ones in determining FDI performance. So, the perspective direction of improving the research can be making the similar analysis while

combining the DB indicators with others (for example, Global Competitiveness Index, Corruption Perceptions Index etc.). For the purpose of FDI forecasting it is better to use time-series analysis trying to find the unique trajectory for each country.

### **Conclusions, proposals, recommendations**

The conclusions, drawn as a result of the carried out analysis, correspond in general to the opinions and views of the scientists both from developed and developing countries. The main findings of the research are:

1. The trends of FDI inflows to the CIS countries in recent years are similar to the global tendencies. Downward FDI inflows in the CIS countries during the years 2017-2018 outlines the high importance to analyze deeper the institutional circumstances of attracting FDI.
2. There is no significant relationship between overall Doing Business index scores and FDI inflows to the CIS countries during the period of 2014-2018.
3. There are two most relevant sub-indices of Doing Business index in terms of their reliance on FDI inward stock per capita during the period of 2016-2018 in the CIS countries: “Resolving insolvency” (strong link) and “Protecting minority investors” (noticeable link).
4. The regression analysis proved the high significance of the independent variables in explaining the behavior of FDI inward stock per capita in the CIS countries during the period of years 2016-2018. So, governments of CIS countries should pay more attention to the World Bank’s Doing Business sub-indices “Resolving insolvency” and “Protecting minority investors” in order to enhance an investment and business climate for foreign investors. However, getting a significant progress in improving these indicators will require much deeper structural reforms.
5. In spite of that Doing Business indicators focus on small to medium-size domestic firms, the quality of the laws and regulations and the ways of its implementation may be a useful signal to foreign investors of the overall quality of the business environment.
6. Future research should be concerned with conducting the similar analysis while combining the World Bank’s Doing Business indicators and other global indices.

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## POSSIBLE CONSEQUENCES OF BREXIT ON EUROPEAN PHARMACEUTICAL MARKET

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**Abstract.** Brexit has been a hot topic of discussions since the referendum held in June 23 2016; the long and difficult negotiations and multiple delays of the Brexit have caused uncertainty and confusion in pharmaceutical industry in both UK and EU. As EU pharmaceutical companies have been part of UK pharmaceutical market for decades and makes considerable contribution to UK's health system it is important to acknowledge what the Brexit might bring to the industry and how the company marketing strategies should be aligned to cope with the consequences caused by Brexit.

**Purpose of the article:** The purpose of the research is to assess the influence of Brexit on EU and UK pharmaceutical markets and industry in order to acknowledge potential risks, challenges for conducting marketing activities in UK pharmaceutical market after Brexit. The findings of this article could later be used by pharmaceutical industry professionals to better understand the Brexit influence on pharmaceutical industry and align their marketing strategy.

**Objective:** To assess the possible consequences of Brexit on UK and EU pharmaceutical markets and industry.

**Methodology/methods:** In order to attain the goal and objectives, the following quantitative and qualitative methods were used: meta and content analyses, analysis of the most recent scientific and professional literature available and in-depth interviews of industry experts. The study is based on scientific papers published by foreign scholars, general and special literature, periodicals, governmental and industry reports.

**Findings:** the research outlined the challenges that pharmaceutical industry is facing due to Brexit process; it also outlines the possible future challenges that industry might face in the future and outlines possible solutions that can be adapted in practice.

**Keywords:** *Pharmaceutical Industry, EU Pharmaceutical Market, Brexit, Pharmaceutical product availability.*

**JEL code:** M31

### Introduction

As potential Brexit has brought confusion and uncertainty to the pharmaceutical industry in EU it is important to acknowledge the main issues that pharmaceutical companies willing to operate in UK will have to face when Brexit will take place. As pharmaceutical industry is one of the main industries in Latvia the research is focused on finding possible solutions and possible marketing strategies for companies that are willing to conduct business in UK pharmaceutical market.

**The objective of the research** is to study and assess the possible consequences and influence of UK leaving the EU on pharmaceutical industry in both EU and UK as well the possible challenges and opportunities that might arise after Brexit.

In order to achieve this objective, the research was based on the study of meta and content analyses, analysis of the most recent scientific and professional literature available, in-depth interviews with directors of Latvian, UK and Ireland Pharmaceutical companies and scientific literature databases were used as information sources.

Research shows that since Brexit vote has taken place it has caused a significant influence on UK pharmaceutical industry resulting in reduced development and postponed investments caused by uncertainty of possible Brexit scenarios. Both EU and UK's pharmaceutical companies will have to adapt their marketing and regulatory strategies in order to align with UK leaving the joint EU registration procedures. By outlining the major challenges



pharmaceutical industry could face the research authors hope the industry can adapt timely their strategies to better cope with these challenges and reduce Brexit negative consequences.

### **Literature Review**

Publications of UK Medicines and Healthcare products Regulatory Agency, UK Parliament House of Commons and European Medicines Agency were used to reflect current political and regulatory processes concerning pharmaceutical industry.

Industry reports from Marketline and OECD were used to analyze the pharmaceutical market trends in EU and UK.

Articles from Journal of Pharmaceutical Policy and Practice, Forensic Science International, Expert Opinion on Drug Discovery, Medical Writing, The Pharmaceutical Journal, British Journal of Pharmacy and Journal of Pharmaceutical Policy and Practice, OECD Economic Policy Papers, Journal of Economic Perspectives and other related sources were used as information sources.

Multiple interview of experts in pharmaceutical field were conducted, including head of regulatory department of a Latvian pharmaceutical producer, managing director of a pharmaceutical distribution company in Ireland, business development and clinical affairs director of a pharmaceutical distribution company in UK and a business development director of a UK pharmaceutical producer.

The causes of Brexit taking place, its current influence on the UK's economy, investments and pharmaceutical industry have been assessed by multiple authors, as well as possible scenarios of post-Brexit development in both EU and UK have been outlined. It has been noted that possibility of Brexit has slowed down the UK's economic growth and caused uncertainty among investors and industry; whereas there's considerably less research been done on Brexit potential consequences on EU industries.

### **1. Brexit development and current influence**

Brexit started as an innocent idea by UK's Prime Minister at that time David Cameron in early 2013 (January 23) in a speech at Bloomberg outlining the idea of UK resetting its role within EU. The innocent idea later turned into a dangerous flirt with the public that eventually led to a referendum on UK's possible withdrawal from EU (June 23 2016) (House of Commons, 2019).

The referendum resulted in tight vote with 51.9% voting to exit EU. The positive vote came as a negative surprise to UK and the global community – the voting outcome was later explained by social inequality caused by the globalization (Pettifor, 2016; Clarke, Goodwin and Whiteley, 2017; Colantone and Stanig, 2018). UK proceeded with its goal to exit EU and triggered the Article 50 of the Treaty on European Union in March 29 2017, thus formally starting the Brexit procedure.

Year 2018 continued with intense negotiations between EU and UK on the Brexit terms; in parallel the public started to prepare for a no-deal Brexit.

So far the possible Brexit and multiple delays of it taking place has brought concerns and uncertainty of UK's economies future and development – as per OECD reviews the chaotic Brexit development has impacted consumption, investments and the economic activity in UK (OECD, 2017).

Due to uncertainty of Brexit, consumer and investment sentiment has slowed down since 2016 which impacted the economic growth rate of the UK – economic growth, which averaged 2.45% during 2013–2015, slowed down to an average of 1.67% during 2016–2018 (MarketLine, 2019). Some of researches even suggest that the uncertainty caused by Brexit is one of the major causes of the development slow down (Steinberg, 2019).

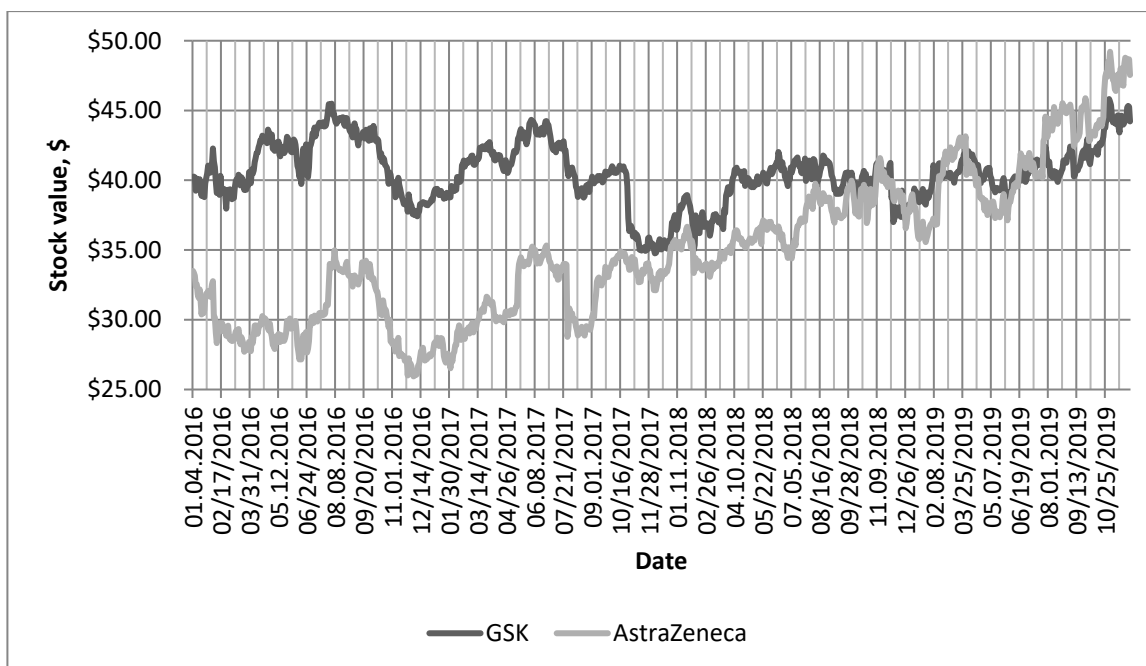
Brexit has also affected the development of the UK Pharmaceuticals market, and the future looks increasingly uncertain. The first major blow to the UK's pharmaceutical market came within a year after the referendum and the decision to proceed with Brexit when the European Medicines Agency announced its departure from the UK and



relocation to Amsterdam (MarketLine, 2019). This was a significant loss to UK's pharmaceutical industry, which over the years had developed a close cooperation between the EMA and the UK regulatory body (MHRA). Prior the Brexit referendum, due to its regulatory leadership, world-leading research base and well integrated National Health System, UK was the preferred option for European drug manufacturers who were seeking to register their pharmaceutical product in the European Market. The UK's leading role as preferred platform for pharmaceutical product registration boosted its economy and health system with investments, taxes, intellectual property filings and UK citizens gaining access to innovative drugs much faster than in other healthcare systems within Europe.

It has been noted that since 2016, Brexit has had a significant effect on investment caused by legislative and regulatory uncertainty that has resulted in the pharmaceutical industry being precautions to further investments in UK (MarketLine, 2019). Studies have outlined that since Brexit vote not only the investments in UK have reduced (by 11%), but also have had negative effect on UK industry productivity as it's top management has to focus their attention to post-Brexit scenario planning (Bloom et al., 2019).

Furthermore, authors of this study noticed some similarities in the stock value development of two major pharmaceutical producers in UK (GlaxoSmithKline and AstraZeneca) after the Brexit referendum taking place and being followed by inconvenient development of the Brexit process and multiple delays in UK actually leaving the EU (as shown in Figure 1 below). Although direct correlation between Brexit discussions and stock market value changes have not been approved the similarity in stock value trends could be explained by shifts of British Pound value (Breinlich et al., 2018).



Source: authors' calculation based on (NASDAQ Exchange, 2019)

Fig. 1 GlaxoSmithKline and AstraZeneca stock value changes (01.05.2016. – 10.25.2019.)

## 2.EU and UK Pharmaceutical market overview outlining future business opportunities

As per Marketline report of Europe pharmaceutical industry in 2019, the European pharmaceuticals market grew by 3.1% in 2018 to reach a value of \$286.9 billion. The compound annual growth rate of the market in the period 2014–18 was 2.6%. In comparison the Marketline report of UK's pharmaceutical industry in 2019, the pharmaceuticals market in UK grew by 3.9% in 2018 to reach a value of \$26.9 billion. The compound annual growth rate of the market in the period 2014–18 was 0.6% (as shown in Table 1 below).

Table 1

**Europe and UK pharmaceuticals market value: \$ billion, 2014–18**

Year	Europe		UK	
	€ billion	Growth, %	€ billion	Growth, %
2014	219.6		26.3	
2015	225.1	2.5%	27.0	2.7%
2016	228.2	1.4%	25.1	-7.0%
2017	235.6	3.2%	25.9	3.2%
2018	243.0	3.1%	26.9	3.9%
CAGR: 2014–18		<b>2.6%</b>		<b>0.6%</b>

Source: authors' calculation based on (MarketLine, 2019)

The reports also predicts that in 2023, the European pharmaceuticals market is forecast to have a value of \$344.5 billion, an increase of 20.1% since 2018. The compound annual growth rate of the market in the period 2018–23 is predicted to be 3.7%. In comparison the UK's pharmaceuticals market is forecasted to have a value of \$32.1 billion in Year 2023, an increase of 19.3% since 2018. The compound annual growth rate of the market in the period 2018–23 is predicted to be 3.6% (as shown in Table 2 below).

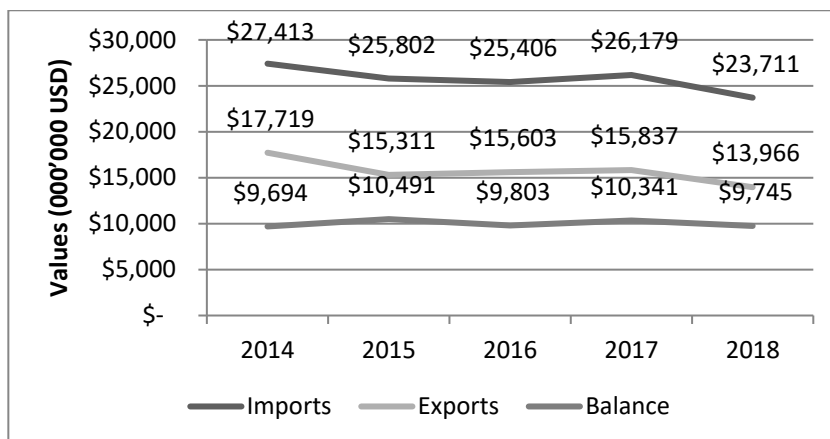
Table 2

**Europe and UK pharmaceuticals market value forecast: \$ billion, 2018–23**

Year	Europe		UK	
	€ billion	Growth, %	€ billion	Growth, %
2018	286.9	3.1%	26.9	3.9%
2019	296.5	3.3%	27.8	3.3%
2020	306.9	3.5%	28.8	3.6%
2021	318.3	3.7%	29.8	3.5%
2022	330.8	3.9%	30.9	3.7%
2023	344.5	4.1%	32.1	4.0%
CAGR: 2018–23		<b>3.7%</b>		<b>3.6%</b>

Source: authors' calculation based (MarketLine, 2019)

As noted by OECD report on international trade 2019, UK is historically importing pharmaceutical products from EU27 in a greater value than it is exporting to these markets. Balance of pharmaceutical import and export from UK to EU27 balances in between of 9,7\$ billion and 10,5\$ billion in favor of EU27 during Years 2014-2018 (as shown in Figure 2 below).



Source: authors' calculation based on (OECD, 2019)

**Fig. 2 Import, export values and balance of UK pharmaceutical products to EU27**

Market data shows that while EU pharmaceutical market has a steady development trend, UK has had a significant decrease (-7%) on pharmaceutical market in Year 2016 that could be linked to inconvenience caused by possible Brexit. The compound annual growth rate in next 4 Years for both UK and EU pharmaceutical markets is expected to be similar (3.6% - 3.7%) with EU having slightly better expectations. The decline and weakened growth in UK market and industry has been noted by multiple reports and linked to uncertainty of UK future after Brexit taking place (OECD, 2016).

The pharmaceutical product import and export trends in UK market shows that UK is quite dependent on product supplies from EU. The possible Brexit brings opportunities for both – UK companies to take greater domestic market share, thus reducing import value from EU; and for EU pharmaceutical producers Brexit brings opportunities for those who are flexible enough to align with complex and unpredictable UK's post-Brexit market to bypass companies that will no longer supply their products to UK.

Also, it has been outlined by multiple researches that Brexit will cause a slower growth in UK that it would have been if it remained in EU (Sampson, 2017). The trade relations and environment is expected to worsen after Brexit taking place would cause negative effects for both UK and EU and also other major countries worldwide; a trade agreement between EU and UK would reduce the negative consequences of Brexit (Brakman, Garretsen and Kohl, 2017), (Morley, 2019).

Although most of the reviewed studies predict that Brexit would bring loss to the UK's economy, it is stipulated that Brexit could bring some advantages to UK if the trade policies and negotiations are played out smart, especially in the fields where UK has high imports of intermediate products and low exports of final goods to the EU, by increasing the local value of the final goods (Felbermayr, 2019).

As described by studies focusing on turbulent market situations, the changing market situation, as it is with Brexit, might draw concerns to enterprises asset quality and profitability, thus pushing enterprises to optimize their asset and liability structure in order to reduce financial risks and remain profitable (Saksonova, 2013).

Also, in order to reduce the influence on Brexit caused negative risks the enterprises should review their development and marketing strategies (Saksonova and Solovjova, 2012) and enterprises might favor merging and acquiring strategies even more to increase the enterprises competitiveness and industry development (Saksonova and Kantane, 2017).

Thus the Authors see a probability that due to Brexit the UK pharmaceutical companies may tend to choosing the path of merging and acquiring to enhance their competitiveness in the UK and EU market.

### **3.Regulatory differences of Pharmaceutical product registration (EU vs. UK) and their influence on pharmaceutical market development**

Pharmaceutical product registration is a mandatory and complex regulatory process that is required prior products can be introduced in corresponding markets. Same as with uncertainties with economics development due to possible Brexit the regulatory processes faces similar concerns. Although no radical changes in the EU policies have been made so far, it is expected that EU policies could become less liberal in the future (De Ville and Siles-Brügge, 2019). In parallel, it is noted by regulatory experts that EU and UK producers are already facing with multiple difficulties and foresee possible regulatory trends and challenges in post-Brexit scenario.

It is expected that pharmaceutical product registrations for UK market that have been submitted within EU joint registration procedures will automatically be transferred to UK's National registration procedure, thus the registration finalization of the product in UK becomes less predictable.

After Brexit taking place the joint EU procedures where UK is acting as Reporting Member State (RMS) the pharmaceutical producers will have to choose different RMS country, thus increasing the workload of National Competent Authorities Regulatory expert workload in such member states.

The National registration procedure timelines in UK are quite similar to the ones set in the EU joint registration procedures, but there is doubt that the timelines will remain the same after Brexit as MHRA experts will have to assess the registration documentation independently, without direct assistance from other EU competent authority experts as it would be during joint EU registration procedures. Furthermore, due to higher input from its regulatory experts, MHRE is expected to face need in increasing its regulatory staff.

Regulatory experts outlined the advantage of National registration procedure (in comparison to EU joint registration procedures) by noting that assessment doesn't have to be aligned and approved by other Concerned Member States (CMS). Nonetheless such approach requires additional effort for both the National Competent authority and pharmaceutical producer as in general it runs as an independent registration procedure that requires almost the same effort as the joint registration procedure.

As disclosed by regulatory experts, due to uncertainty with the Brexit timelines (as it has been postponed multiple times), there has been situations where a joint registration procedure RMS would reject adding UK as a CMS if the joint procedure would end after the initially set Brexit deadline, thus confusing pharmaceutical producers on choosing the right strategy for pharmaceutical product registration in UK. Also, there have been situations when MHRA would reject the pharmaceutical product registration submission if the product has an ongoing joint registration procedure in EU – the pharmaceutical producer would then be suggested to include UK as CMS in the joint procedure in despite of the previously mentioned concerns set by the RMS.

Majority of experts during their interviews noted that pharmaceutical product applications that have been submitted for National registration in UK in Year 2019 so far have considerably slower progress if compared to EU joint registration procedure and the feedback from MHRE has been slow despite the proactive communication and initiative from the submitter's side. They also noted that in some cases while the application of pharmaceutical product registration has been submitted in parallel in both EU joint and UK National registration procedures, the EU joint procedure has been finalized first while the UK national procedure still continues, thus showing an example that joint registration procedures can run more smoothly and convenient.

After the Brexit taking place and having no alternative joint registration procedure with EU, the pharmaceutical producers will have no other option than to submit the pharmaceutical products for registration in EU and UK independently, thus running two registration procedures instead of one joint procedure. This also increases the workload for both the producer and the MHRA.

From a pharmaceutical producers point of view the National registration fees in UK are higher (although insignificantly) if compared with applied fees for EU joint registration procedures (as shown in Table 3 below).

Table 3

**UK pharmaceutical product registration fee comparison – decentralized vs. national registration**

	Major	Abridged complex	Abridged standard	Abridged simple
National fee (including hybrid applications)	£ 92,753	£ 25,643	£ 9,402	£ 2,564
Decentralised procedure where the UK is a concerned member state (CMS)	£ 89,556	£ 24,760	£ 9,078	£ 2,564
Incoming mutual recognition with the UK as a CMS and European reference products	£ 62,421	£ 17,330	£ 6,350	£ 2,564

Decentralised procedure where UK is RMS	£ 121,664	£ 35,634	£ 15,659	£ 8,105
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*Source: author's construction based on (Medicines & Healthcare products Regulatory Agency, UK, 2019)*

Additionally this would exclude the option for UK to have a common/ joint packaging with other EU member states that require the products in English language (Ireland and Malta). As Ireland and Malta both have significantly smaller pharmaceutical markets in volume (compared with UK) the probability that pharmaceutical producers would decide to waive the registration of these pharmaceutical products in these member states increases.

Nonetheless, as pharmaceutical products that have approved English packs are highly demanded in use outside English speaking countries (due to widespread use of English language worldwide) and the products that are approved via joint EU registration procedures are well received worldwide (due to high regulatory and quality standards in EU), after Brexit the pharmaceutical producers could be tempted to reconsider registration of their pharmaceutical products in the remaining English speaking EU member states (Ireland and Malta) despite the low pharmaceutical market volume in these countries.

#### **4.Possible supply issues of pharmaceutical products after Brexit**

The uncertainty that comes with the possible Brexit and the way how the negotiations between UK and EU have been progressing causes concerns within the pharmaceutical producers and distributors both in UK and EU.

As reported by Marketline reports, in the situation of a no-deal Brexit the UK would lose preference in the EU markets, and the loss would amount to almost US\$16bn, which is equivalent to approximately 7% of the overall exports to the EU, according to UNCTAD estimates that had taken into account only the increase in the tariffs. Moreover, border controls, disruption of production networks and the non-tariff barriers are expected to add to the losses (MarketLine, 2019).

With respect to notes made by experts the pharmaceutical producers and distributors in EU and UK are currently facing with multiple difficulties and foresee possible pharmaceutical market development trends in post-Brexit scenario.

UK pharmaceutical producer representative remarked that possible Brexit brings a huge damage to European trading environment, brings losses to UK economy, lowers the access to foreign markets and makes no economic sense whatsoever. It has also been noticed that some UK pharmaceutical producers have already transferred some of their marketing authorizations of pharmaceutical products to their EU based entities in order to remain part of the EU joint market and avoid possible negative consequences caused by Brexit. Such regulatory actions require extra financial and regulatory resources that could be invested elsewhere. Also, UK producers are stocking up their products in order to cope with possible pharmaceutical product shortages that might come after Brexit takes place. As the Brexit date has been postponed already 3 times, the stocked up goods are seen as frozen assets that could be preferably used elsewhere, furthermore the shelf-life of the stocked goods is running, thus increasing the risk of product spoiling.

Both exerts from UK pharmaceutical producers and distributors have noticed an increasing tendency of pharmaceutical product shortages in UK market. The increasing pharmaceutical product shortages could be explained by the lack of certainty what could happen after Brexit taking place and when could it actually happen (as it been already postponed multiple times). In some cases the pharmaceutical products in shortage are being replaced with other products and therefore patient therapies need to be adjusted accordingly. This further increases the consumption of replacing pharmaceutical products that eventually might result in further shortages as these pharmaceutical producers haven't expected such increase in demand of their products.

Furthermore, EU pharmaceutical producers noted that they are putting on hold their further investments into UK market (new research facilities, production sites, pharmaceutical product registrations, etc.) due to high uncertainty caused by possible Brexit.

So far both UK pharmaceutical producers and distributors experts haven't noticed any major shifts in the workforce availability, still it is expected that there will be increasing demand for highly qualified personnel, especially in the pharmaceutical regulatory field as it is expected that MHRA will need extra experts to cope with increasing numbers of pharmaceutical product National registration procedures and any producer that is expecting to register products in both EU and UK will need extra regulatory workforce to run both registrations in parallel. Nonetheless it has been observed that there has been a decrease in immigration in UK that can be explained by uncertainty caused by Brexit as potential immigrants from EU are not sure of their future within UK in case of a no deal Brexit. Also, as suggested by Marketline report of UK's pharmaceutical industry in 2019, the UK's research industry benefits significantly from European labor – life science PhD's and Postdoctoral positions in particular. Thus, by Brexit taking place there's a risk that it might cause damage to UK's life science knowledge base (MarketLine, 2019).

Both UK pharmaceutical producer and distributor experts indicated that at this stage it is hard to predict how Brexit could influence the competitiveness of UK pharmaceuticals producers as it only will be clear when a trade agreement between UK and EU would take place. Experts suggest that the uncertainty caused by multiple delays of Brexit and how it will take place causes more damage to the UK rather than potential Brexit itself. It is speculated that Brexit will bring loss to UK economy in a short term, but it's hard to predict how it will effect UK in a long run.

As noted by expert from UK pharmaceutical distributor the no deal Brexit would be the worst case scenario as there's no "safety net" in this situation and lots of processes could be put on hold, especially logistics and movement of goods over EU-UK border. This could result in uncomfortable situation for Ireland as it is somewhat dependent on goods transit via UK and it brings doubts that Ireland logistic infrastructure could fully cope with alternative logistic routes (direct air and sea transport from continental Europe) (BBC, 2018).

Furthermore, as noted by Ireland pharmaceutical distributor Ireland pharmaceutical market is much dependent on UK affairs as both countries commonly use unified packs for pharmaceutical products registered via same EU joint registration procedure and Ireland could usually be supplied with pharmaceutical products destined for UK market. Now if Brexit takes place and there will be separate registration procedures for Ireland and UK this option won't be possible. Also, UK pharmaceutical companies are putting on hold their regulatory, business development and investment activities in Ireland due to uncertainties caused by possible Brexit. Furthermore, Ireland pharmaceutical distributors supplying pharmaceutical products from UK are faced with negative financial consequences caused by changes in exchange rates of British Pound and Euro that came after initiation of Brexit discussions.

Irish pharmaceutical companies that are willing to develop business in UK now are forced to proceed with extra caution as UK economic is unpredictable due to uncertainties caused by potential Brexit.

Pharmaceutical distributors in Ireland have been preparing for initial Brexit term and possible pharmaceutical product shortages that might come by filling in their stock with extra quantities of the products, but as the Brexit was postponed the products are now stacked in warehouses with shelf-life slowly expiring; the companies have made useless investments and have frozen their assets that could be used elsewhere.

As suggested by experts, Ireland pharmaceutical distributors are tending to look for supplies of pharmaceutical products from other EU countries in order to reduce their dependency on UK producers. Suppliers that can deliver the products via air or sea route are preferred as in such case they can avoid the possibility that products will have to be shipped via UK where the movement of goods would be slowed down by customs and logistic costs increased due to possible tariffs.

It is expected by experts of Ireland pharmaceutical industry that HPRA will adjust to pharmaceutical market situation caused by Brexit and will be more flexible on requirements for pharmaceutical product packages so they can



be combined with other EU markets (dual language packs) thus increasing interest for pharmaceutical producers to register and supply products to Ireland.

### **Conclusions, proposals, recommendations**

1. The uncertainty and confusion caused by potential Brexit and multiple delays of it taking place has made an impact on UK's economic growth that has slowed down to an average of 1.67% during 2016–2018. UK's pharmaceutical market experienced a decline by 7% in Year 2016 and have returned to its previous value in Year 2018.
2. Since 2016 Brexit has had a significant effect on investments in pharmaceutical industry caused by legislative and regulatory uncertainty – the pharmaceutical industry has become precautions to further investments in UK. Further investments in the industry could be expected when the Brexit actually takes place and it will be certain of how UK's trade relationships with EU will be handled.
3. After initiating the discussions of possible Brexit there has been confusion and uncertainties on how the pharmaceutical product registration will be processed in UK. Pharmaceutical companies willing to register their products in UK will have to align their regulatory strategy and apply for UK National registration (instead of using EU joint registration procedures). It is expected that pharmaceutical product registration timelines in UK will naturally increase and cause additional burden to both pharmaceutical industry and MHRA.
4. Pharmaceutical companies that are willing to have their pharmaceutical products registered in EU with approved English pack will no longer have the option to register the products in UK via joint European registration procedures. EU pharmaceutical companies should reassess their marketing strategies and consider registering their products in Ireland and/ or Malta as an alternative, thus also increasing the variety of pharmaceutical products available in these EU markets.
5. Although no issues with workforce availability in pharmaceutical field has been noticed so far, it is expected that after Brexit takes place there will be increased demand in regulatory experts in both private and public field. Additionally, it is expected that immigration of highly educated specialists from EU will decline, thus lowering the potential scientific capacity of UK's pharmaceutical research industry. While EU pharmaceutical companies could take advantage of this situation and encourage these specialists to stay/ return in EU and contribute to development of EU pharmaceutical industry.
6. Possible Brexit and multiple delays of it taking place have caused increased supply issues of pharmaceutical products in UK. This brings opportunities for pharmaceutical companies that are flexible enough to align their marketing strategies to complex and unpredictable UK's pharmaceutical market.
7. It is concluded that uncertainty caused by multiple delays of Brexit and how it will take place causes more damage to the UK rather than potential Brexit itself. It is suggested that politicians resolve the issue at the earliest convenience so pharmaceutical companies can proceed with developing long term marketing strategies to align with UK's post-Brexit pharmaceutical market.
8. Further observations and studies are recommended to be conducted on the EU and UK's pharmaceutical market and industry after the Brexit takes place in order to evaluate the effect it has actually conducted on these fields.

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## RADIO LISTENERS' DOWNWARD TRENDS AND CHANGING PROFILE IN THE LATVIAN MARKET

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**Abstract.** The purpose of this research is under the scope of radio marketing strategy decisions indicate main reasons, which lead to diminishing number of radio listeners in general, as well as determination of radio listeners' changing profile and forecasting future trends in the Latvian radio market. To conduct the research, regular listeners' research empirical data analyses were applied. In the article the following research methods were used: academic and industry literature analysis, radio listeners' annual researches for period from 2008 to 2017 (10 year dynamics with sample size of each research not less than 1932 respondents), and correlation analysis.

The research results reveal changing patterns and dynamics of radio listeners' profile, as well as indicate the change reasons, building strategic recommendations for both radio brand development and content ingredients for radio recovery tactics in media market.

Under the changing and cross-competitive conditions of media industry, downwarding audience trends for radio stations must be perceived as warning signals in order to take appropriate strategic measures for sustaining radio role as one of the leading media channels in the market.

**Keywords:** *brand, listeners' behavior, media, media strategy, radio.*

**JEL code:** M31, M37, L82

### Introduction

Radio is one of the oldest modern media forms, which allowed to address broad audience. Radio is the first media platform, which provided live broadcasts, thus gaining enormous popularity all over the world. Radio's popularity was even sustained, despite there were couple of direct threats emerging, e.g., introduction and development of TV. For that time being it was considered a huge step forward, predicting that "Video is going to kill the radio star", but nevertheless – radio survived. Radio has also survived an era of analog and digital data devices like LPs, cassettes, CDs, iPods, USBs, and others. Radio has maintained its stable above-the-line media positions over the decades. But now there is an empirical evidence that this pattern has started to shift.

Egan (2007) points out number of radio advantages, saying that radio is relatively low-cost media, it is a portable medium and (because of the targeted audiences) can be used segmented. Egan also mention that production costs are a fraction of those for television and lead times are shorter. "In addition, radio (unlike television) enables the individual listener to create 'pictures' in their own minds, a device used extensively by both radio programme producers and advertisers. (Egan, 2007)

Altstiel and Grow (2017) also have indicated radio advantages:

1. Radio has great coverage, it's broadly accessible.
2. With radio it is possible to stimulate immediate action.
3. Advertisers know immediately if their spots are successful.
4. It can be combined with other media. Radio greatly supports TV campaigns, because radio spot recall TV visual ads.
5. Radio features segmented markets. An advertiser can personalize his messages. Radio can become a very personal medium, so one can tailor specific messages to reach specific demographics.
6. Radio personalities sell. Well-known voices have built-in credibility with key listeners' demographics.

7. Radio offers creative opportunities. It's the ultimate creative challenge to create mental images with music, voices, and sound effects. (Altstiel, Grow, 2017).

Lufkin (2016) states that "thanks to cars, humans have nurtured a relationship with radio that's lasted more than 80 years". Lufkin (2016) implies that reason is radio ability of keeping you focused, no matter what you do at that time, for example, listening to radio, with its hands-off format for music and news that's pre-curated by DJs, an individual can keep engaged on the task at hand, while still keeping his/her eyes on the road. Lufkin (2016) also indicates that radio sustainability is hidden under its ability to adapt to changing market conditions and shifting technological landscapes. Lufkin (2016) concludes that radio combines something new (the latest technology) with two things that are timeless: facts that people like to be entertained, and that people need to drive. It's why radio can remain popular in an age of Spotify or Pandora.

But not only radio shapes its format. Nearly all media start to lose its defined frame, introducing different products and innovations, which are no longer common characteristics to only one media. The cross-media competition is on, and uniqueness can be copied, integrated and adapted easily not only by direct competitors, but also by other media (Zelenkauskaitė, 2017).

Under these changing and cross-competitive conditions of media industry, downwarding audience trends for radio stations must be perceived as warning signals, in order to take appropriate strategic measures for sustaining radio role as one of the leading media channels in the market.

The above said is extremely important knowing that for decades radio provides marketers with a variety of integrated marketing opportunities. Radio can be used in combination with other media including television, magazines, and newspapers to provide advertisers with synergistic effects in generating awareness and communicating their message (Belch, Belch, 2007).

Therefore, the purpose of this research is an indication of demographic features, which can be observed to most of radio listeners who give up their radio listening habits, as well as determination of radio listeners' changing profile and forecasting future trends in the Latvian radio market, since these aspects directly influence media planning.

We put forward the following hypotheses:

- 1) Radio listeners' audience in general has negative trends in Latvia;
- 2) There is difference between women and men radio listening habits;
- 3) There is drop in a younger audience, but there is an increase in other age groups;
- 4) There are clear and opposite radio listening trends in different demographic groups defined by age, income and education factors;

### **Research methodology**

To conduct this research, regular listeners' research empirical data analysis was applied. The regular research data are provided by a global research agency Kantar Latvia, but modeled and processed by the authors using software Supernova. Forecasts were calculated using average growth tempo model.

In the paper the following research methods were used:

1. Academic, industry literature and scientific paper analysis from well-known data bases.
2. Radio listeners' annual researches for period from 2008 to 2017 (10-year dynamics with sample size of each research not less than 1 932 respondents).
3. Correlation analysis between empirical and theoretical models.

To prove or reject the forward put hypothesis, data analyses have been conducted from radio listeners' regular researches in Latvia. These researches are carried out on regular basis by a global network research agency Kantar Latvia (or previously Kantar/TNS) since 1993. Each year there are more than 4 000 respondents involved in

researching listening patterns of more than 30 radio stations (Kantar/TNS, 2018). Sample size of each research is 1 932 respondents or more. Respondents are correctly sampled in age groups between 12 and 74 years.

Until very spring of 2018 the only research method used was the Diary method where approximately 2,000 respondents were surveyed to obtain data for each research, and respondents were given a proper format diary where he or she had to specify which radio station on what day and during which period the respondent had listened to.

Currently in Latvia DAR method has been introduced and is used for radio audience rating analyses. Industry experts admit that the new method is more accurate, but less precise as other digital research methods. Advantages and shortcomings of each method are summarized in Table 1.

Table 1

#### Pros and cons of the radio rating research methods

Diary method	Day-After-Recall method	Other digital research methods
<b>Advantages:</b>	<b>Advantages:</b>	<b>Advantages:</b>
A higher likelihood that all cases of radio listening will be recorded, because the respondent has been warned that he or she has to pay attention to habits during the entire week A possibility to calculate weekly reach more accurately	Easier to recruit, easier to reach certain target groups Easier to achieve data control quality Less effort from respondents Experience of other countries shows that it attains higher reach indicators	United TV and radio currency Data specifications — data obtained during one minute Registers all cases of listening to radio Registers all platforms and sites of radio listening Fast data supply
<b>Disadvantages:</b>	<b>Disadvantages:</b>	<b>Disadvantages:</b>
More difficult to recruit, more difficult to reach certain target groups “Overestimation” or large stations, less accuracy regarding the small stations It takes more time to receive feedback about completed diaries	Fluctuations possible when modelling total weekly reach There is a risk of overseeing the short periods of radio listening (due to psychological processes, memory) Limited number of radio stations to be measured, CATI interviews due to recommended duration of the interview	High costs, less selections Individual technologies (audio matching) do not differentiate radio stations which broadcast equal content concurrently Individual technologies (watermarking) are restricted in their capacity to measure radio listening in case of intense surrounding noise

Source: Traubergs, Kronberga, 2018

Customer director of the research agency Kantar TNS, Oskars Rumpeters, additionally points out that the new DAR method shows both higher daily and weekly reach, which could be explained with a fact that this method at first asks a respondent to recall events from previous day and only then about radio listening during these routine events. Projecting of this memory helps the respondent to remember also short radio listening moments more precisely (Helmane, 2018).

Executive director of the Latvian Society of Broadcasting Organizations (LRA), Andris Kenins, admits that the new survey method provides much wider circle of respondents, which actually allows researching radio listening habits more impartially and in a greater detail. It allows evaluating the place of small niche programmes in the market, obtaining more precise and comprehensive data both about radio listening habits and place of radio in the media industry in general (Helmane, 2018).

Commercial director of joint-stock company “Radio SWH” and board member of the Latvian Advertisement Association, Filips Rubenis, believes that change of the research method is a huge step forwards, improving and developing radio audience research method. Rubenis points out that the new method proves that we as a medium have always been sure — radio listeners consume considerably more than we knew so far (Helmane, 2018).

Programme director of “Radio Skonto”, Valdis Melderis, in his turn, emphasizes that “the new method shows the reach more correctly. Specific weight of radio in the media consumption is larger than believed so far” (Helmane, 2018).

Chairwoman of the board of Latvian Advertisement Association, Baiba Liepina, agrees that more accurate data on reach is achieved with the new research. Liepina comments that “results obtained can change the strategic decisions of advertisers about media groups and channels where the advertising spots should be bought. Significantly, that the results of the new radio research reveal that when using the radio as an advertisement channel, one can reach wider audience than it was believed according to data of previous research. Adopting a decision in favor of the radio, the average reach of one radio station is not that important. Total reach indicators, price per reached contact and suitability of medium for purposes of advertiser's communication are what really matters. Under certain circumstances there is a possibility that some strategic decisions could be changed regarding the choice of media channels” (Helmane, 2018).

Audience research data result in ratings, and the latest play huge role in the advertising and media industry. As stated by Berger: “Because radio stations, television stations, and networks make money by delivering audience to advertisers, the size (and nature) of the audience of these stations and shows is of crucial importance. The larger the audience (as long as the demographics are acceptable), the more a station or network can charge for running commercials.” (Berger, 2011)

An aggregated data from 10 different research years from 2008 till 2017 were used, every time analyzing an autumn research data for each year, by that avoiding possible seasonal fluctuations and speculations. Afterwards, data are analyzed in the following demographic groups:

1. Audience split by gender – men and women.
2. Audience by age groups – 12 to 17, 18 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64 and 65 to 74 years of age.
3. Audience by income levels – no income, low income (individual net income below EUR 200 a month), average income (individual net income between EUR 201 and EUR 650 a month) and high income (individual net income above EUR 650 a month).
4. Audience by education level – radio listeners with basic, secondary and higher education (university or college degree).

Other demographic aspects are not included in this research, but for further analyses the authors would suggest deeper listeners profile factors to be included in the research.

Data are visualized in charts showing different trends and dynamics over time period. There are two indicators used: either it is listeners or audience in “Reach” numbers, or it is percentage showing proportion of all radio listeners or people in a specific demographic group compared to all listeners or population in Latvia. “Reach”, on the other hand, shows the total number of listeners in a specific target group per week (Kantar/TNS, 2018).

Trends are calculated by average growth tempo method (Krustins, 1998). The method implies the following steps:

1. Calculate growth tempo for each period  $n$  ( $\tau_n$ ) by dividing  $y_n$  with  $y_{n-1}$  (1)

2. Calculate average growth tempo coefficient ( $\tau_{avg}$ ) by formula:

$$\tau_{avg} = \sqrt[n-1]{\tau_2 * \tau_3 * \dots * \tau_n} \quad (2)$$

3. Calculate each  $y_t$  value by the following formula:

$$y_t = y_1 * \tau_{avg}^{t-1} \quad (3)$$

4. Calculate also trend forecast values for next (usually) two periods (4)

e.g.,  $y_{11}$  and  $y_{12}$  values in Table 2.

Table 2

### Example of average growth tempo model calculations

Years	$t$	All listeners, Reach (thousands per week), $y$	Growth tempo, $\tau$	Trend values by average growth tempo method, $y_t$
2008	1	1425,9	-	1425,9
2009	2	1493,4	1,047339	1418,04
2010	3	1483,5	0,993371	1410,22
2011	4	1520,6	1,025008	1402,45
2012	5	1389,8	0,913981	1394,72
2013	6	1395,2	1,003885	1387,03
2014	7	1370,2	0,982081	1379,39
2015	8	1354,4	0,988469	1371,78
2016	9	1372,8	1,013585	1364,22
2017	10	1356,7	0,988272	1356,70
2018*	11	-	-	1349,22
2019*	12	-	-	1341,78
Average growth tempo coefficient =			<b>0,99449</b>	

Source: Developed by the authors based on Krastins (1998) and Kantar/TNS (2008-2017)

Results are depicted in visual line charts by using MS Excel. Correlation coefficients are calculated for average growth tempo model theoretical values compared with empirical data from Kantar/TNS radio researches. The uniqueness behind the model – first and end values of empirical and theoretical models do match, thus trend is mathematically adjusted, in the same time not affecting trend polarity, which is defined by average growth tempo coefficient (negative trend  $<1$ , positive trend  $>1$ ).

### Literature Review

Since the paper reveals phenomena of decreasing numbers in radio audience in Latvia, mostly industry data are analysed in combination with marketing and communication literature by Belch, Berger, Dahlen, Lange, Smith, Egan and others. For deeper understanding of the industry, stakeholders, functions and roles in media market and economics, number of scientific and academic papers were also observed. In other words, theoretical aspects of media strategy are considered by analysing theories provided by Altstiel, Gow, Belch, Egan, Pelsmackerm Guenes, and Van der Bergh, while media and communication research methods are revealed from studies by Berger and Krastins, and expert views on media trends provided by Latvian Advertising Association, National Electronic Mass Media Council of Latvia, Helmane, Traubergs, Kronberga and Lufkin, and finally previous academic research findings available in scientific papers by Laurell, Sandstrom, Rukers, Voorveld and Zelenkauskaite.

#### Shifting role of radio in changing media environment from theoretical and industry perspective

Radio plays important role in media market in Latvia. According to Latvian Advertising Association (LAA), radio reaches 78.6% of total population between 15 and 74 years of age. This is the third most effective media platform how to reach audience. In comparison, TV reaches 88.8%, internet media reach 83.0% audience, and printed media reach 57.6% of all population in the mentioned age group (LAA, 2017).

Secondly, as indicated by the National Electronic Mass Media Council of Latvia (NEMMC), at the end of year 2017 there have been 55 radio stations operating in the country, out of whom 6 are public service stations, 44 commercial radio and 5 non-commercial stations (NEMMC, 2018).

This would give 0.02 stations in Latvia per 1 000 inhabitants or 41 400 listeners per stations in Latvia. In comparison, in Lithuania it is 0.015 stations per 1,000 inhabitants or 64 300 listeners per station. It means 55% more

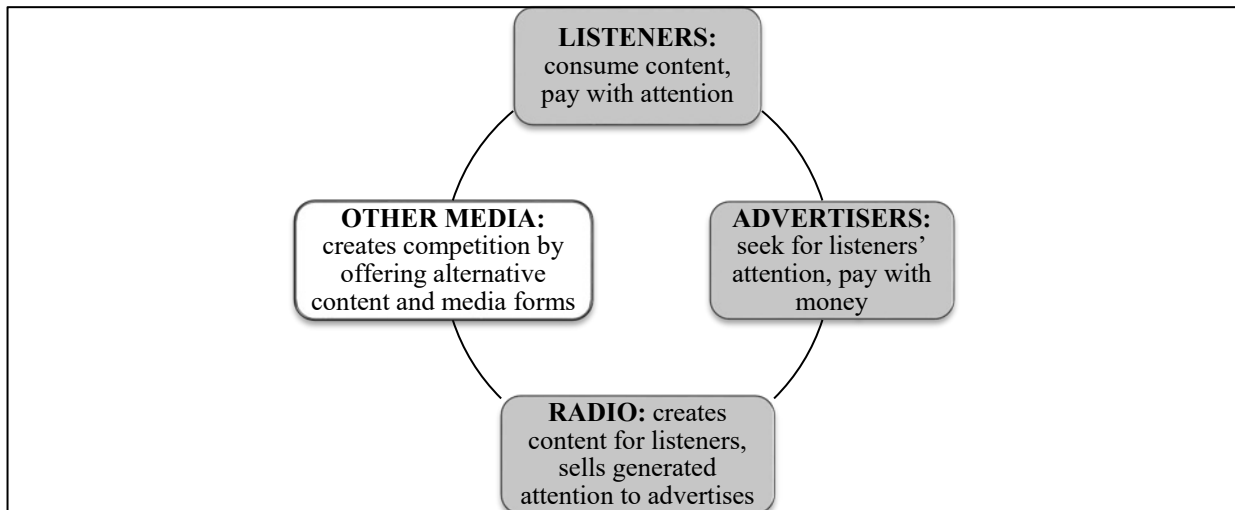


listeners (Rukers, 2017). In other words, radio market competition is more intense in Latvia – radio stations have to fight more intensively for each listener. That would also implies a greater number of options for advertisers where to invest their marketing budgets. In other words, by having this intense competition, sustaining permanent listeners’ ratings is far more important.

Therefore, negative trends in radio content consumption volumes must ring all possible warning bells for industry professionals and managers. As described in Figure 1, there are 4 major stakeholders in the radio industry:

1. Listeners, who demand radio content (a specific radio format, music, news, shows, personalities, etc.). In order to consume the desired content, listeners must “give away” their attention.
2. Radio, which produces content demanded by listeners in a specific target group. To create the content radio pays money (to producers, copywriters, radio hosts, technicians, royalties, broadcast licensees, overheads, etc.). Money is earned by “selling” acquired listeners attention to advertisers. Listeners’ attention amounts available in each radios virtual warehouse are measured by regular rating research data.
3. Advertisers are interested in buying the listeners’ attention in particular target groups. Usually, they seek most cost effective ways how to reach audience by calculating cost- per-thousand and other media investment efficiency indicators.
4. There are other media like TV, internet, social networks, untraditional media, below-the-line solutions, PR and rest of advertising channels, which also seek how to reach more audience, even beyond their initial media format. Competition at this level also leads to higher indirect competition, which can facilitate drop of listeners both in the short term and in the long run.

Relationships behind radio industry stakeholder mechanism indicates a kind of vicious circle, where fluctuations affecting one of the components shall have a definite impact on the rest of them.



Source: developed by the authors

Fig.1. Stakeholders in the radio industry

As there are concerns about diminishing amounts of radio listeners, one can expect the following consequences:

1. Decreased number of listeners would lead to less attention to be sold to advertisers.
2. Advertisers either find alternative ways how to reach desired audience or abandon campaigns, which is less likely.
3. Either way, radio turnover shall decrease. Thus, radio shall become less competitive in the long run, since it will be required to cut costs and sustain minimum functional operations by giving up fancy things, which make content and station brand more attractive.

4. Less competitive radio leads to a lack of content quality, which would, in the end of the day, stimulate other, more loyal listeners search for content alternatives and switch to different media consumption.
5. Eventually, the above mentioned down-turning spiral will lead to situation where radio is cut out of business or put under a pressure on required substantial changes, which would reform radio to a differently new media format.
6. In the short term, other media can expect increasing profits from acquiring migrating radio audience. In case radio doesn't act fast and effectively enough, these earnings can be capitalized also in the long run, and radio phenomena from now on is admired only in history books.

A permanent decrease of radio listeners will not only have a negative impact on radio share value, but also affect advertisers, because they will be forced to reconsider current strategies. As suggested by previous researchers, radio has played an important role not only as a separate media channel, but often is exploited in cross-media campaigns, for example, combining banners and radio ads in a campaign can result in more positive affective and behavioral reactions than when using only one medium (Voorveld, 2011).

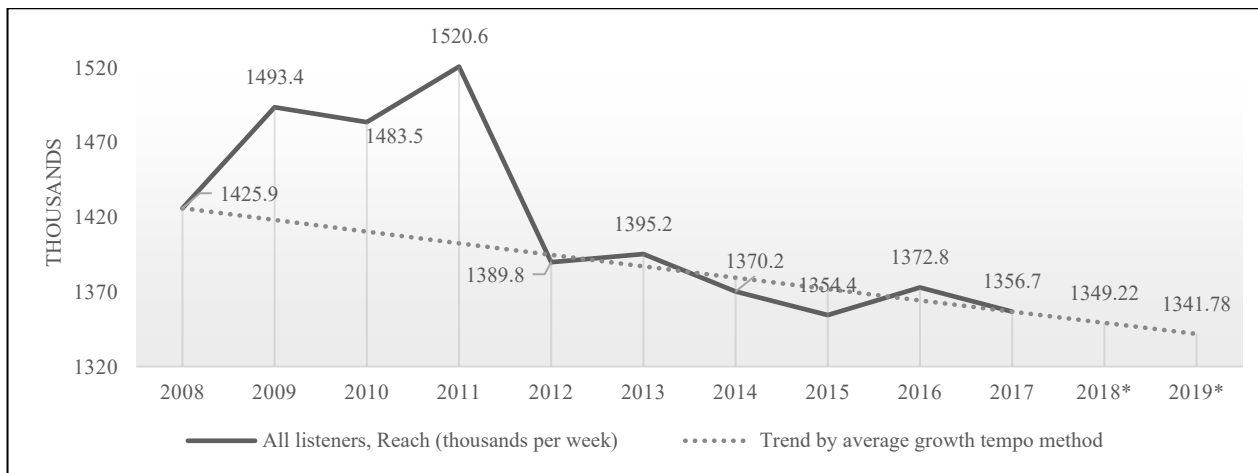
### Radio listeners trend research in Latvian market

Media objectives describe the aims of planning in presenting target audience with opportunities to see and to engage with the intended message. Reach and frequency – which indicate the depth and breadth of message parameters – are the key measures of media planning success and therefore constitute the main objectives. (Dahlen et al., 2010)

In other words, reach shows number of listeners addressed, but frequency indicates repetition level of message. Pelsmacker et al. (2007) explains why a high (but not excessive) repetition level of advertising is beneficial:

1. The message gets more memorable and raises brand recall.
2. It makes attitudes more accessible and raises consumers' confidence in their attitudes, making them more resistant to attitude change and brand switching.
3. It increases the believability of the ad claim.
4. It leads to a greater top-of-mind brand awareness.
5. It functions as a signal or cue for brand quality. (Pelsmacker et al., 2007)

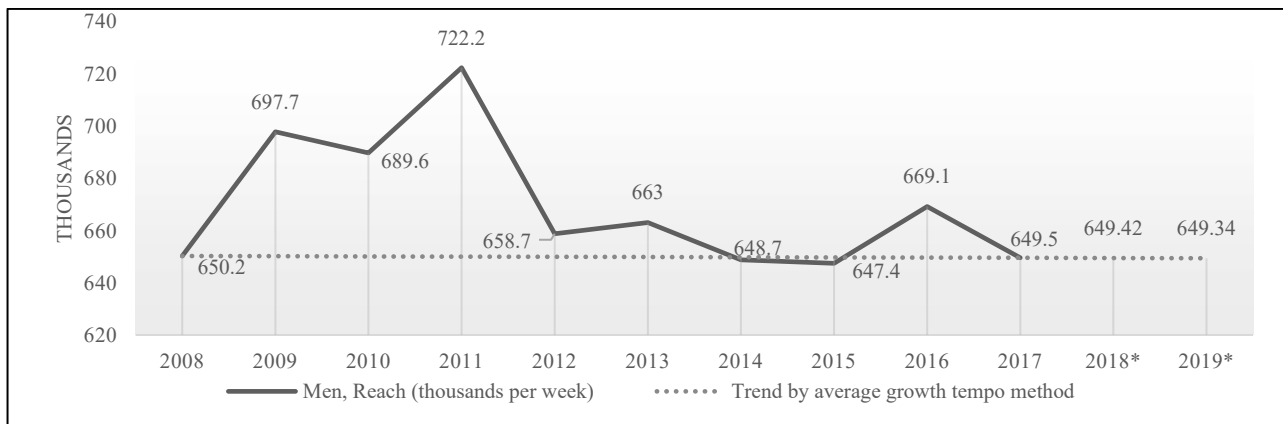
Figure 2 shows general radio audience reach in Latvia from 2008 to 2017 in the age group from 12 to 74 years. Average growth tempo model (AGTM) shows clear signs of negative trend. Correlation coefficient between empirical data and AGTM is 0.7632. Forecast for near future shows decreasing number of radio listeners. Therefore, this is an entry ground for further investigation and analyses.



Source: Kantar/TNS (2008 – 2017), aggregated and calculated by the authors

Fig.2. Radio listening dynamics in Latvia, Age group 12 – 74 years, time period from 2008 to 2017, Reach (Thousands per week)

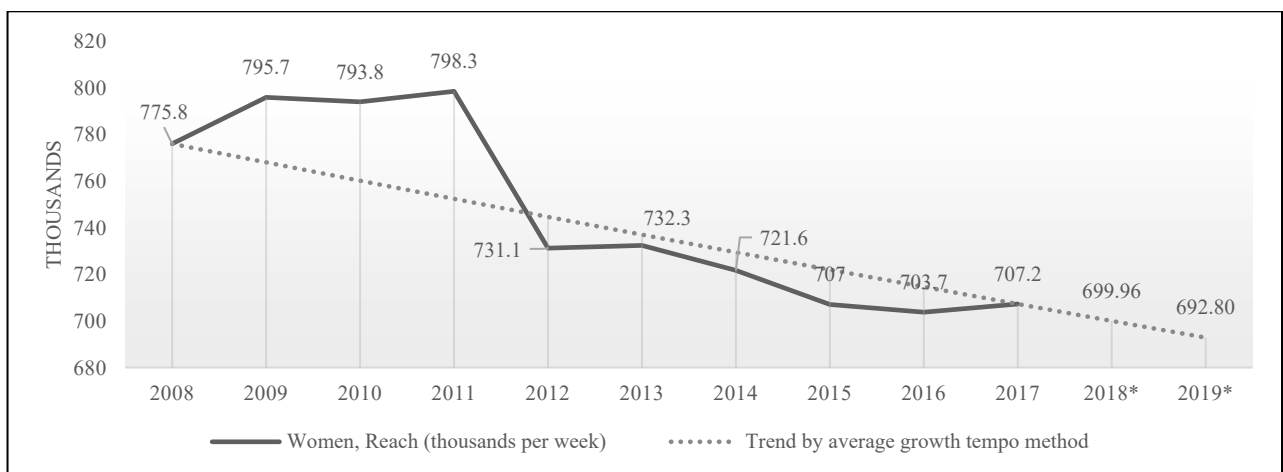
In the research the trend dynamics in men and women target groups were analyzed. Figure 3 indicates that men audience (in reached amounts), despite its early fluctuations, keeps a stable run, as revealed by AGTM. Correlation coefficient though is 0.4569, which would be considered statistically not significant enough, therefore future predictions are evaluated with less possibility.



Source: Kantar/TNS (2008 – 2017), aggregated and calculated by the authors

**Fig.3. Radio listening dynamics in Latvia, Men in age group 12 – 74 years, time period from 2008 to 2017, Reach (Thousands per week)**

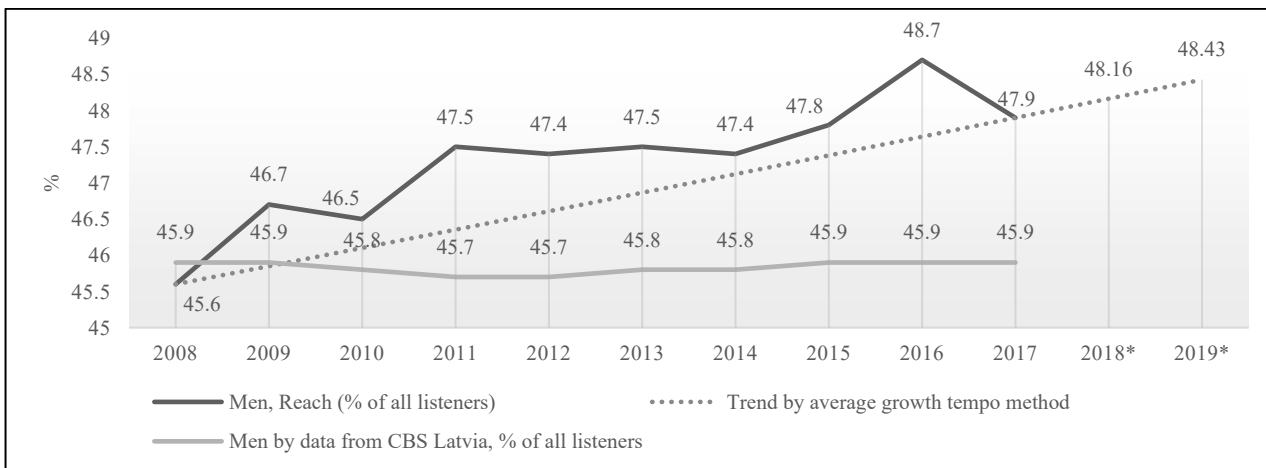
But correlation coefficient for AGTM in Figure 4, which indicates general radio listening tendencies in female audience in Latvia, is 0.8888. This is rather important, since the model shows clear trends of fast decreasing women audience for radios.



Source: Kantar/TNS (2008 – 2017), aggregated and calculated by the authors

**Fig.4. Radio listening dynamics in Latvia, Women in age group 12 – 74 years, time period from 2008 to 2017, Reach (Thousands per week)**

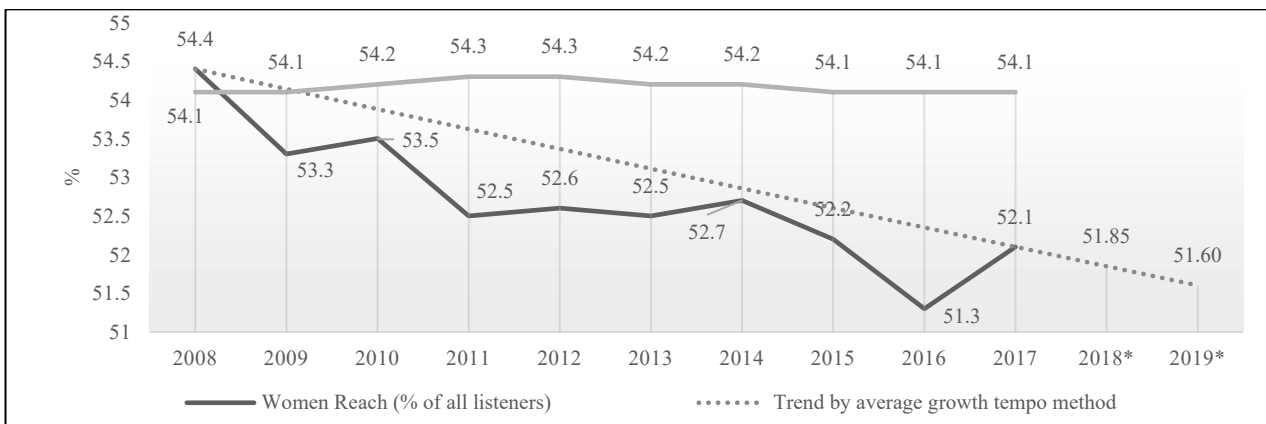
In order to get more deep analyses on a “decreasing female radio audience” phenomena, there must be expressed male and female audience in % (number of listeners in a specific demographic group divided by number of all radio listeners), as well as to add one more indicator: a proportion of the same, selected demographic group, but data provided by CBS Latvia.



Source: Kantar/TNS and CSB Latvia data (2008 – 2017), aggregated and calculated by the authors

**Fig.5. Radio listening dynamics in Latvia, Men in age group 12 – 74 years, time period from 2008 to 2017, percentage**

In Figure 5 and Figure 6, the proportion of men and women listening to radio is indicated, compared with the same proportion in general population. This is done in order to find out whether radio listeners in the specific demographic group are above or below the “normal average proportion” as indicated by the official national statistics. The, so called, “proportional evaluation” also allows to indicate if trend is or is not influenced by sudden or permanent changes in audience numbers. This approach is applied to the rest of the audience demographic profile measurements, except the ones where information from CSB Latvia is not available.



Source: Kantar/TNS and CSB Latvia data (2008 – 2017), aggregated and calculated by the authors

**Fig.6. Radio listening dynamics in Latvia, Women in age group 12 – 74 years, time period from 2008 to 2017, percentage**

Correlation coefficients for both models in Figure 5 and Figure 6 are 0.8796 and 0.8768 correspondingly, thus both models are statistically significant. From both models it can be concluded, that men listen radio more the average men population, whereas women listen radio slightly less. Besides, these trends keep getting more obvious every year, for example, in 2017 there are 45.9% men out of all population in Latvia within age group between 12 and 74 years of age, but radio listening habits for men are much more intense compared with women, who listen less than the given population average (in 2017 there are 54.1% of women in population between 12 and 74 years, but radio listening women proportion reaches up to only 52.1%).

As this trend of “lost women” for radio industry in general is significant and noticeable, it gives clear strategic hints for radio owners, managers and the rest of stakeholders as described in Figure 1. Further research would require to analyze this phenomena for each stations in the market. That would provide answers to future hypothesis that there are radio stations which do not lose women audience, and there are some which do. It would facilitate to find out

content, brand, and other factors which influence decision of choosing in favor for one or another station and/or media format.

The previously described methodology is applied also to find out trends in different age groups. Correlation coefficients for these models are following: -0.8983 (Age group 12-17), -0.9349 (Age group 18-24), 0.9109 (Age group 25-34), 0.713 (Age group 35-44), 0.7259 (Age group 45-54), 0.5889 (Age group 55-64) and -0.2127 (Age group 65-74). Even though the last one is negative, it indicates that there is no correlation, since coefficient is statistically insignificant. Therefore, the model cannot be assumed to be reasonable, but trend can be evaluated visually.

Summary of the listening trends in different age groups are gathered in Table 3. The above analyses in Table 3 give an insight of “problematic” audience and “safe and progressive” audience. The problematics are considered the ones both with negative listening trends and the ones with listening intensity below the national proportion, meaning, that radio listening habits are less likely for the specific demographic group, than it would be in assumed situation, where all demographic groups have the same radio listening demands within each group.

The conclusion is that the audience, which is increasing and above the national proportion, is in age group from 25 to 64 years of age. This broad audience keeps listening to radio content in more intense proportion than comparing to other age groups.

Table 3

**AGTM Trend description summary in different age groups**

Age groups	Trend slope	Comparison with national proportion	Model correlation coefficient
12-17	Negative	Below	-0.8983
18-24	Negative	Above	-0.9349
25-34	Positive	Above	0.9109
35-44	Positive	Above	0.713
45-54	Positive	Above	0.7259
55-64	Positive	Above	0.5889
65-74	Negative	Above	-0.2127

Source: Developed by the authors, based on Kantar/TNS (2008-2017) and CSB Latvia (2008-2017)

The research identifies that there are problems (from radio owners’ perspective) with younger audience from 18-24 years, especially with the audience from 12 to 17 years. The authors indicate that this is another issue for the future research, revealing and analyzing factors which influence youngsters to shift away from radio consumption habits, or what aspects hold them back of radio listening.

A possible aspect to above described phenomena might be high involvement of younger population individuals in social media, because this is considered a much more innovative environment where to “hang out” rather than choosing traditional media. This is also described by another research suggesting that social media tend to favor disruptive innovation compared to traditional media. In addition, the fact that social media are much more concerned with the offering and less about the societal consequences also suggests that social media represent more uncritical communication channels compared with traditional media where a wide range of information and associations about the innovation is created and diffused (Laurell and Sandstrom, 2018).

In the research the above-mentioned methodology is applied on education perspective analyses as well as, and data are summarized in Table 4. Correlation coefficients for AGTM are following: -0.9175 (Listeners with basic education), 0.1621 (Listeners with secondary education) and 0.9496 (Listeners with higher education). Secondary education AGTM shall be considered as not statistically significant, when models for basic and higher education must be perceived with high significance.

Table 4

**AGTM Trend description summary in groups with different education levels**

Education	Trend slope	Model correlation coefficient
Basic	Negative	-0.9175
Secondary	Positive	0.1621
Higher	Positive	0.9496

Source: Developed by the authors, based on Kantar/TNS (2008-2017) and CSB Latvia (2008-2017)

Conclusion behind this analyses says that the less educated a person is, the less he or she listens to radio. Or, the higher level of education the more demand for radio content. From strategic perspective it gives clear indications for radio holders that leaving radio content as it is now, would lead to a total loss of young and uneducated audience in the long run. What currently the authors cannot answer is whether a young individual, who has just finished his/her basic education, does start to listen at one point radio content more intensively.

Finally, in this research the authors analyze listening trends concerning demographic groups with different individual income levels. Trends are elaborated in Table 5.

Correlation coefficients for AGTM in education level categories are following: -0.7843 (Listeners with no income), -0.1898 (Listeners with low income), -0.7509 (Listeners with average income) and 0.2456 (Listeners with high income).

Table 5

**AGTM Trend description summary in groups with different individual income levels**

Income	Trend slope	Model correlation coefficient
No income	Negative	-0.7843
Low income	Negative	-0.1898
Average income	Negative	-0.7509
High income	Positive	0.2456

Source: Developed by the authors, based on Kantar/TNS (2008-2017) and CSB Latvia (2008-2017)

The analyses conducted above indicates clear patterns of diminishing radio listeners. Due to the research, one can conclude that general drop in radio audience is caused by the following reasons:

- 1) Radio loses female audience, but increasing demand in male audience cannot compensate this drop, because men proportion in the population in Latvia are on average by 10% less;
- 2) Radio specifically is not attractive to young audience from 12 to 24 years, and abandoning radio as a media channel in these demographic groups keeps increasing;
- 3) Radio is not appealing and most suitable media channel to the audience with basic and secondary education, but admired among educated individuals;
- 4) Finally, only people with high individual income maintain a growing interest in radio as media and consume its content products. The rest of the income group representatives give up radio listening as time flies.

**Conclusions, proposals, recommendations**

In this research the following hypothesis were put forwards:

- 1) Radio listeners audience in general has negative trends in Latvia;
- 2) There is difference between women and men listening habits;
- 3) There is drop in younger audience, but there is increase in other age groups;
- 4) There are clear and opposite radio listening trends in different demographic groups defined by age, income and education factors;

The research data have proven that all of them have been confirmed. Therefore, it can be concluded that for radio professionals it must be an active time of restructuring radio development strategies, as current format, positioning, and content is outdated, and by sticking to recent approaches it is not possible to keep listeners loyal to radio media.

Additionally, one can conclude that from a general perspective the results indicate that media consumption paradigm is switching, which requires new teasers and treats for audience to follow. The research identifies and proves the problem, which radio industry is already facing. Also, there is an indication of potential scenario, what might happen with radio markets in the long run. On the other hand, to provide empirically tested strategy guidelines, a further and deeper research of the following aspects has to be conducted:

1. What are the main factors why different target segments choose radio and/or other media? In which of these aspects radio media does well, and which factors have to be improved, renewed, adapted, integrated, created and updated for audience volumes to recover?
2. What are media consumption behavior (where, how long, how, which media and why)?
3. What content makes sense and to whom?
4. What future trends and technologies have to be integrated in the future radio products, and to what extent can radio change in order not to lose reason of being defined “radio”?

Answering these questions, shall reveal reasoned strategy suggestions for radio industry owners, managers, partners and other stakeholders – how to sustain radio as one of the influencing and popular media channels among others, as it has been so far for decades.

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## FROM CORPORATE SOCIAL RESPONSIBILITY TO SUSTAINABLE DEVELOPMENT OF MODERN BUSINESS: THE CASE OF RUSSIA

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**Abstract.** This paper reviews Russian experience in transition of business companies to the model of sustainable development and following consequences of this process, at the same time analyzing its reflection in non-financial reporting. Past decade clearly showed an increasing number of Russian companies publishing non-financial reports in the field of sustainable development. In this regard, the study of existing approaches to sustainable development, its application in practice and analysis of the transition process of Russian business organizations is of particular interest. The purpose of this study is to compare existing approaches related to the topic of sustainable development in general and to identify trends, problems and directions in the transition of Russian business organizations to sustainable development in particular. The object of the study is Russian oil companies with non-financial reports on sustainable development over the past three years. Author uses in this article qualitative (analysis of the content of reports) and quantitative (content analysis) methods of analysis. Following findings allow us to highlight the main trends and directions of the transition of Russian oil companies to the paradigm of sustainable development.

**Keywords:** *corporate sustainability, corporate sustainable development, sustainable development, non-financial reporting.*

**JEL code:** Q01, Q56, M14

### Introduction

In recent years, corporate social responsibility has long evolved from a voluntary initiative into a condition for the existence of modern business. Moreover, an increasing number of companies are beginning to think in terms of long-term prospects according to sustainable development principles. This transition is facilitated by two factors: the company's desire to increase its own sustainability, the incentive of stakeholder requests and external regulatory requirements. In many countries of the world, non-financial reporting (including in the field of sustainable development) is becoming mandatory for large businesses. At the same time, non-financial reporting in the field of sustainable development is an important element of stakeholder communications and necessary condition for public acceptance of business. Gradually, involvement with the ideas of sustainable development penetrates into small and medium businesses. However, the main impact in terms of integrating the principles of sustainable development into corporate governance is still set by large companies. In Russia, the transition to the paradigm of sustainable development is unreasonably slow.

This article presents the results of a study of non-financial reporting in the field of sustainable development of Russian companies. The author reveals the conceptual foundations of corporate sustainable development, which serve as the theoretical and methodological basis of the study and is important for classification of different attitudes. The aim of the study is to identify trends, issues and directions of transition of the Russian business organizations to sustainable development with regards to **triple bottom line directions: social, environmental and economic. Our purpose lays in reviewing** current trends of sustainable development that emerged during the process of transition of the Russian business organizations to sustainable development, and in the identification of three ways of the Russian business organizations transition from corporate social responsibility to sustainable development.

The *object* of the study is Russian companies from the oil and gas sector, issuing non-financial reports on sustainable development for the period of 2016–2018 reporting year (9 companies, 26 reports). For the *subject* of the analysis an author chose activities of these companies in the field of sustainable development, the results of which are reflected in corporate reports on sustainable development for 2016, 2017, 2018. Those companies passed a non-

financial audit procedures of the Russian Union of Industrialists and Entrepreneurs and their reports are published in the register of reports (National Register, 2019).

This article uses *content analysis* of reports and analysis of the content of reports as a *research method*. The results were processed using the Gibbs-Rosebom triangle model. Three groups of search words are used in the content analysis, related to one of the triple bottom line areas. Content analysis is performed using a software package that searches for keywords in the selected text. The author takes into account influence of cases and the number of words. The search does not take cover an area of Global Reporting Initiative correspondence tables and applications after the report. As a result of the analysis, it is possible to determine the direction of the report and the degree of violation of the principle of equivalence of sustainable development directions in it.

Content of the article and the research methodology are based on the materials of the dissertation "Business social responsibility as sustainable development factor" (Belousov, 2017).

### Literature Review

Concept of sustainable development and its correlation with social responsibility issues. Describing current state of sustainable development theory, one should note, that nowadays there is no common approach to the interpretation of the phenomenon and the content of relevant concepts. Debates are centered around discussion of principles and factors of sustainability, lawfulness of the use of sustainable development concept in relation to business and private company, of the position of sustainable development in the system of concepts associated with the issues of corporate social responsibility, of the relationship between concepts of *sustainable development of business organization* and *corporate sustainability*. All this indicate an absence of coherent, common system of views on the phenomenon of sustainable development, incompleteness of the process of theoretical pillars of sustainable development, that has not been completed, and the problem of systematization and integration of existing approaches to the treatment of this phenomenon, that have not lost its relevance.

Modern economy has several alternative concepts and approaches presented along with the concept of social responsibility of business and sustainable development (see Table 1). Each of these directions has its own specific character, developed in different historical periods, being influenced by general direction, typical for a new economic paradigm of the role of business in society.

Table 1

#### Alternative approaches to corporate social responsibility and sustainable development

No	Approach:	Appearance:
1	Social economy	1923 (G.Cassel)
2	Corporate sustainability	1994 (J.Elkington)
3	Sustainable development of business organization	1999 (United Nations Global Compact)
4	Conscious capitalism	2009 (M.Strong, M.Epstein), 2013 (J.Mackey&R.Sisodia)
5	Conscience economy	2014 (S.Overman)
6	Positive economy	≈2010 (J.Attali)
7	Shared values concept	2011 (M.Porter & M.Kramer)

Source: Compiled by the author

*Social responsibility of business* had a long period of formation and development. Its theoretical foundation background one found in 1940s. Stakeholder approach emerged in the 1980s and is one of the major approach nowadays. It allows us to determine the role of business, which takes into account interests of their own stakeholders and holds the voluntary responsibility for what is going beyond the obligations established by law. Socially responsible companies should care about consequences of principal activity of conducted business, to respond to pressing social problems and to take steps to improve the quality of life of stakeholders and society. Stakeholder approach remains dominant in the field of social responsibility, and its implementation contributes to the accumulation of reputational capital, contributing to the growth of trust and loyalty of the company (Belousov, 2016). In Russia, corporate

responsibility has come a long way towards institutionalization by transplantation from developed countries (Belousov, 2017). However, in Russia there were strong historical prerequisites in the form of charity of businessmen and social policy of the state (Belousov, 2019).

*Sustainable development* has formed by the representatives of the *Club of Rome* at the end of 1960s and was actively reviewed at the end of 1980s - the beginning of 1990s, when they elaborated basic principles and understanding of sustainable development. The prerequisites for the scientific development in this direction included global crisis of humanity threat while the model of consumption and production is constant. As a consequence sustainable development is understood as satisfaction of the needs of current generation without compromising the same opportunity for future generations. The sustainable development in the classic sense is not adjustable to scale, and therefore it is not applicable to businesses. However, at the same time, representatives of business can and should contribute to sustainable development, as stated in the UN Global Compact.

*Social economy* is a fairly broad concept, combining a plurality of such areas, as the third sector of the economy, cooperatives, non-profit organizations, social enterprises and charities, public-private partnership. The economy of the third sector occupies a place between private and public sector. The concept of social economy examines the socio-economic role of trade unions and the importance of non-profit organizations and charities in the traditional economic theory. It is quite difficult to distinguish modern representatives of this direction, because it is now almost fully integrated into the concept of social responsibility. Among the research contributions in this field the author can mention articles by J. Armstrong, K. Green (Armstrong, Green, 2013) and A. Nicholls (Nicholls, 2008). One of the first fundamental work is a book by Gustav Cassel "The Theory of Social Economy" (Cassel, 1923). The non-profit sector is regarded by researchers as a promising area of social and economic transformation of society. The needs of the whole society are the main problem (usually without division into stakeholder groups). The third sector of the economy is seen as an opportunity to meet the society needs in a fundamentally new way, avoiding commercial or public goods.

*Corporate sustainability* first appears in John Elkington's works. According to his point of view, corporate sustainability is a result of successful response of the company to actualized social demand. Corporate sustainability is in direct dependence on public pressure waves, affecting the business in different historical periods. The author identifies three of them (Blagov, 2010, p. 172): 'restrictive' wave (1960–1980), 'green' wave (1980–1990) and 'globalization' wave (1990–2001). An equivalent of *corporate sustainability* was proposed by Wayne Visser. It is *basic survival* of business. (Visser, Matten, Pohl, Tolhurst, 2010, p. 384) J. Elkington noted (Visser, Matten, Pohl, Tolhurst, 2010, p. 114) that an average company lifetime is a too short period, thus no company can be interested in global sustainable development and the ability of future generations to meet their needs at the same level as the current one. At the same time the corporate sustainability is vital for them. As an example Elkington analyses the 1973 oil crisis, when in a single day all members of OAPEC, and a number of other Arab countries stopped supplying countries that supported Israel during the *Ramadan War* (USA and its Western European allies) with oil, which resulted in four times rising oil prices in the subsequent year. Such a change caused the collapse of many companies working with hydrocarbon in one way or another.

Corporate sustainability in principle, is often understood as stability of financial flows. For example, M. Epstein treated it primarily as economic sustainability (long-term results) (Epstein, 2003). In this context, corporate sustainability can be defined as company's ability to maintain its competitiveness, profitability or breakeven, effective response to the threats and its interaction with factors of its external and internal environment. Only the profitability (disregarding the fact that many would reduce its value, especially in the application to the phenomenon of stability) defines the business opportunities and the very meaning of his existence (Belousov, 2012).

*Conscious capitalism* as an approach is promoted by businessman J. Mackey, professors R. Sisodia, M. Strong and several other researchers from the middle of 2000s to the present. The Strong's book "Be the solution: how entrepreneurs and conscious capitalists can solve all the world's problems" was the first publication on this topic (Strong, 2009). John Mackey wrote a preface to this edition. America's world known financial magazine *Barron's* reviewed the book positively, stating that the author's main argument is that the world's problems can be fully resolved, and conscious capitalism is the only possible solution (Epstein, 2009). The book examines various obstacles encountered on the way of solving world conflicts. For example, the author substantiates why the government is a part of the environmental pollution problem, and why well-defined property rights have fundamental meaning in problem-solving. In 2013, John Mackey, a colleague and business partner of M. Strong, wrote a book that became a bestseller "Conscious Capitalism: Liberating the Heroic Spirit of Business" (Mackey, Sisodia, 2015), which continued the development of an idea of using integral business benefits in solving global problems. According to Mckey, "If you want to be competitive in the long term, your business needs to have discovered it's higher purpose and it needs to adopt a stakeholder philosophy." (Green, 2013). J. Mackey, R. Sisodia and M. Strong are the founders of the movement *conscious capitalism*, according to which business leaders should work for the benefit of business and society as a whole, taking into account the principles of business ethics. As for the logic of movement, the respect for the principles of conscious capitalism will be able to lead us all to a better future.

*Conscience economy* is a modern direction of economic thought, closed to social responsibility. Steven Overman (Chief marketing officer at Kodak), author of "The Conscience economy" is a good representative and the founder of this concept (Overman, 2014). There are also earlier publications by F. Block (Block, 2006), S. Ohanian (Ohanian, 2003) and J. Nelson (Nelson, 2007) in which one can find this term. However, here the author can only tentatively consider them as representatives of this trend. They did not have a common understanding of the notion of conscience economy.

*Shared values* approach by M. Porter and M. Kramer based on the fact that the competitiveness and sustainability of the company is linked to the well-being of its stakeholders. It gives a priority to the possibility of creating shared values, i.e. carrying such business activities, that would be useful both for the companies themselves (in terms of achieving competitiveness and corporate sustainability) and for local communities. Representatives of the business community can create shared values in three ways:

- rethinking existing markets and products. Business can achieve a fuller satisfaction of needs of existing markets or can reduce costs at the expense of innovations.
- rethinking the value chain. Business can change the quality, quantity, cost and reliability of the product, at the same time act as a driver of social and economic development.
- development of the local cluster. They aim to improve the competitiveness and sustainability of the business and thus need reliable local suppliers, functioning roads and communications infrastructure, as well as an effective and predictable legal system.

The difference between concepts of shared values and social responsibility became the subject of numerous discussions. According to M. Kramer, the main difference lies in the fact that we are talking about creation of common (shared) values and not about business responsibility for something. According to W. Visser, the concept of shared values is an extended concept of social responsibility: the traditional *Corporate social responsibility (CSR) 1.0* (with its usual charity, advertising and strategic interaction) was transformed into a *Corporate social responsibility (CSR) 2.0* (modern understanding of social responsibility), and then to *Corporate social responsibility (CSR) 3.0* (an equivalent of a full concept of creating shared values) (Visser, 2011).

*Positive economy* is a relatively new ‘collective’ term that combines principles of discussed concepts and approaches. The formation of stable socially responsible business is one of the main characteristics of positive economy. For the first time a conference, devoted to the positive economy (*Positive Economy Forum*), was held in 2012 in France. Famous French economist and politician Jacques Attali was its chief ideologist. Today the Positive Economy Forum is held in different countries around the world (including 2015 meeting in Rostov-on-Don, Russia). Positive economy examines the following issues: formation of institutional foundations of the social entrepreneurship development in the world; elaboration of social entrepreneurs scoring plan in terms of socio-economic efficiency; development of social initiatives support systems; involvement of the business community in the solution of social problems.

Positive economy implies the existence of direct (positive) relationships between business activities and well-being of the society, the satisfaction of stakeholders and economic performance of the organization. According to a French entrepreneur and advocate of this direction Jean Emmanuel Afota, positive economy includes the predominance of the long-term objectives in business and, consequently, respect for the environment and resources for future generations. According to Jacques Attali’s point of view, positive economy turns capitalism to solving long-term problems. Nowadays the question of the future generations’ welfare is stimulating market economy development more than the momentary satisfaction of selfish needs. The best present basis for effective economic solutions is care of future generation interests.

*Sustainable development of business organization.* Radically new approach within the concept of sustainable development has been proposed in the article by J. Elkington “Towards the Sustainable Corporation: Win-Win-Win Business Strategies for Sustainable Development” (Elkington, 1994, p. 90). Later, this concept was developed by other researchers, such as R. Steurer (Steurer, 2005), T. Dyllick and K. Hockerts (Dyllick, Hockerts, 2002, p. 131). The fundamental difference of this direction is dissemination of the sustainable development concept from previous macro to micro level. Within this direction the sustainable development is analyzed from the corporation point of view, its risks and opportunities.

The United Nations Global Compact in 1999 expanded the concept of sustainable development to the level of business organizations, becoming the missing link in the evolution of the concept. The United Nations Global Compact is an international business initiative in the area of corporate social responsibility and sustainable development, which aims to transform the business in favor of society, nature and the future of the planet. In fact, this is a UN attempt to create a movement of responsible leading companies. The agreement is based on 10 principles of sustainable development (in the field of human rights, labor relations, the environment and anti-corruption). In fact, it represents an embodiment of 17 Sustainable Development Goals until 2030.

An analysis of publications on sustainable development allows us to conclude that some general research approaches to the study of the phenomenon of sustainable development are formed. Firstly, it is the formation of the so-called triple bottom line approach (economic, environmental and social spheres) based on the idea of the three foundations of sustainable development (components, size). Secondly, it is an aim to expand the problem area of research by including microeconomic aspects of sustainable development, that is, problems of sustainable development of companies (microeconomic interpretation of sustainable development). As a result of this, the concepts of sustainable development of companies and corporate sustainability arose, and the corresponding concepts began to be widely used.

These concepts and approaches, in our opinion, have a number of similarities. Business representatives are perceived as ‘agents of change’, taking responsibility for solving urgent problems of the society (including sustainable



development issues such as responsible consumption and production, development of society and solving environmental problems) (Moon, 2007).

In our view, such concepts and approaches as *conscience economy*, *social economy*, *concept of shared values*, *conscious capitalism* and *positive economy* are quite close to the concept of *social responsibility*. Works by S. Overman, M. Porter and M. Kramer are currently subjected to a serious criticism as they have no fundamental differences from social responsibility or prominent scientific innovation in this direction. These approaches are duplicating each other, starting with principles of socially responsible behavior, and being, in fact, a logical development of economic thought on the revision of the business in society role. Sustainable development of business organization became a direction, fitting into a new economic paradigm format. It embraces the concept of corporate sustainability and can be reviewed as a result of its socially-oriented activities and contribution to the sustainable development of a whole society.

*Responsibility of business* is considered as a set of commitments of individual companies or entire business groups within the framework of decisions of socially important (stakeholder) issues at regional, national, and in some individual cases global levels. In most cases they emphasize the principle of *win-win strategy* (general strategy of benefits), where the selected model of behavior is mutually beneficial both for business and for their stakeholders. *Stakeholder approach* is used in almost all presented directions. The term *corporate sustainability* is used in related approaches as the main condition for successful and long-term existence of business: achievement of sustainability (in particular financial), of competitiveness, of high capitalization and value of stock. Contribution to the welfare of society or to part of it serves as one of the challenges of modern business (in this case they only change its scale from promoting global sustainable development to improvement of the quality of life of its own key stakeholders or local communities).

### **Research results and discussion**

#### **Trends, issues and directions of Russian business organizations transition to sustainable development.**

It is significant that Russian organizations quickly adopted the concept of sustainable development, as well as appropriate terminology. This can be seen, in particular, from the structure of non-financial reporting of Russian companies: the reporting volume of business organizations on sustainable development is constantly growing. The increase in the number of reports on sustainable development, made in accordance with international and national standards of non-financial reporting and passed all the necessary procedures, is an important sign of business interest in sustainable development ideas.

Sustainable development represents a challenge for business organizations that use basis for contemporary society providing a source of income and employment while relying on and affecting natural resources, often in a negative way, in the search for profit (Christ, Burritt, 2019). Experience shows that the integration of sustainable development principles has a positive effect on business strategy and the competitiveness of companies (Holtstrom, Bjellerup, Eriksson, 2019; Mukherjee, S., Mukerjee, A. 2017; Franca, Broman, Robert, 2017). According to recent studies, sustainability reporting is a representative indicator of a company's contribution to sustainable development (Rosati, Faria, 2019).



During the preparation of the article, the author carried out an analysis of the quality of non-financial reporting of leading Russian companies. The study was based on the “National Register and the Library of Corporate Non-Financial Reports” created by the Russian Union of Industrialists and Entrepreneurs (RSPP). As of November 2019, 995 reports of 180 companies have been entered in the National Register of Non-Financial Reports. The reporting period is from 2000 to the present. Among published reports one can find the following statistics: environmental reports – 86, social reports – 337, reports in the field of sustainable development – 347, integrated reports – 203, industry reports – 27. The study analyzed sustainability reports over the past three years from the oil and gas sector companies. The author studied 26 non-financial reports of 2016–2018 period. These are non-financial reports in the field of sustainable development of such companies as Gazprom PJSC, Gazprom Neft PJSC, Lukoil PJSC, Novatek PJSC, Rosneft Oil Company, Sakhalin Energy Investment Company Ltd., Zarubezhneft JSC, Transneft PJSC, ExxonMobil Corporation (see Table 2). Oil companies were chosen because their non-financial reporting is the strongest and most developed in Russia.

Table 2

**Russian companies in oil and gas sector, participating in the research**

Company	Global Compact participation	SD reports 2016-2018	Position in RBK 500 (by Revenue)	Revenue	Profit
				in billions of rubles	
Gazprom PJSC	No	Yes	1 (-)	8224 (+26%)	1456 (+90%)
Lukoil	Yes	Yes	2 (-)	7479 (+37%)	619 (+47%)
Rosneft Oil	Yes	Yes	3 (-)	6850 (+36%)	549 (+85%)
Tatneft PJSC	Yes	Yes	14 (-)	911 (+34%)	212 (+71%)
Novatek PJSC	No	Yes	15 (↑)	832 (+43%)	164 (-2%)
Sakhalin Energy Ltd.	Yes	Yes	33 (↑)	393 (+25%)	128 (+46%)
Zarubezhneft JSC	No	Yes	72 (↑)	190 (+28%)	12 (+30%)
ExxonMobil Corp.	No	Yes	-	-	-
Gazprom Neft PJSC	No	Yes	-	-	-

Source: Compiled by the author according to the RBC 500 and Russian Union of Industrialists and Entrepreneurs

Four companies among the selected list joined the United Nations Global Compact initiative (Participants of United Nations Global Compact, 2020). As part of the Global Compact, twenty individual initiatives are being implemented in accordance to pressing issues of the Sustainable Development Goals. Of the four Russian oil companies, only Sakhalin Energy Investment Company Ltd. shared the Global Compact LEAD initiative (the essence of which is to bring together companies with relevant experts and stakeholders in order to work together and to implement best practices for sustainable development), Human Rights and Labor Working Group. Remaining companies only signed the Global compact letter of commitment.

During the analysis process the author put forward a research hypothesis about main focus of companies significant effect on non-financial reports in the field of sustainable development. Since only oil and gas sector companies were in the sample, the environmental triple bottom line component should prevail, while social and economic aspects are given less importance.

A review of non-financial reports of companies was made by using a content analysis based on a database of words and references related to one of the three areas of triple bottom line system: either social, economic or environmental. As a result of the analysis, it was possible to identify the orientation of the reports and the degree of the principle of equivalence of sustainable development directions and violation in it.

The study was based on the idea to use the Gibbs – Rozebom triangle for analysis, proposed by T. Dillik and K. Hockerts, interpreted by A. Kleine and M. von Hauf (Kleine & Hauff, 2009), calculated on a computer using Excel and Triangle 1. Author proposes to use a content analysis of non-financial reports on sustainable development as the basis for a comparative study, and subsequent visualization of the results allows us to create a “reporting map”. The

content analysis used three groups of keywords related to social, environmental and economic areas. In the process of getting the results of content analysis, the results were converted to a percentage. When compiling an array of data from the results of the study, the directions of sustainable development were designated as: X - social; Y - ecological; Z is economic.

Table 3 shows the results of a content analysis of non-financial reports in the field of sustainable development. The data is converted to a percentage ( $X + Y + Z = 100\%$ ), where X is the social TBL component of the non-financial report on sustainable development, Y is environmental, Z is economic. X1, Y1 and Z1 are the TBL components of the 2016 reports, X2, Y2 and Z2 are the 2017 reports, X3, Y3, Z3 are the 2018, Xa, Ya and Za are the average values of the components for the reports for the last three years (2016–2018).

Table 3

### Results of content analysis of non-financial reports in the field of sustainable development

Company	TBL-positioning	Sustainable development report (distribution of TBL components; %)									3 year average (%)		
		2016			2017			2018					
		X1	Y1	Z1	X2	Y2	Z2	X3	Y3	Z3	Xa	Ya	Za
Gazprom PJSC	Social	46	26	28	58	30	12	61	12	27	55	23	22
Lukoil	Social	50	26	24	58	30	12	61	12	27	56	23	21
Rosneft Oil	Social	80	20	0	65	20	15	71	15	14	72	18	10
Tatneft PJSC	Social	45	37	18	50	32	18	42	29	29	46	33	22
Novatek PJSC	Social	44	22	34	47	34	19	40	23	37	44	26	30
Sakhalin Energy	Social	58	27	15	55	31	14	55	31	14	56	30	14
Zarubezhneft JSC	Mostly social	37	29	34	45	23	32	39	27	34	40	26	33
ExxonMobil Corp.	Social-economic	34	32	34	34	25	41	Not available			23	19	25
Gazprom Neft PJSC	Social-economic	27	33	40	30	32	38	39	33	28	32	33	35

Source: Compiled by the author

The positioning of non-financial reports of leading Russian companies in the oil and gas sector is socially oriented triple bottom line system. Reports with a social TBL component (X) of 40% or more can be characterized as “social” or “mostly social”. There are 7 of these 9 companies. The reporting policy of 2 companies (ExxonMobil Corp. and Gazprom Neft PJSC) allows us to call their reports on sustainable development “social-economic” ones (see Figure 1). Earlier studies using a similar technique (Belousov, 2020; Kanaev, 2018, 2019) showed that in most cases companies position their reports on sustainable development as social and predominantly social. These results allow us to conclude that there is a violation of the principle of balance by Russian companies or that social problems in Russia are more relevant.

The study of the quality of non-financial reporting of Russian business organizations contributed to a wider understanding of emerging and existing trends, current problems and modern directions of the transition of Russian business organizations to sustainable development. Among special features of Russian business sustainable development one cannot that most business organizations do not share such concepts as corporate sustainability and sustainable development. However, a number of companies share these two concepts and interpret the “sustainable development of a business organization” as increasing shareholder value. They increase economic efficiency, staff development, maintaining environmental safety and socio-economic development of the regions of presence. Russian companies perceive sustainable development as an attribute of successful Western type company. Under the activities in the field of sustainable development, Russian companies primarily understand the protection of labor and the environment, as well as an interaction with interested parties: personnel, the business community and the local community. A common problem for most Russian companies is that in the absence of a strategic approach to sustainable development, they remain highly dependent on market conditions, financial stability and the

macroeconomic environment (sustainable development and the Global Compact initiative are the privilege of companies with extra profit).

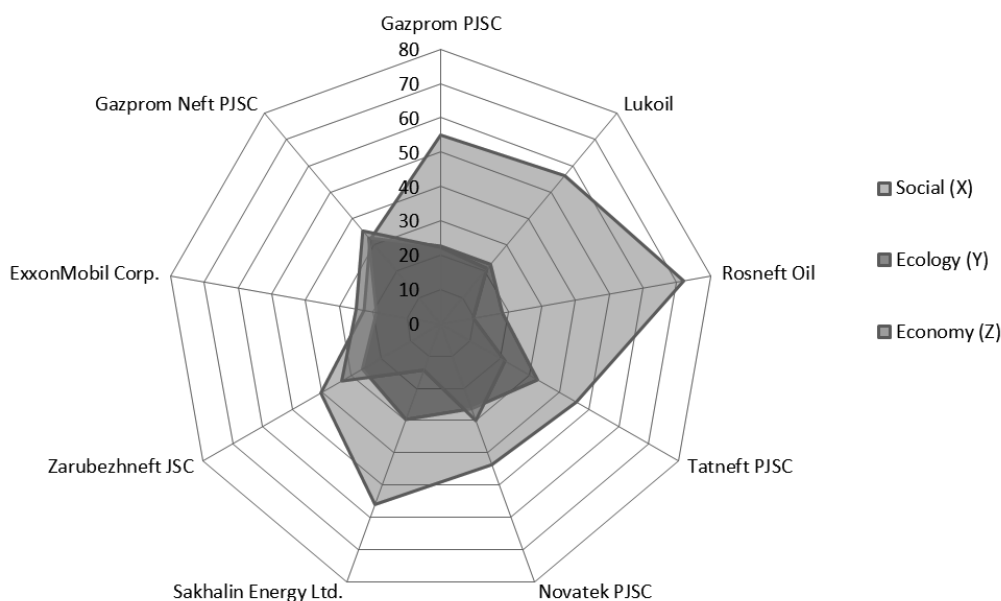


Fig. 1. Positioning non-financial reports in the field of sustainable development by their TBL components

Reviewing the results of the study, one can trace three ways of transition of the Russian business organizations to sustainable development, based on triple bottom line approach to sustainable development.

*Ecological trend* includes reduction of emission standards, development and application of non-waste production technologies and core business activities. The course is on the resource efficiency of business organization, the development and application of non-waste production technologies, reduction of resource losses at all stages of the business organization's main activity. The growth of business responsibility is a part of the product life cycle expansion and the revision of supply and sale chains, production methods, disposal methods.

*Economic trend* includes improvement of the competitiveness of products in the global market, increasing of transparency and information of accessibility of the business, the gradual loss of sole control over information flows associated with the increasing importance of information technology and the transition from one-way to two-way communication. It redefines the nature and role of business, it shows the transition to the planning, forecasting and formation of business ideology on a long time scale, as well as understanding of time as an economic resource. Changing the nature of partnerships, developing forms of "competitive cooperation" they show the economic nature of their activities. Transition to highly competitive "thixotropic" markets characterized by dynamically changing prices, poorly predicted market conditions and a high degree of obsolescence of emerging innovations.

*Social trend* includes the formation of an internal business culture and the promotion of the transformation of social values of society within the framework of the principles of sustainable development, social involvement in business community issues, transition to a model of socially responsible management and formation of a bilateral model of communication with business stakeholders.

### Conclusions

In general, the results of the study of Russian companies make it possible to draw the following conclusions.

1. Content analysis of non-financial reports of leading Russian oil and gas companies in the field of sustainable development led to the conclusion that most Russian business organizations position themselves as predominantly socially oriented. They are concerned about the welfare of the population, working conditions, job creation and impact on local communities, main stakeholders of companies are their employees.

2. The hypothesis that non-financial reports on sustainable development are significantly affected by the direction of the main activities of the companies turned out to be incorrect. Since only oil and gas sector companies were in the sample, the environmental triple bottom line component should prevail, while the social and economic aspects should be given less importance. However, this did not happen. 7 out of 9 companies positioned their reports as socially oriented.
3. The analysis of non-financial reporting in the field of sustainable development of business organizations, declaring their commitment to the principles of sustainable development, revealed the peculiarities of the interpretation of sustainable development that are characteristic for Russian organizations and their approaches to implementing the principles of sustainable development. The author identified violations of the principles of communication, integration and systematic of sustainable development. A significant emphasis on the social component of sustainable development indicates a violation of the principle of balance.
4. There is a lack of clear distinction between types of non-financial reporting (reporting in the field of corporate social responsibility and reporting in the field of sustainable development). There is a substitution of corporate social responsibility reporting with reporting in the field of sustainable development without changing its structure and actual content (as well as duplication of reporting).

The author offers the following recommendations for solving problems in the field of sustainable development of Russian business:

1. Companies need to avoid the prevailing orientation toward short-term economic performance. They should focus on a long-term performance of their activities.
2. In the conditions of information transparency, business needs to get away from the practice of using sustainable development as an “information screen”, since information risks in this area significantly exceed potential benefits.
3. Companies need to stop violating the principles of inclusiveness and balance, focusing only on requests and responsibility to internal and close stakeholders, completely ignoring the needs of the external environment.

The study revealed that Russian companies, in moving from corporate social responsibility to sustainable development, demonstrate various violations of the principles of sustainable development. In this regard, further research in this direction and the development of recommendations on the formation of strategies for sustainable development of companies is of particular practical importance.

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## THE POWER OF INFORMATION: A KEY COMPONENT FOR THE SUCCESSFUL PERFORMANCE OF LATVIAN SOCIAL ENTERPRISES

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**Abstract.** The purpose of the study is two-fold. First, the study aims to determine how informed consumers in Latvia are about social enterprises after a decade of discussion and activity within the field of social entrepreneurship which will later serve as a comparative reference base for following future developments and achievements in the field. Second, the study aims to investigate the relationship between the level of information consumers have about social enterprises and actual purchasing behavior of consumers in order to provide practical recommendations and suggestions for both social enterprise marketing specialists as well as government officials and organizations that support the field of social entrepreneurship in Latvia. Research methods applied: scientific publications analysis, legislative documents analysis, analysis of policy studies, as well as quantitative research method – survey of customers of social enterprise products and services. Many aspects are asked to evaluate in evaluation scale 1-10 to have opportunity for deeper analysis of views of respondents. Research results indicate that majority of consumers have average or below average information levels about social enterprises in Latvia which is still satisfactory given the young age of the field. Authors determine a statistically significant positive relationship between the informational level of consumers and their purchasing behavior which underscores the crucial importance of informative support needed by social enterprises. Authors also have determined the existence of an informational saturation point which indicates potentially higher economic returns from targeting consumers with rather low levels of information about social enterprises.

**Keywords:** *social entrepreneurship, consumer behavior, social enterprise, consumer information level.*

**JEL code:** I30; I38; K2

### Introduction

The popularity of social entrepreneurship has been steadily growing and increasingly gaining attention in Latvia as well. Praised for its potential to alleviate poverty, solve various social and economic problems and contribute to balanced and sustainable regional development, social entrepreneurship has earned support both from governments as well as consumers who find they are making a difference by purchasing from social enterprises. Given the young age of this field in Latvia, it is important to determine the informational reach achieved up to date which can subsequently be used monitor future development of the field. It is also important to investigate the relationships between consumer information levels and actual purchasing behavior to fine tune marketing and informational campaigns of social enterprises as well as those of organizations that provide support to the field. The tasks of research include analysis of the concept of social entrepreneurship and the development of the social entrepreneurship field in Latvia, to identify practical recommendations for social enterprises and support organizations in order to reach higher returns from the informational and marketing campaigns. In order to complete the tasks, Research methods applied: analysis of scientific publications and analysis of survey on social enterprise development aspects. Most of analyzed aspects were asked to evaluate in scale 1-10 to conduct deeper analysis of respondent's views. Survey data were analyzed using different statistical analysis methods: descriptive statistics: indicators of central tendency or location (arithmetic mean, mode, median), indicators of variability (range, standard deviation and standard error of mean), cross-tabulations, testing of statistical hypotheses with t-test and analysis of variance – ANOVA, as well as correlation analysis. The results of the study highlight the importance of information dissemination about social enterprises and indicate several



practical suggestions for social enterprise marketing specialists as well as organizations that informatively support social enterprises in Latvia.

### Literature Review

Social entrepreneurship is getting more and more importance in many countries and is well-known today as a global trend with an overwhelming capacity to bring about social change – social enterprises are creating new jobs, aiming to change the behavior within societies and creating noteworthy social impact (Nicholls, 2006). Social enterprises are also recognized as valuable agents on the road towards sustainable regional development due to their ability to combine their social mission with economic goals (Blagoycheva, 2019). Social enterprises are also successful at attracting investment capital from various financial institutions which confirms their potential as important players in the economy (Gonçalves, et.al, 2016). They are also praised for their unique ability to bring about innovative solutions to various problems (Monroe-White, 2018) as well as for relieving the welfare state of not only economic and social but also political “sins” (Baglioni, 2017). There is a trend, though, that among social entrepreneurs innovations brought about by application of technological solutions are more popular than provision of social services (Tkacz, 2016).

The source of social enterprise success is found in their local presence and knowledge of local community problems which, compared to the government or municipality, allows them to discover innovative solutions to pressing problems more effectively (Frank, 2016). European Union recognizes the capacity of social enterprises to resolve various social and economic problems and to promote sustainable and balanced regional development by providing various support programmes to social enterprises (Dobele, 2013, Lukjanska et. al, 2017) and is getting more and more support by the society in many countries including Latvia. The leader in terms of the number of social enterprises in European Union is United Kingdom with 70 000 social enterprises, contributing 30 billion EUR to government budget (Dobele, 2014). Factors that motivate Latvian consumers to purchase products and services from social enterprises in Latvia - the case of socially responsible consumption is on research agenda for researchers from Latvia (Casno, Šķiltere, Sloka, 2019-a) indicating important aspects on development of social entrepreneurship as well as information channels (Casno, Šķiltere, Sloka, 2019-b) and many other aspects.

In Europe as well as in North America the concept of social entrepreneurship, as it is understood today, can be traced back to the activities of non-profit organizations at the end of eighties or beginning of nineties of the 20th century (Defourny, 2010). In Europe the origins of social entrepreneurship are traced back to Italy where social cooperatives were formed in order to tackle the unemployment problems and which consequently inspired other European countries to follow a similar path (Defourny, 2010). In the United States, social enterprises originated as a response to reduced government support for non-profit organizations (Defourny, 2010). As noted by J.A. Kerlin, in Central and Eastern Europe social entrepreneurship originated in circumstances of post-communism era characterized by a weak government and civil society as well as rising unemployment rates (Kerlin, 2010).

Given that social enterprises have developed along different historical paths across various parts of the world, it is not surprising that today almost 40 different definitions of social entrepreneurship can be found in the scientific literature (Dacin, 2010). Researchers have not yet been able to find agreement about the conceptual borders or the social entrepreneurship concept (Dacin 2010; Young 2014, Priede Bergamini et al 2017, Goncalves et al 2016, Powell 2014, Defourny 2017). So far agreement has been reached only about the nature of the social enterprise – that social enterprises are organizations that operate in the private market combining their social mission with economic goals (Young, 2014). While the EMES International Research Network that studies the field of social entrepreneurship in Europe since 1996, stringently considers that social enterprises should be governed by democratic principles, limited with regards their rights to distribute profits and should be solely focused on their social mission, other schools of

research propose to look at the concept of social enterprise on a spectrum of various combinations of social mission and profit orientation or define social entrepreneurship by placing innovation in the core of the concept (Young, 2014). Young and Lecy (2014) have proposed to compare the concept of social enterprise to a metaphor of a zoo where different types of social enterprises with differences in their behavior can be found thus arguing for a more inclusive way of looking at the borders of the concept of social enterprise. Kerlin (2010) also has agreed to a more inclusive definition of a social enterprise by arguing that the specific character of social entrepreneurship, its traditions and the organizational form of the social enterprise will vary from country to country depending on how weak or strong is the civil society, involvement of the government, market economy and international aid.

In Latvia the concept of social entrepreneurship is known for only about a decade (Līcīte, 2018). Nevertheless, the roots of social entrepreneurship tradition in Latvia can be traced back to the middle of the 19<sup>th</sup> century which was the time when various associations and social movements were found in such spheres as education, culture, charity and promotion of national identity. Their activities laid the foundation for a new surge of social activity after the collapse of Soviet Union and transition to market economy (Līcīte, 2018) which, supported by various foundations and public organizations, served as the cornerstone for development of social entrepreneurship in Latvia (Līcīte, 2018). In 2014, under the influence of European Union social economy policies, Latvian government responded by beginning a discussion about development of the Law of Social Entrepreneurship.

The concept of social entrepreneurship was included in several strategically important documents developed by the Latvian government, thus acknowledging the many contributions *de facto* social entrepreneurship in Latvia provided towards overall welfare of society (Līcīte, 2018). In 2015 Social Entrepreneurship Association was established in Latvia to actively support *de facto* existing and new social enterprises as well as develop further partnerships among all the stakeholders of social entrepreneurship ecosystem (municipalities, educational institutions, Ministry of Welfare etc.) with the goal of promoting development of social entrepreneurship in Latvia (Līcīte, 2018). On the 1<sup>st</sup> of April, 2018, the Law of Social Enterprise came into force in Republic of Latvia (Saeima, 2017). Before that Cabinet of Ministers in 2014 has accepted Conception of social entrepreneurship introduction possibilities in Latvia (Ministru Kabinets, 2014). The Law of Social Enterprise (Saeima, 2017) stipulated that a social enterprise must take the organizational form of a limited liability company despite the heavy administrative burden associated with the fulfillment of this criterion as the legislators hoped that the profit earning characteristics would ensure the opportunity to solve social problems in a sustainable manner on a long term basis, opposed to the short term nature of project-based activities that often characterize the work of associations and foundations (Līcīte, 2018). Many *de facto* social enterprises, having evaluated the potential gains and potential risks that change of organization form might bring, decided not to pursue the official status of a social enterprise and continued to operate as *de facto* social enterprises. (Līcīte, 2018). Such a decision is fully validated by researcher Lāsma Līcīte, whose evaluation of support instruments available to social enterprises up until May 2018, confirm that, compared with commercial limited liability companies, there are no noteworthy tax support instruments available to social enterprises despite their invaluable role in promotion of social welfare of the Latvian society (Līcīte, 2018). Although local governments are allowed to support social enterprises, few examples of such mutually beneficial cooperation exist as local governments often are not able to perceive the positive outcomes generated by social enterprises (Līcīte, 2018) as well as where consumers get the information on products and services provided by social enterprises (Casno, Šķiltere, Sloka, 2019-a) as more and more people are willing to support such activities.

Considering that not all *de facto* social enterprises have obtained the official status of a social enterprise, there are no precise statistical data available to characterize the field of social entrepreneurship in Latvia, Social Enterprise Law is accepted in Latvia (Saeima, 2017) and it created more legislative acts to realise social entrepreneurship in Latvia.

“Social enterprises and their ecosystems in Europe. Updated country report: Latvia” highlights that overall there are about 200 social enterprises, most of them based in Riga, that operate in various fields of the B2B and B2C market with an annual turnover ranging from 2000 to 2 million EUR depending on the type of activity. Most social enterprises are characterized by local operations (Līcīte, 2018), have not yet reached the age of 10 years and employ 5 to 10 employees (Līcīte, 2018). According to the Register of social enterprises as of 26th of November, 2019, the official status of a social enterprise has been awarded to 79 organizations. Most of them (34%) are work integration social enterprises, 22% operate in the field of education. Social enterprises below the 20% share belong to such fields as healthcare, promotion of inclusive society, cultural diversity, environmental protection etc. Most of all officially registered social enterprises are located in Riga (61%) or the surrounding administrative territories (16%), 10% are based in Kurzeme, 8% in Vidzeme, 4% in Zemgale, leaving Latgale as the region with the least amount of social enterprises - only 1% (Register of Social Enterprises, 2019) but it is noticeable that social enterprises are becoming more and more important in Latvia.

### Research results and discussion

By means of a quantitative survey which was distributed and available online via social networks, a total of 329 responses from respondents were recorded, 224 of which were fully completed. Respondents, among other questions, were asked to indicate how well-informed they are about social enterprises in Latvia on a scale from 1 (not informed at all) to 10 (very well informed). Respondents, of whom majority (more than 80%) belonged to the age group 16-45, were mainly female (84% females, 16% males) and mostly held a higher education degree. Majority (73.4%) of respondents had purchased products or services from social enterprises in 2018. Main statistical indicators on respondent evaluations are presented in table 1.

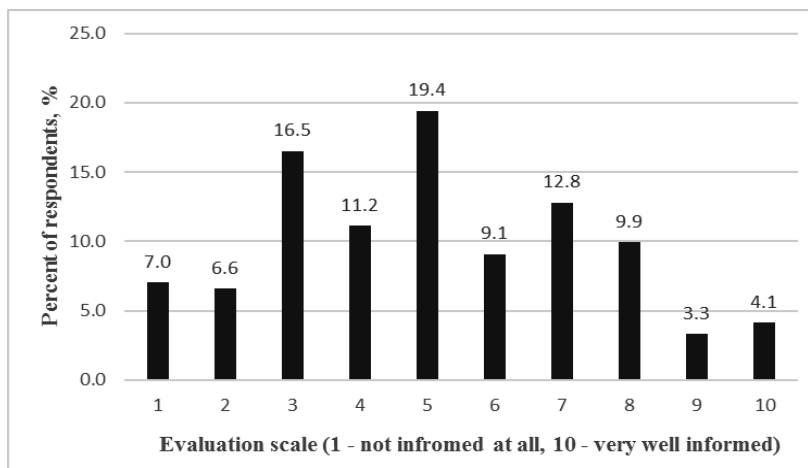
Table 1

#### Main statistical indicators of descriptive statistics on question “On what extent you are informed on social enterprises in Latvia?”

	Statistical indicators	Values
N	Valid	242
	Missing	87
Mean		5.06
Standard Error of Mean		0.152
Median		5
Mode		5
Standard Deviation		2.360
Range		9
Minimum		1
Maximum		10

Source: Authors' construction based on questionnaire developed by Kristīne Casno and survey conducted in 2019, n=329

Overall, a little over 60% of respondents indicated that their level of information about Latvian social enterprises is 5 or below, as reflected in Figure 1.



Source: Authors' construction based on questionnaire developed by Kristīne Casno and survey conducted in 2019, n=329

**Fig.1. Distribution of Respondents by Evaluations on Level of Information about Social Entrepreneurship in Latvia in 2019**

The arithmetic mean and mode indicators were 5.06 and 5.00 respectively. While overall, such results, given the relatively young age of social entrepreneurship field in Latvia, can be evaluated as satisfactory, there is enough room for improvement. Overall, more women than men (32% compared to 20%) have indicated scores of 7 and above with regards their information level about social enterprises. On the other hand, more males rather than females (57% compared 39% respectively) have selected scores of 4 and below with regards their information level about social enterprises, which indicates that overall, women tend to be more informed about Latvian social enterprises than men.

Looking at the responses with regards to the degree respondents feel informed about social enterprises across particular age groups, the age group 46-55 appears to be informed the most. In this age group there is the largest share of high scores of 8 and above (40%) and the smallest share of low scores of 4 and below (25%). The second most informed age group is 36 -45 years where 30% of respondents have indicated scores of 8 and above and 41% of respondents have indicated scores of 4 and below. Age groups of 16-25 and 26-35 are very similar with regards their shares of high (8 and above) and low (4 and below) scores. With regards the educational level of respondents, overall, the respondents with the highest shares of high scores (8 and above) hold either a Masters (32% of high scores) or a Bachelors degree (30% of high scores). The least informed about social enterprises in Latvia are respondents with secondary school education – they have the lowest shares of high scores of 8 and above and the largest shares of low scores of 4 and below. With regards the place of residence of respondents, the best informed about social enterprises in Latvia are the respondents who live in the administrative territories surrounding Riga (largest share of high scores of 8 and above (38%) and second smallest share of low scores of 4 and below (32%)). Respondents from Vidzeme are the second best informed group about social enterprises in Latvia (32% of high scores and the largest share of low scores – 46%), closely followed by respondents from Kurzeme with 31% of high scores and 38% of low scores. It is surprising that respondents from Riga, judging by the share of high scores (comparatively only 28%), are the second least informed group of respondents, leaving only respondents in Zemgale behind with 26% of high scores. It is not possible to make any conclusions with regards to how informed the respondents from Latgale are about social enterprises since only 1 respondent indicated Latgale as the place of residence.

Next step for empirical data analysis was-to investigate if the informational level of respondents also translates into purchasing from Latvian social enterprises which is both an indicator of the effectiveness of marketing efforts of social enterprises as well as the effectiveness of the work carried out in the public sphere by Social Entrepreneurship

Association. Authors determined a statistically significant correlational relationship, as indicated in table 2 below, between the informational level indicated by respondents and their respective purchasing habits.

Table 2

**Correlation analysis results (informative level of respondents and the number of purchases made in 2018)**

		To what extent are you informed about the social enterprises in Latvia?	How many times did you purchase social enterprise products or services in 2018?
To what extent are you informed about the social enterprises in Latvia?	Pearson Correlation	1	0.240**
	Sig. (2-tailed)		0.003
	N	151	151
How many times did you purchase social enterprise products or services in 2018?	Pearson Correlation	0.240**	1
	Sig. (2-tailed)	0.003	
	N	151	151

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' construction based on questionnaire developed by Kristīne Casno and survey conducted in 2019, n=329, evaluation scale 1-10, where 1 – not informed at all, 10 – very well informed)

Such results indicate that on average the more informed the respondents are, the more often they tend to purchase products or services from social enterprises which underscores the crucial role of marketing in ensuring sustainable operations of social enterprises.

Further analysis - to compare in detail the purchasing habits of respondents with information level about social enterprises of 6 and above with those of respondents with information level about social enterprises of 8 and across various age groups, as summarized in Tables 3 and 4 below to see if there were any age groups that were particularly responsive to more information about social enterprises in terms of more frequent purchases (age groups of above 55 years were not investigated as only 2 respondents indicated that they belonged to those groups).

Table 3

**Crosstabulation (respondents' with information level of 6 and above age groups and respective purchasing habits in 2018)**

Times on done purchase of social enterprise products or services in 2018	Age groups										Total
	16 - 25	%	26 - 35	%	36 - 45	%	46 - 55	%	56 - 65		
1 - 4	2	33	13	48	15	63	6	55	1	37	
5 - 8	1	17	7	26	3	13	2	18	0	13	
9 - 12	1	17	2	7	4	17	3	27	0	10	
13 +	2	33	5	19	2	8	0	0	0	9	
Total	6		27		24		11		1	69	

Source: Authors' construction based on questionnaire developed by Kristīne Casno and survey conducted in 2019, n=329, evaluation scale 1-10, where 1 – not informed at all, 10 – very well informed)

As indicated by crosstabulation of Table 2, respondents of all age groups with information level of 6 and above purchased products or services from social enterprises mostly 1 to 4 times in 2018, the largest share belonging to age group of 36-45. The respondents from age group 46-55 at this informational level are most active with regards to shopping 9-12 times a year (27%), respondents from age group are most active with regards to shopping more than 13 times a year (33%), but the leader with regards to shopping 5-8 times a year is the age group of 26-35 years (26%).

Comparing the above results with a smaller selection of respondents but with a higher information level (8 and above), as indicated in Table 3 below, the Authors find that the trend of the dominant purchase frequency of 1-4 times per year continues and even tends to increase a little, except for age group 16-25.

Table 4

**Crosstabulation (respondents' with information level of 8 and above age groups and respective purchasing habits in 2018)**

Times on done purchase of social enterprise products or services in 2018	Age groups										Total
	16 - 25	%	26 - 35	%	36 - 45	%	46 - 55	%	56 - 65		
1 - 4	1	25	7	54	5	63	4	57	1	18	
5 - 8	1	25	2	15	1	13	2	29	0	6	
9 - 12	1	25	1	8	1	13	1	14	0	4	
13 +	1	25	3	23	1	13	0	0	0	5	
Total	4		13		8		7		1	33	

Source: Authors' construction based on questionnaire developed by Kristīne Casno and survey conducted in 2019, n=329, evaluation scale 1-10, where 1 – not informed at all, 10 – very well informed)

Comparing the percentual shares of respondents across the different purchasing frequencies between both selections of respondents, it is evident that within the age group 46-55, as the informational level increases, the share of respondents who purchased products or services 5-8 times a year increases, but the share of respondents who purchased products or services 9-12 times a year decreases, almost balancing each other out. Within the age group of 36-45, comparing both selections of respondents, a similar situation is observed with the increase of informational level where the share of respondents who purchased products or services 9-12 a year decreases but the share of respondents who did the same more than 13 times a year increases, also balancing each other out. A similar trend is observed in the remaining two age groups which may indicate that while on average better informed respondents make purchases more often, the effects of an increased informational level (e.g. from 6 to 8) are rather minimal indicating that the informational level may have reached its saturation point. Thus it may be concluded that for optimal returns on investment it may be potentially more effective to work towards targeting the consumer groups who are informed the least (e.g. age groups of 16-25 and 26-35) rather than focusing on consumers who are rather well informed about social enterprises and their products or services.

**Conclusions, proposals, recommendations**

Although majority of respondents indicate their level of information about social enterprises in Latvia as average or below average, Authors conclude that such results as satisfactory, given that the concept of social entrepreneurship has been visible in the public sphere only for about a decade and also given the limited ability of social enterprises to invest in marketing and the fact that the concept has been actively popularized by the Social Entrepreneurship Association only since its foundation in 2015. The statistically significant positive correlational relationship between the informative level of respondents and their purchasing frequency, indicates that informational support for social enterprises from Ministry of Welfare and Social Entrepreneurship Association is critical and it is of utmost importance that support is provided to social enterprises in the future as well. The more informed consumers are about social enterprises, the more frequent are their purchases, which is important for sustainability of social enterprises since in Latvia the market is comparatively small.

The responsibility for dissemination of information, however, does not lie solely in the hands of government or Social Entrepreneurship Association. Social enterprises themselves should also understand the importance of informing consumers and strive to engage in and improve their marketing activities. While it is important to



communicate with and inform potential and existing consumers, research indicates that informing consumers who are already well-informed may not generate the expected returns because of a potential information saturation point. Thus it would be more advantageous for social enterprises to target consumer groups who have the least knowledge and information about social enterprises.

Research shows that women are better informed about social enterprises, which corresponds with their caring nature. An innovative approach would be to target male audience, which, although might be more challenging, could be rewarding since the purchasing power of men is generally larger. With regards age groups, ages 16-25 and 26-35 tend to be the least informed and thus should be specifically targeted by social enterprises. The same applies to consumers with secondary education. Research indicates that consumers in Riga and Zemgale are comparatively least informed about social enterprises which suggests potential high returns from further expanding the knowledge and information about social enterprises there.

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## HOUSING COST BURDEN IN REGIONS OF LATVIA

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**Abstract.** Household financial hardship have been a rising concern of scholars and policy makers since income inequality in Latvia is very high and more than 23% of citizens are on risk of poverty, because housing costs typically represent the largest monthly expense for households. Special concern is about regions of Latvia where the level of living is lower than in cities and financial burden problem is increasing.

The aim of the study is to analyse financial burden of housing costs in regions of Latvia.

Research methods used in preparation of the paper: scientific publication and previous conducted research results analysis, analysis of EU-SILC results and European Central Bank conducted survey on Household income and expenses survey results, results are compared with the results of other EU countries. Survey results are analysed using indicators of descriptive statistics, cross-tabulations for regions of Latvia, for territories: urban-rural living and analysis of variance – ANOVA, for analysing financial burden of housing costs by regions and correlation analysis to analyse relationship of financial burden of housing costs and household composition are used.

The results of analysis have indicated that situation in regions of Latvia in the context of housing conditions is very different and that there are very big challenges for decision makers to find recently the best possible solution.

**Keywords:** *housing conditions, house quality, living conditions, EU-SILC.*

**JEL code:** R20; R51

### Introduction

Housing in the European Union constitutes the largest expenditure for many households. According to Eurostat 24,2% of household total consumption expenditure in 2017 was on housing, water, electricity, gas and other fuels which is by far the EU's largest household expenditure item, ahead of transport, food and non-alcoholic beverages, restaurants and hotels as well as recreation and culture (Eurostat, 2018). The statistics show that the share of housing expenditure in household disposable income was 17,4% in 2018 in Latvia which is under the average level of European Union, however there is a big income inequality in Latvia and more than 23% of citizens are at risk of poverty and housing burden is important issue. Especially dramatic situation is in regions of Latvia where the level of living is lower than in cities and financial burden problem is increasing.

Taking into account all the mentioned before, the purpose of the study is to analyse financial burden of housing costs in regions of Latvia

In order to achieve the purpose, the tasks are formulated as follows:

- 1) to review theoretical background of housing burden and factors that influence citizens' satisfaction with housing in context of regional development;
- 2) to review existing research of financial burden of housing costs in EU and other countries;
- 3) to analyse financial cost of housing burden in regions of Latvia.

Research methods used: scientific publication and previous conducted research results analysis, analysis of EU-SILC results and European Central Bank conducted survey on Household income and expenses survey results, results are compared with the results of other EU countries. Survey results are analysed using indicators of descriptive statistics, cross-tabulations for regions of Latvia, for territories: urban-rural living and analysis of variance – ANOVA, for analysing financial burden of housing costs by regions and correlation analysis to analyse relationship of financial burden of housing costs and household composition are used.

### Literature Review

Housing is generally the largest single household expenditure what means if housing accounts for an excessive share of income it will have a significant impact on households' budget, even more - it can affect life satisfaction especially for low-income families. According to Eurostat housing expenses including rental or mortgage payments, water, electricity, gas or heating cost together are considered as an excessive burden when they represent more than 40% of total disposable income (Eurostat, 2017). Housing indicators relevant to quality of life are housing quality, housing environment and housing expenditures burden. Streimikiene and Kiausiene was researching housing indicators in terms of quality of life in Baltic States compared to EU-27 average and stated that Latvia between Baltic States represents the lowest quality of life in terms of housing, but Estonia has the highest, while Lithuania indicated positive trends in development of all housing quality indicators (Streimikiene, Kiausiene, 2014). Housing satisfaction may be influenced by many factors, from which financial costs are one of the most important, however, according to *Teck-Hong* housing satisfaction in Malaysia is much higher among home owners than renters, households located in the gated-guarded neighbourhood are more likely to be satisfied with their housing situations compare to households who are not and age shows significant effect on housing satisfaction. Also, this study reveals that income and life cycle changes are not important determinants of housing satisfaction (Tech-Hong, 2012). While study in UK revealed that high house prices in one region may result in residents moving away because of the lack of affordability and that remind governments to actively intervene to the problem of high housing burden (Tsai, 2019). Study in Sweden reports that economic and financial crisis are often connected to crises in the housing market and the research results indicate that affordability is a problem and the proportion of households at risk of poverty has been increasing when taking housing costs into consideration (Holmqvist, Turner, 2015).

Research results in Malaysia stated that housing affordability is dependent on dwelling type. Analysing relationship between housing affordability and income percentiles research results indicated that high-rise housing and terrace are the most affordable for households in the 40<sup>th</sup> percentile and median income range, but these housing types cannot be affordable for the 25<sup>th</sup> income percentile in Malaysia (Rangel, et.al., 2019). Study in U.S. states that although the provision of affordable housing is a necessary component of any economic transformation that aims to be inclusive, affordable housing alone is unlikely to enable disadvantaged households to take advantage of new economic opportunities (Freeman, Schuetz, 2017).

*Zhang* have been studying housing cost burden, housing conditions and housing affordability in the context of income inequality in China. According to *Zhang, Zhang and Hudson* (2018) housing conditions significantly affect housing satisfaction in China - for young people housing conditions are less important than for old people and house size is significant for old people in terms of overall happiness. The results of the study revealed that housing policy can be used not just to stimulate the economy and to provide workers a place to live, but also to actively promote life satisfaction of the citizens.

Zhang and his colleagues have been researching relationship between income inequality and access to housing in China indicating that higher income inequality in cities is significantly related to a higher housing cost burden, a smaller per capita living space and low housing quality for low-income households and the negative impact of income inequality could be moderated if products would be differentiated in housing markets (Zhang, 2015, 270).

Study in US revealed that rising housing costs strain the financial well-being of low- and moderate - income households in many cities in U.S. (Freeman, Schuetz, 2017) and especially hard situation is for unauthorised Latino immigrants in Los Angeles who experience housing affordability problem (McConnell, 2013) Gold states that public housing could be a solution for low-income families' housing cost burden (Gold, 2019).

However, while housing cost burden may play a part in economic hardship among low-income families, there was no evidence that housing cost burden status differently explained the economic hardship among low-income White,

Black and Hispanic families with children. And economic hardship that families experience is more complex than their poverty status (Mimura, 2008). Cook and her colleagues was researching housing cost burden among female heads of housing and revealed that that housing cost burden varies based on age, living arrangement, and the presence of children, but single mothers experienced the highest cost burdens (Cook, Bruin, Winter, 2015).

Study about differences in perceptions of financial hardship – housing cost burden – in France, Germany, Italy, Spain, and the UK indicate that being a homeowner in Italy most lowers the probability of a high housing cost burden, having an unemployed household head most raises the probability of a high burden in Spain and in France, while self-employment and retirement lower such probability, but being in arrears with some payments has greatest impact on expressing a heavy housing cost burden (Brandolini, et.al., 2013).

Housing expenditure accounts for a large proportion of overall household expenditure and research results in five European countries - Spain, Italy, Germany, UK and France have indicated that housing costs may significantly reduce households' willingness to spend, affecting households' disposable income and lowering their standard of living, however housing costs can be mitigated if households are owners, not renters. The role of tenure status should be taken into account, because home ownership may exert positive effects in long-term perspective and increase overall household well-being (Deidda, 2015).

Lens has indicated that rental affordability problem is getting worse for low-income households and housing subsidies are not growing enough in U.S. (Lens, 2018). Study in Belgium revealed that as in most European countries, in each Belgium region home owners on average are better off than tenants and this goes both for the population as a whole and for poor people, however being a home owner does not protect everyone from housing problems (Winter, Heylen, 2014). Nelson and her colleagues revealed that the higher housing burden ratio predicted lower levels of marital satisfaction as well as homeowner having fully paid mortgage was associated with marital satisfaction then those who were still servicing their mortgages (Nelson, Delgadillo, Dew, 2013).

Many academic research are devoted to housing cost burden impact on health. According to Mari-Dell'Olmo and his colleagues housing insecurity and health emphasize the very poor health status of populations facing poor physical housing conditions and affordability problems (Mari-Dell'Olmo et.al., 2017).

Nobari and his colleagues in their research in Los Angeles revealed that severe housing cost burden is associated with an increase in the odds of childhood obesity (Nobari, et.al., 2019). Study in U.S. revealed that reduced housing cost burden have a positive effect on health (Cheon, Cagle, Lehning, 2019).

However, another study in U.S. revealed no significant relationship between housing cost burden and self-reported health. But education, assets, and participating in regular physical activity in 2004 were significant to the probability of reporting being in good health later (in 2006), and, race/ethnicity, marital status, employment status, and type of health insurance in 2004 were significant predictors of level of housing cost burden in 2006 (Green-Pimentel, 2015). Most of mentioned above aspects are important also in Latvia especially for households with lower income.

### **Research results and discussion**

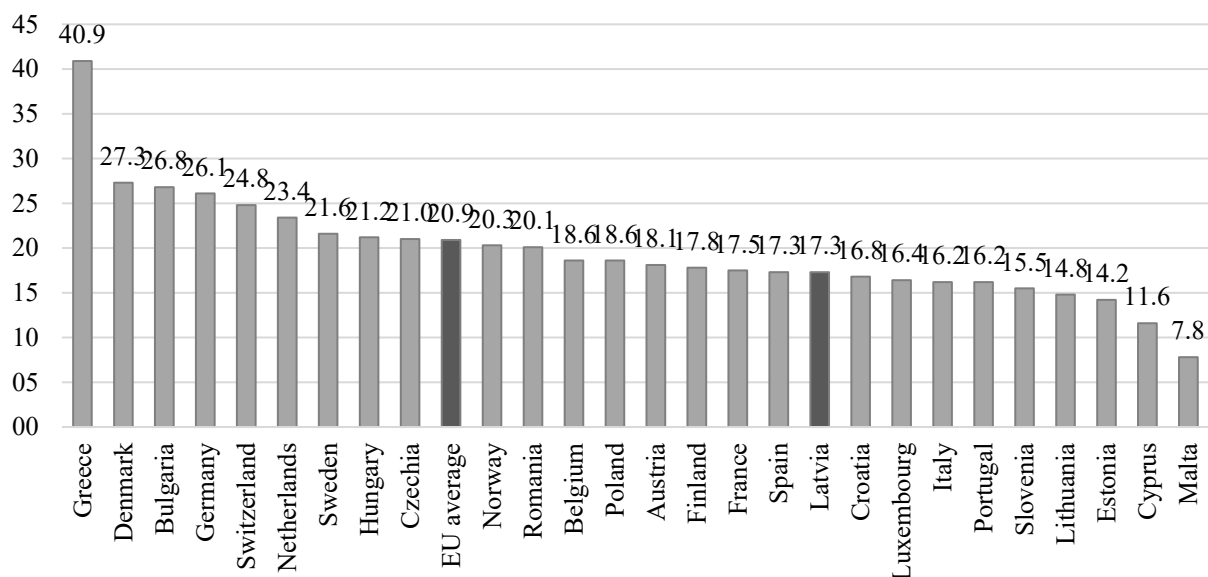
EU-SILC is the most complete harmonized survey on household income in Europe. EU-SILC survey is conducted annually in line with Eurostat methodology in all European Union countries. In order to acquire information four questionnaires were developed: Household Register, Household Questionnaire Form and Individual Questionnaire Form.

One of the main study objects of the EU-SILC is housing conditions composition and level, in 2017 sample size of EU-SILC in Republic of Latvia - 8 087 randomly selected respondents; data are representative. Completed questionnaire sets were of 6014 households; individual interviews (persons) - 11 304; non-response rate - 25.6% (CSB of Republic of Latvia, 2019).

It is important that anonymized data sets are available in SPSS files by CSB of Republic of Latvia for more detailed statistical data analysis – by statistical regions, by territories (cities or rural areas), by household size and by other indicators which are available for researchers for deeper analysis.

### Housing costs in EU

For many countries the largest expenditure each month is related to housing costs and it is increasingly likely that citizens may have to defer or cancel expenditure on other items – in some cases in relation to the basic needs. This is affecting more households in countries having lower income. Share of housing costs in disposable household income is included in figure 1.



Source: author's construction based on Eurostat data

Fig. 1. Share of housing costs in disposable household income in EU in 2018

The data shows that across the European Union more than 20% on average of a household's income is spent on housing expenditure. From all EU countries Greece spend the most – more than 40%, while Cyprus and Malta are spending the least. From Baltic countries Latvia is spending the most for housing expenditure, but Lithuania and Estonia by 5% less.

### Housing conditions in regions of Latvia

According to the American Labour Survey (Cheon, Cagle, Lehning, 2019) people spend average 3 hours working at home and more than 16 hours per day at home and it is essential that the quality of house and living conditions there are sufficient.

Mentioned above aspects are interesting from academic point of view also for European countries and this time especially for Latvia. Distributions of evaluations by respondents' on financial burden of housing costs of households in Latvia are included in table 1.

Table 1

Distribution of views on total financial burden of housing costs in Latvia in 2017

Evaluation options		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very cumbersome	2119	35.2	35.2	35.2
	A bit cumbersome	2786	46.3	46.3	81.6
	Not at all cumbersome	1109	18.4	18.4	100.0
	Total	6014	100.0	100.0	

Source: author’s calculations based on EU-SILC, n=10933. Evaluation scale: 1-3, where 1 – very cumbersome, 2 – a bit cumbersome, 3 – not at all cumbersome

As data included in table 1 indicate – more than 35% of respondents evaluate their financial burden of housing costs as very cumbersome, but less than 20% - not at all cumbersome. Majority of respondents (46,3%) evaluate their financial burden of housing costs as a bit cumbersome.

Main statistical indicators of evaluations on total financial burden of housing costs in Latvia in 2017 are included in table 2.

Table 2

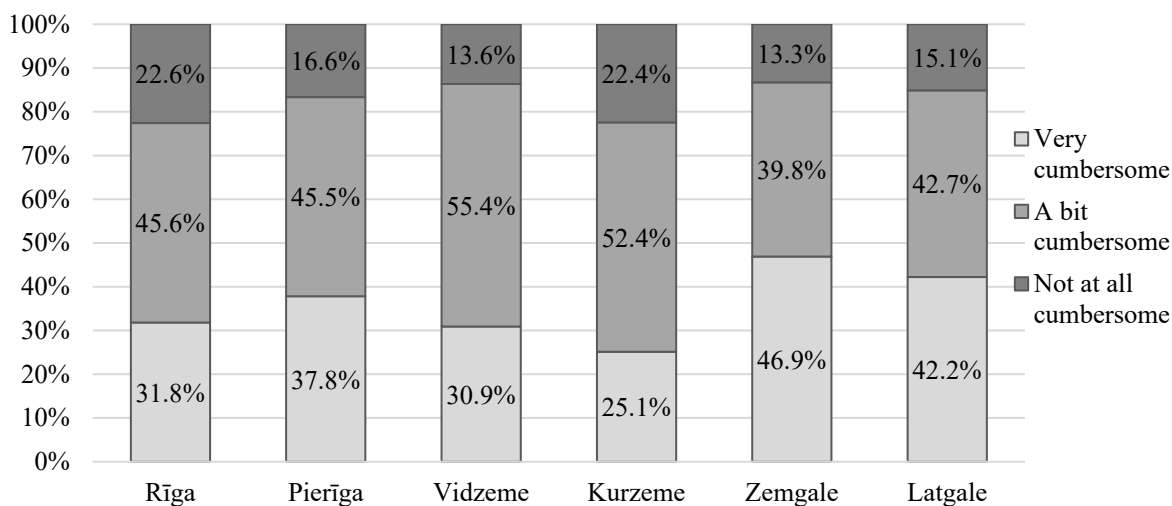
**Main statistical indicators of total financial burden of housing costs in Latvia in 2017**

N	Valid	6014
	Missing	0
Mean		1.83
Std. Error of Mean		0.009
Median		2
Mode		2
Std. Deviation		0.713
Variance		0.509
Range		2
Minimum		1
Maximum		3

Source: author’s calculations based on EU-SILC, n=10933. Evaluation scale: 1-3, where 1 – very cumbersome, 2 – a bit cumbersome, 3 – not at all cumbersome

The statistics show that evaluation of financial burden of housing costs is around average level and half of respondents evaluated that their financial burden is not at all cumbersome, but the other half – very cumbersome (indicated by median), most often evaluation is also average (characterised by mode with value 2). Most often evaluation is a bit cumbersome (characterised by mode with value 2).

Regional differences are on great importance in many countries as well as in Latvia, as the regions are developing unevenly. According to the administrative breakdown there are 6 regions in Latvia – Rīga, Pierīga, Vidzeme, Kurzeme, Zemgale and Latgale region. Distribution of evaluations on total financial burden of housing costs in regions of Latvia are included in figure 2.



Source: author’s calculations based on EU-SILC, n=10933. Evaluation scale: 1-3, where 1 – very cumbersome, 2 – a bit cumbersome, 3 – not at all cumbersome

**Fig. 2. Total financial burden of housing costs in regions of Latvia in 2017**

According to the data financial burden of housing costs is very cumbersome for people from Zemgale and Latgale region while for people from Kurzeme region it is less cumbersome. Majority of people who are not at all cumbersome with financial burden of housing costs were from Rīga and Kurzeme region, but majority of people who evaluated their financial burden of housing costs with a bit cumbersome were from Vidzeme region. To be precise in conclusions it was used analysis of variance or ANOVA to test statistical hypotheses on differences of mean evaluations by respondent's region in Latvia on financial burden of housing costs – results of ANOVA analysis are included in table 3.

Table 3

**Analysis of Variance (ANOVA) of financial burden of housing costs in regions in Latvia in 2017**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	64.488	5	12.898	25.882	0.000
Within Groups	2993.891	6008	0.498		
Total	3058.379	6013			

Source: author's calculations based on EU-SILC, n=10933. Evaluation scale: 1-3, where 1 – very cumbersome, 2 – a bit cumbersome, 3 – not at all cumbersome

As data included in table 3 indicate – the average evaluations of respondents' region on financial burden of housing costs does not differ statistically different with level of significance 0,000.

Very often regional differences are measured and compared between territories – urban and rural areas of the country as it was mentioned in scientific publications analysed above that there are huge differences by this aspect in many other countries. Our question was – how the situation is in Latvia?

Main statistical indicators on respondent's evaluations by households in Latvia by territory (urban and rural areas) on financial burden of housing costs in Latvia in 2017 are included in table 4.

Table 4

**Main statistical indicators of financial burden of housing costs in Latvia territories in 2017**

TERITORY	N	Mean	Standard Deviation	Standard Error of Mean
Urban	4162	1.82	0.716	0.011
Rural	1852	1.87	0.705	0.016

Source: author's calculations based on EU-SILC, n=10933

Evaluation scale: 1-3, where 1 – very cumbersome, 2 – a bit cumbersome, 3 – not at all cumbersome

As data table 4 indicate – the evaluations of respondents from rural and urban territories are very alike with more differences in evaluations by urban respondents – indicated by bigger standard deviation. To be precise in conclusions it was used t-test to test statistical hypotheses on differences of mean evaluations by respondents from urban and rural territories on financial burden of housing costs – results are included in table 5.

Table 5

**Independent samples test of financial burden of housing costs in Latvia territories in 2017**

Variance equality or inequality	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Standard Error of Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	9.593	0.002	-2.666	6012	0.008	-0.053	0.020	-0.092	-0.014
Equal variances not assumed			-2.681	3600.825	0.007	-0.053	0.020	-0.092	-0.014



Source: author's calculations based on EU-SILC, n=10933. Evaluation scale: 1-3, where 1 – very cumbersome, 2 – a bit cumbersome, 3 – not at all cumbersome

Independent Sample t-test of differences of responses revealed that there is no significant territory-related relationship in financial burden of housing costs evidences by the level of significance with is 0.008 and 0.007.

According to Central Statistical Bureau of Latvia data unsatisfactory housing conditions are characterized with assistance of following housing quality questions: leaking roof, damp walls, floors, roof or foundation of house, or rot in window frames or floor, too dark, not enough daylight, no bath or shower, no flushing toilet. It is considered that household has unsatisfactory housing conditions if it indicates at least one housing problem mentioned before (CSB, 2019).

Table 6

**Main statistical indicators of level of satisfaction on housing conditions (in %) in regions of Latvia in 2017**

Analysed aspect	Evaluation	Rīga	Pierīga	Vidzeme	Kurzeme	Zemgale	Latgale
ABILITY TO MAINTAIN SUITABLE HEAT AT HOME	Yes	83,5	90,5	90,2	92,0	85,9	83,2
	No	16,5	9,5	9,8	8,0	14,1	16,8
THE HOUSE HAS A BATH OR SHOWER	Yes, for household use only	95,0	87,4	72,0	85,7	82,1	69,7
	Yes, for sharing	1,2	0,8	0,5	0,3	0,5	0,3
	No	3,8	11,8	27,5	14,0	17,4	29,9
INDOOR TOILET WITH WATER CLOSET	Yes, for household use only	95,0	88,6	74,4	86,3	82,5	72,7
	Yes, for sharing	2,5	0,7	0,9	0,9	0,7	0,5
	No	2,5	10,7	24,7	12,8	16,8	26,8
TOO DARK, NOT ENOUGH DAYLIGHT	Yes	11,3	4,4	10,7	7,6	7,7	11,4
	No	88,7	95,6	89,3	92,4	92,3	88,6

Source: author's calculations based on EU-SILC, n=10933

Data of the table 6 indicate that housing conditions in regions in Latvia differ. The largest ability to maintain suitable heat at home is in Kurzeme, Pierīga and Vidzeme region while more than 16% of respondents in Rīga and Latgale region cannot maintain suitable heat at home. Majority of households with a bath or shower only for households' use are Rīga and Pierīga region, but Latgale and Vidzeme region show the biggest percent of households without bath or shower. Similar situation is with indoor toilet with water closet in regions in Latvia – around one fourth of households in Vidzeme and Latgale region do not have one, but majority of households in Rīga has indoor toilet with water closet only for household use. Shareable bath, shower or toilet is not so common practice in Latvia. The brightest houses are in Pierīga region where only 4,4% of houses is not enough daylight, while in Latgale and Rīga region are the majority of too dark houses. The statistics of unsatisfactory housing conditions indicate that the worst situation is in Latgale region, followed by Vidzeme region and Riga region.

**Conclusions, proposals, recommendations**

1. The analysis of the theoretical research revealed that housing cost burden have been researching from different perspectives as income, ownership, affordability, housing conditions, satisfaction etc. and this issue is important across the world – especially in countries which are overpopulated as China and Indonesia, however analysis in the context of regions of the country is not so common.
2. Share of housing costs in disposable household income in all Baltic countries are under the EU Average level – housing costs in Latvia is bigger than in Estonia and Lithuania who spend for 5% less for housing expenditure,

while the biggest spending for housing is in Greece, Denmark, Bulgaria and Germany, but Cyprus and Malta have the least.

3. The analysis revealed that there are differences in evaluations for housing cost burden in different regions in Latvia and they are statistically different. The best situation where majority of respondents do not feel cumbersome at all with financial burden of housing costs are in Rīga and Kurzeme region, however situation in other four regions is worse. Special concern is about Zemgale and Latgale regions where majority of respondents feels very cumbersome with financial burden of housing costs.
4. Independent Sample t-test of differences of responses revealed that there is no significant territory-related (urban and rural areas) relationship in financial burden of housing costs.
5. The statistics of unsatisfactory housing conditions indicate that the worst situation is in Latgale region, where more than 25% of houses lack of toilet and bath or shower as well as there is not enough daylight and houses cannot maintain suitable heat at home. Large part of households with unsatisfactory housing conditions are also in Vidzeme region and Riga region.

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## INTERACTION OF CONSTRUCTION COSTS AND OUTPUT IN LATVIA

*Martins Danusevics, University of Latvia*

**Abstract.** Growth of an economy is strongly linked with the growth of the construction sector. An increased construction output must influence the costs in this area. Analysis of the construction output and construction costs in Latvia for the time period since 2006 until 2017 shows an average effect. The main goal is to forecast construction costs and output in Latvia. Comparative analysis of costs and output dynamics was done, and a general trend can be proven, but heteroscedasticity is being observed. The effect of construction output on costs is limited in scale, but similar in general tendency and author offers his discussion for possible reasons for inconsistencies in construction sector changes.

**Keywords:** *construction costs, construction output, salaries, building material costs.*

**JEL code:** L74

### Introduction

Latvian construction market has seen a very dynamic development during the 21<sup>st</sup> century. During the peak periods of 2006-2007 the construction output has seen some staggering double digits growth per year. But the 2008-2010 economic turmoil resulted in construction output dropping by more than 40% in one year. One must conclude, that the construction market is very prone to high amplitude on growth rates and instability. At the same time the construction costs are of great interest to many subjects in the economy. The private sector is dependent on the costs and a high unpredictability of construction costs can force certain customers to delay initiation of construction projects until a more stable time moment. Governmental institutions are a significant customer for the road, bridge and infrastructure construction companies and are following the construction cost fluctuations with unease. One of the reasons is the budgeting issue – unstable costs result in budgeting and price setting issues. Another reason is productivity – high rise of construction costs due to increase in employee wages can lead to decreased productivity in the construction market.

In order to understand the general shifts in the construction sector, Author is going to look into the dynamics of both the construction output and construction costs for the time period since 2006 until 2017. Further forecasts will be made to assess the possible development in short-term. Increased construction output should lead to a higher demand for workforce and building materials, hence increased overall construction costs. To test this assumption Author will analyse the causal links between construction output and costs overall and per sub-sectors.

### Literature Review

There are two main sources of literature for this research paper. Primarily, author looked into articles in journals covering approaches to analysis of construction costs in different countries and theoretical opinions on these matters. Some literature is devoted to prediction of construction costs for individual projects. Research of Emsley et al (2002) looks into application of data modelling using neural network approach to predict the total construction costs. In this case a dataset of nearly 300 building projects was used to collect necessary data. Elhag et al (1999) creates a system of ranking influencing factors. A scale for rating each factor ranging from 1 to 3 is used with an increased significance of the respective factor. The factors are based on individual projects, hence this approach can't be directly used on a national scale. Nevertheless the concept of scaled weight of factors can be considered by applying to macro-level factors that influence the construction market of a nation. Moon et al (2017) describes construction cost forecasting Construction Cost Index. This index can be used for temporal correction of cost data, planning, fluctuation etc. It is widely used by the US construction industry for construction projects. Its use is limited to an individual project, but the calculation of the CCI is based on macroeconomic data. Authors developed a CCI forecasting model employing

ARIMA method to model further tendencies of the CCI. Interventions were used to decrease the influence of events as recessions or policy changes.

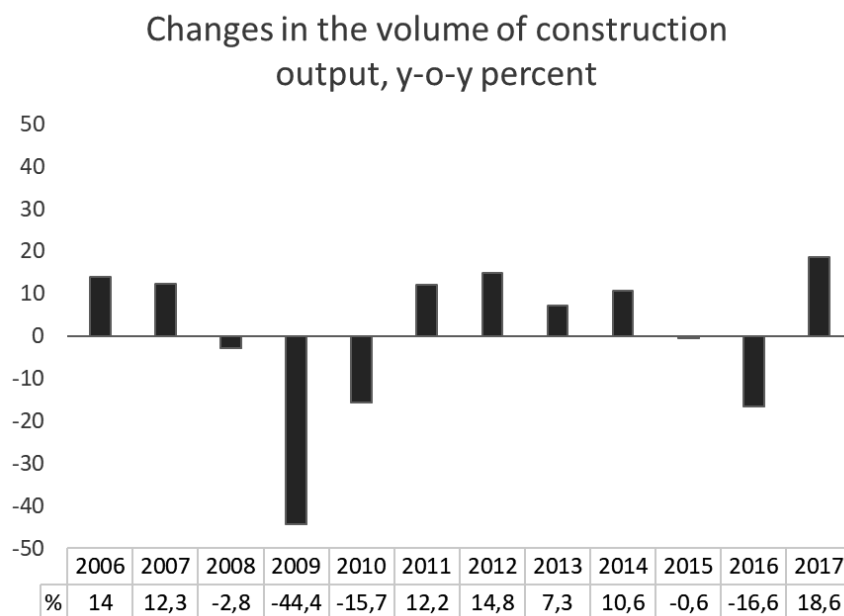
The methodological approach has been studied by Hwang (2011) and Emsley et al. (2002). A significant amount of factors, that contribute to the costs in the construction area have been analysed by Cheng (2014) and in the collective research by RS Group (2016) for the Ministry of Welfare of Latvia. Long (2017) even argues, that the increase of construction costs can have a political ramifications by limiting the state options in finishing infrastructure projects.

Secondarily, research on specific countries has been used. As the main source Author can mention the Latvian research by Inovatīvās Konstrucijas (2018), a group research for the Ministry of Economics of Latvia aimed at analysing and forecasting both construction output and construction costs for Latvia. Additional foreign research has been done on this topic by Elhag et al. (1999) and Gyourko et al. (2006).

In general there is scarcity of research looking into effect of output and costs in construction market on a national level.

### Research results and discussion

The construction market in Latvia has seen a lot of turmoil since 2006. The early years of this period saw a healthy construction output growth of 14% in 2006 and 12.3% on 2007. After these years Latvian economics were thrown into economic recession never seen since the previous century. The market bubble in the immobility market has been names as one of the main reasons for the economic recession in Latvia. That implies, that a drop of construction output should be evident during the recession. This was the case in 2009 with a staggering construction output decline of 44.4%. The construction market regained it's growth only in 2011. During the period of 2011-2014 the growth kept hovering around the 10% mark. 2016 came with new correction and a temporary decline of 16.6%. This time this could not be called a sign of a new recession, since the market recovered in 2017 with a record growth of 18.6%.



Source: author's constructed based on Central Statistical Bureau of Latvia data

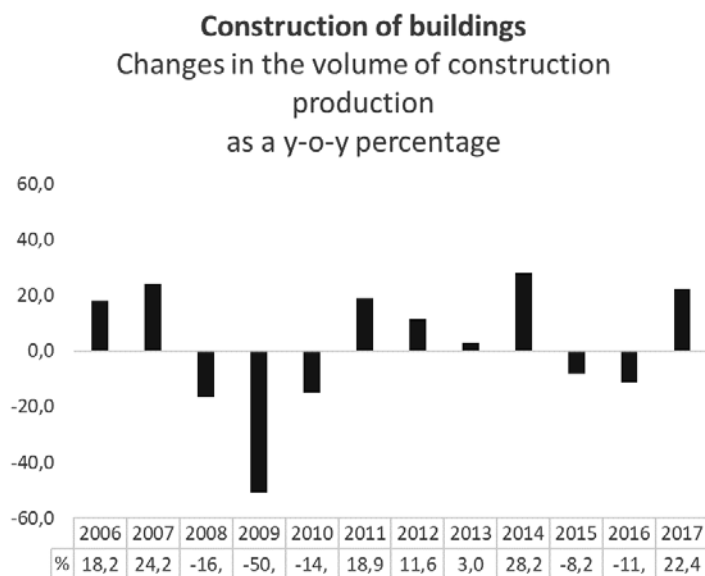
Fig. 1. Construction output in Latvia from 2006 till 2017, year-on-year percent changes

Any market, that is not homogenous, has to be analysed by splitting it into smaller details. In our case the construction sector is not an exception. This is a very varied sector with different areas that might have different development tendencies. That is also the case. The main areas, which will be differentiated in this paper, are:

1. Residential and non-residential buildings
2. Transport objects

3. Urban infrastructure objects
4. Civil engineering.

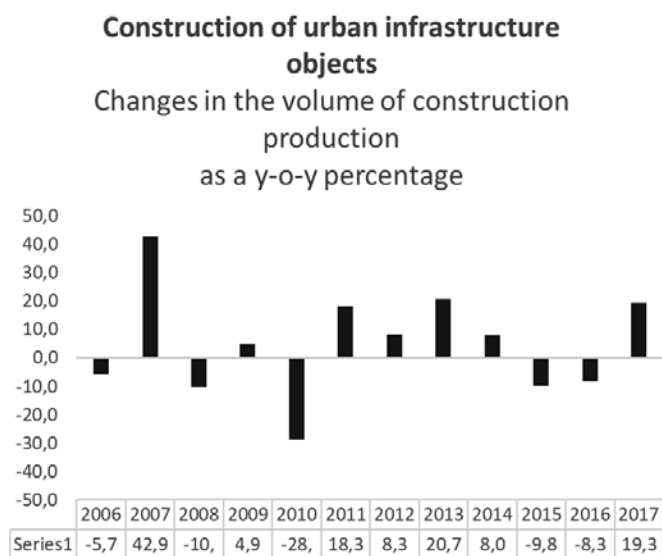
The residential buildings sector has seen a steady growth since 2011. Even the seasonal growth has been positive during winter seasons that usually have a lower construction output. The highest growth peaks have been reached in Q3 2012 with 7.3% growth relative to the corresponding quarter of the previous year. Even during the slowest growth periods in 2013 the growth was 0.6%.



Source: author's constructed based on Central Statistical Bureau of Latvia data

**Fig. 2. Construction output of buildings in Latvia from 2006 till 2017, year-on-year percent changes**

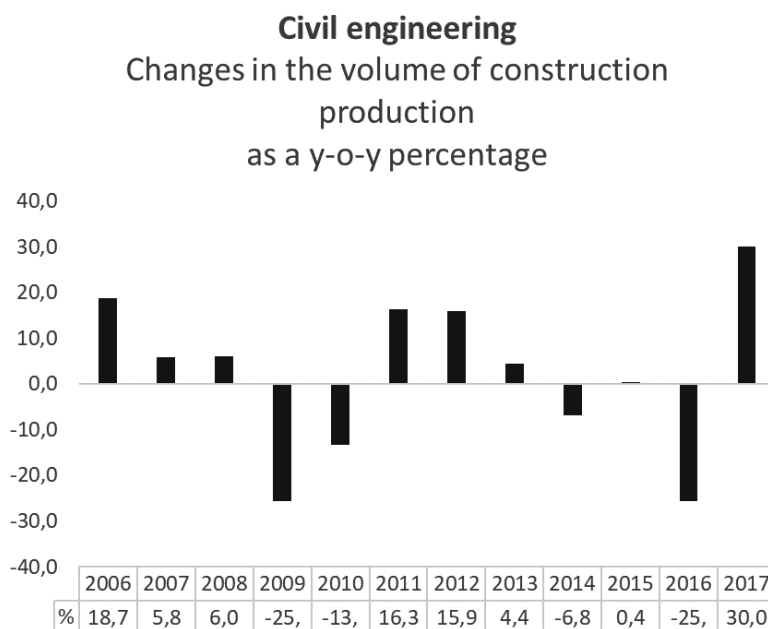
Non-residential buildings market hasn't been as stable in recent years as the residential building market. There have been no quarters with negative growth since 2012 and that is a good sign on its own. But the amplitude of growth rates is much higher than for the residential buildings market. We can observe more quarters with a growth below 1 percent – there have been 8 such occurrences in the observed period. In comparison there were only two periods with growth below 1 percent in the residential buildings market.



Source: author's constructed based on Central Statistical Bureau of Latvia data

**Fig. 3. Construction output of urban infrastructure objects in Latvia from 2006 till 2017, year-on-year percent changes**

A quite different picture unfolds when observing the tendencies in the construction output of transport objects. Three quarters of 2010 show a decline in construction output and both 2015 and 2016 have a decline in construction output. At the same time the small recessions are compensated with a stark growth in 2011 and 2012. The transport infrastructure is a very specific area of the construction sector. The two sub-sectors we looked at previously (residential and non-residential buildings) are mostly projects undertaken by private customers. Those could be immobility developers, private entrepreneurs, individuals etc. In the case of transport objects the main contractor usually is the government. Transportation objects include roads, bridges, canals, seaports, airports, tunnels and other infrastructure objects. Rarely are such projects financed by private entities. Governmental procurement is linked to the available financing by the State. In Latvian case significant part of transportation infrastructure projects are co-founded by the European Union. And the current financing framework coincided with the drop in construction output in 2014 and 2015. Before the drop the allocated funds have been actively used for construction and that manifests in the growth in 2011-2013. Considering the current financing framework we could expect another drop after 2019.



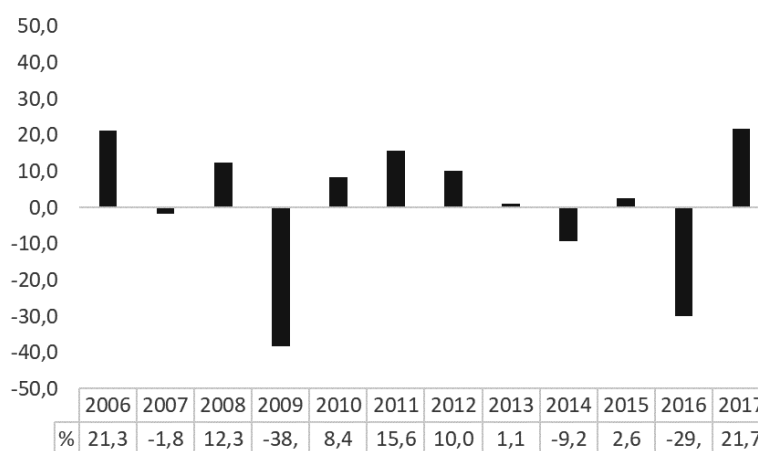
Source: author’s constructed based on Central Statistical Bureau of Latvia data

Fig. 4. Construction output of civil engineering in Latvia from 2006 till 2017, year-on-year percent changes

A similar development to the transport object construction can be observed in the case of underground main pipelines construction. This sub-sector also heavily relies on governmental projects, since private entities are not prone in ordering construction of underground infrastructure (water, sewage, electricity, telecommunications etc.). The drops haven’t been so severe as in transportation infrastructure, but the negative growth years coincide with the same 2015-2016 as previously observed.



### Transport object construction Changes in the volume of construction production as a y-o-y percentage



Source: author's constructed based on Central Statistical Bureau of Latvia data

Fig. 5. Construction output of transport objects in Latvia from 2006 till 2017, year-on-year percent changes

By summarising the comparison of the dynamics of residential, non-residential, transport and underground main pipes construction outputs we can conclude, that the summary construction output in Latvia is summation of, sometimes, opposite forces. That shouldn't be viewed as a weakness of the market. On the contrary, Author believes, that this is a sign of market strength in being able to compensate weakness of one sub-sector with the strength of another sub-sector. Such a combination could help Latvian construction sector to overcome possible recessions that await us in the future.

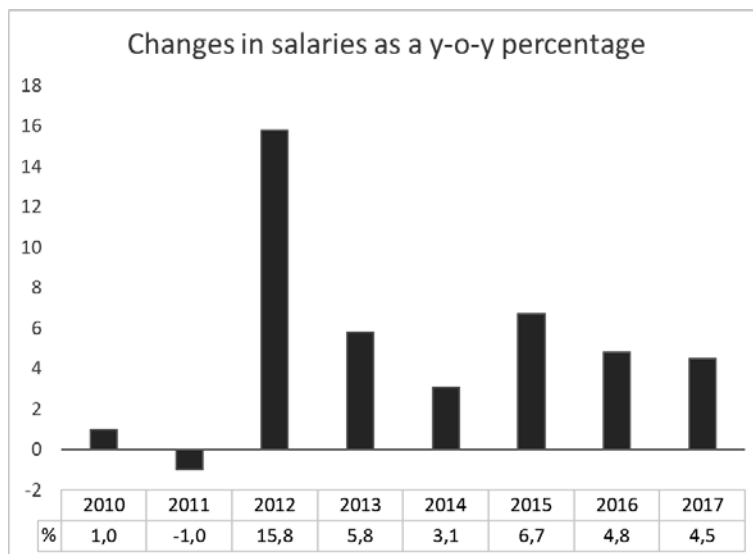
The second significant dynamic, that is of interest for this research, is the growth of construction costs. We will look at the construction costs in several sub-groups. Similar to the construction output, construction costs consist of several groups that might have different tendencies. We will look at:

1. Salaries in the construction sector;
2. Cost of building materials;
3. Maintenance and operating cost of machinery and equipment.

The first component – salaries, has been growing since 2012 in the construction market. The highest level of growth was observed in 2012 with a staggering 15.8% increase, followed by a one-digit growth between 3.1% and 6.7% per year. Previously the fast growth of salaries in the construction market in Latvia was linked with the forming of a bubble during the recession around 2008. In this case we could speculate about a new bubble, but instead we shall look at other possible causes for steady growth. And in the case of Latvia a significant role should be left for the activities of governmental bodies. Construction sector has been known as a sector with the highest level of grey economy and large share of undeclared salaries. As a result Latvian governmental institutions (Ministry of Economics, State Revenue Service and others) have been implementing rules aimed at curbing illegal activities. Few of the activities are:

1. Introduction of electronic on-site registration for construction workers;
2. Requirement to keep personnel contracts on-site;
3. Additional audit for companies that pay below average salaries;
4. Stricter requirements in State tenders for companies regarding average salaries.

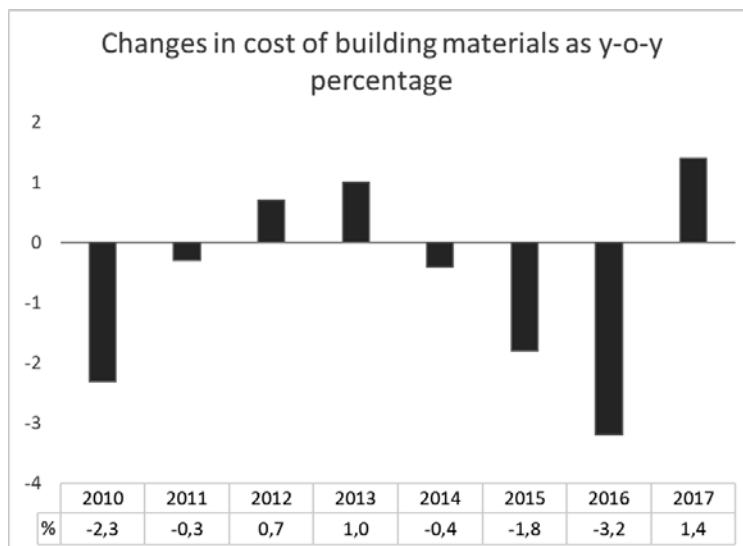
Author believes that these activities have motivated the construction companies to legalize their activities and move out of the grey-economy. As a result we are observing increase of the salaries based on statistic data that might actually show increased legalization of already de-facto salaries that have been hidden from official accounts.



Source: author’s constructed based on Central Statistical Bureau of Latvia data

Fig. 6. Changes in salaries in construction sector in Latvia from 2010 till 2017 in year-on-year percent

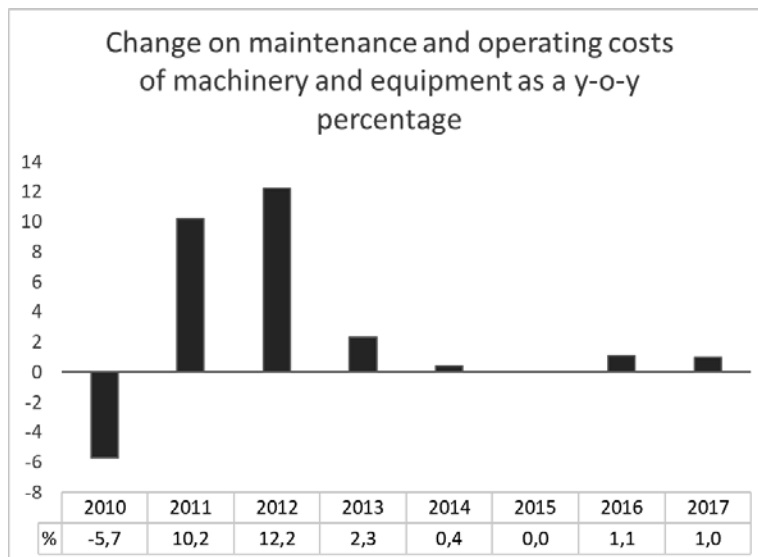
The cost of building materials has been fluctuating very wildly. The change is absolutely different from the movement of salaries. At the same time the range of fluctuations is much smaller. The highest growth of 1.4% in 2017 and lowest decline of 3.2% in 2016. The building material market is very concentrated in Latvia – both from the retail and production point of view. As a result, the prices should have been driven to their optimal point without any further potential for significant decrease.



Source: author’s constructed based on Central Statistical Bureau of Latvia data

Fig. 7. Changes in building materials costs in construction sector in Latvia from 2010 till 2017 in year-on-year percent

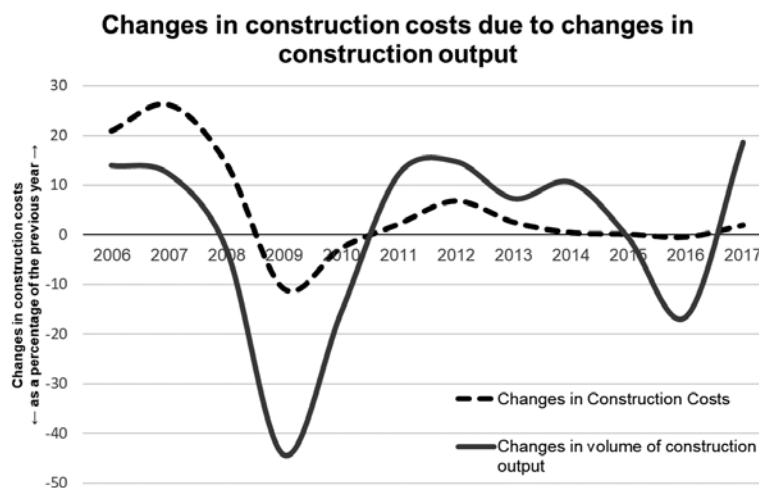
The maintenance and operating costs of machinery and equipment is a relatively small part of the total construction costs in Latvia. And since 2013 there has been a lot of movement here. The changes have been low, in 2015-2017 the growth been 0.0%, 1.1% and 1.0%. We can conclude that this market is very stable and well amortised, so we don’t expect significant changes anytime soon.



Source: author's constructed based on Central Statistical Bureau of Latvia data

**Fig. 8. Changes in maintenance and operating costs of machinery and equipment in construction sector in Latvia from 2010 till 2017 in year-on-year percent**

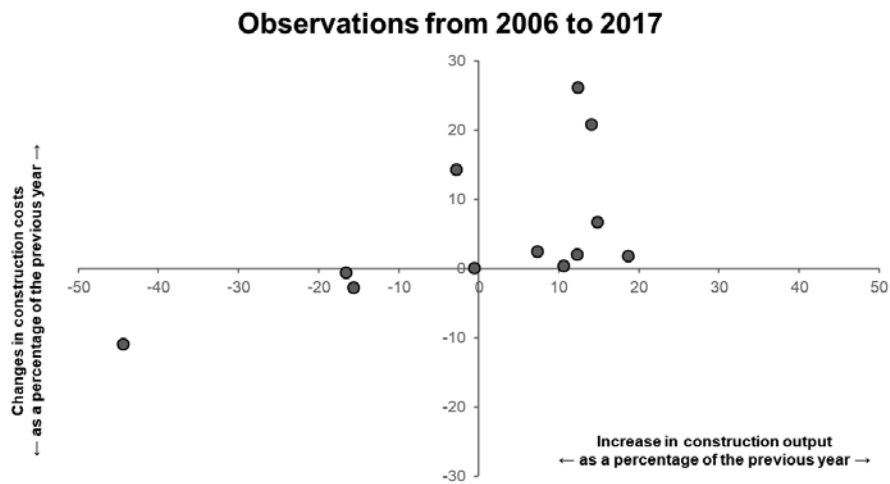
After we have looked at the time series of construction outputs and construction costs, we must look at the interaction between these two indicators. If we reason from the point of view of economic forces, there must be a causality here. If the demand for construction services increases, then it manifests itself in increased construction output. This output is the supply provided by the construction companies. To increase the construction output, the construction companies must increase demand for employees and increase their demand for construction materials, machinery and equipment. An increased demand for these goods and services should affect the prices. As a result, we should expect increase salaries (as supply of qualified personnel might be limited) and increase costs for goods used in construction.



Source: author's constructed based on Central Statistical Bureau of Latvia data

**Fig. 9. Development of construction costs and construction output in Latvia from 2006 till 2017 in year-on-year percent**

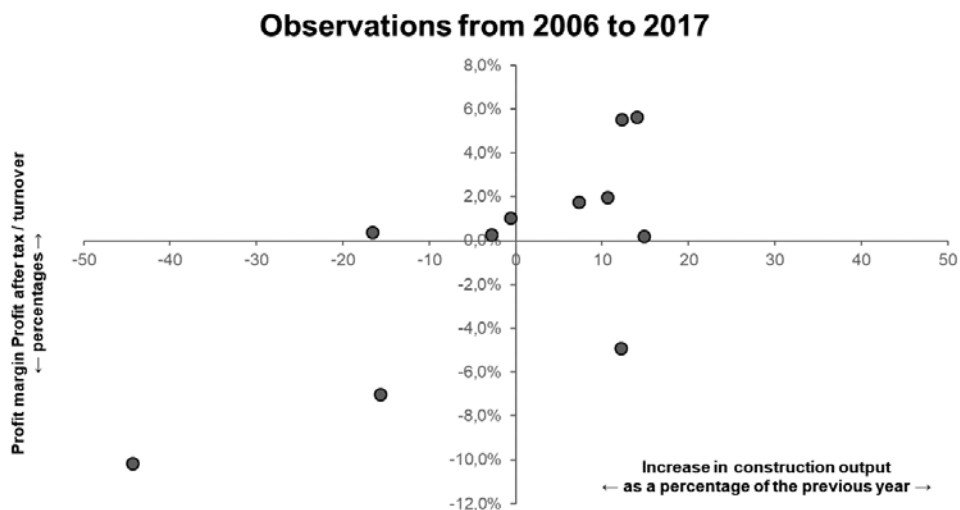
In general, we do observe the effect mentioned above. During periods of growth of construction output (2006-2007; 2011-2014; 2017) the construction costs also increased. At the same time during decline of construction output (2008-2010; 2015-2016) the construction costs either declined or had a low growth rate. But at the same time, we have to admit, that the relation doesn't appear to be very strong. So we have to look into these effects a bit deeper to determine, if there is a quantitative link and of the effect might be time dilated.



Source: author's constructed based on Central Statistical Bureau of Latvia data

**Fig. 10. Scatter plot of increase in construction output and construction costs in Latvian companies, 2006-2017**

The correlation chart for changes in construction output and changes in construction costs shows a general increasing tendency. The correlation coefficient between these two indicators is 0.587. We can interpret that as an average correlation, the effect can be observed, but is not very strong. The regression analyses yields us with a regression parameter of 0.334. Each increase of construction output by one percent point results on an increase of construction costs on average by 0.334 percent points. We can conclude, that the growth of construction costs is less varied as the growth of construction output. An increased dispersion of construction costs can be observed at higher construction output levels indicating heteroscedasticity in our dataset.



Source: author's constructed based on Central Statistical Bureau of Latvia data

**Fig. 11. Scatter plot of increase in construction output and profit margin in Latvian companies, 2006-2017**

One of assumptions for lower cost increase during the high growth periods and high decline periods is the ability of the construction companies to create dumpers for their finances. Even in dire economic situations construction companies are using their profit from successful years to compensate for the losses. They are willing to bare these losses, since maintaining of the market position is much more important than short-term losses.

**Conclusions, proposals, recommendations**

1. The construction output in Latvia has been unstable and prone to large fluctuations, very difficult to forecast using conventional statistical methods. Author recommends use of expert methods for further forecasting of the development of construction output.
2. Construction costs are linked to the construction output, but the correlation is average. An increase of construction output in Latvia by one unit causes the costs to increase on average by 0,334 units. The responsible government institutions are recommended to use their procurement as an instrument to normalize construction market growth, that will stabilise costs.
3. Construction sector salaries is the most volatile component of the construction costs. Other costs (building materials, maintenance and operating costs of machinery and equipment) have lower variances. The trends should become more stable since the State activities in fighting grey economy in construction market have passed their high point.
4. Further research should be done on the scale of factors, that influence both construction output and construction costs. Such a research could entail use of expert methods and factor analysis.
5. The result of this research should be used by state agencies for budgetary planning for governmental construction projects, that involve long-term financial allocation.

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## VOLUNTARY PENSION FUNDS CONTRIBUTION IN THE PENSION SYSTEM OF LATVIA IN COMPARISON WITH ESTONIA AND LITHUANIA

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*Biruta Sloka, University of Latvia*

**Abstract.** Pension system formation is one of the questions on the daily agenda for most countries of the world. Most attention and discussion focus on the first two pension system pillars – state compulsory unfunded pension scheme and the state-funded or accumulated pension scheme in pension funds, both based on mandatory contributions. Private voluntary investments are the “third pillar” of pension systems and the gear to ensure an adequate level of income at retirement age by creating private pension funds. Voluntary savings are becoming the source of retirement income received on a monthly basis in line with the progress of private pension funds and expansion of the choice of pension schemes. This research task is to evaluate the 3<sup>rd</sup> pension pillar's current results in Latvia and create a comparison with Lithuania and Estonia. The research outlines the common and the differences between engagement in financial future planning decisions of the population in Baltic States and existing legislative frameworks to promote the formation of private pension funds. It rises the research question on the importance of the role of voluntary savings in each country as well as gives recommendations for further voluntary savings advancement. Research methods used are the analysis of scientific publications, acts of legislation and previously conducted research, analysis of statistical data on the development of voluntary pension fund contributions in Latvia and comparison with Lithuania and Estonia.

**Keywords:** *pension system, voluntary savings, pension funds, private pension.*

**JEL code:** M10, M38

### Introduction

Latvia, like other developed country population is getting older by putting the pressure on the state budget and work age people tax load. It intensifies the necessity for improvements of the pension system principles. Taking into consideration the given recommendations of World Bank, OECD and Europe Union institutions, pension system policy makers of Latvia are working towards the advancement of it. There are researches and future projections provided on the optimal combination of pension pillars built on the example experiences of other countries. The common recommendation is to create as balanced as possible pension system including all three pillars or elements. For the countries with the dominance of 1<sup>st</sup> pillar this is a real challenge as it requires a transformation of people understanding about their income after retirement, by enlarging their involvement and level or responsibility for the future.

The aim of this research is to evaluate the 3<sup>rd</sup> pension pillar current results in Latvia and create comparison with Lithuania and Estonia. All three Baltic States as the post-soviet countries experienced principal changes in pension system. The tasks of the research are 1) analyse the scientific publications and previous conducted research on voluntary pension system's development; 2) analyse academic literature on pension system development in all three Baltic countries; 3) create comparative analyses of the 3<sup>rd</sup> pension pillar contributions; 4) investigate level of people engagement and tax reliefs to assess the role of the private pension savings collected on a voluntary basis in Latvia, Lithuania and Estonia; 5) observe the possible common patterns on voluntary pension system development in the Baltic countries. Voluntary savings for retirement and private pensions have been introduced in all the Baltic countries on quite an early stage of current pension system. Yet, there are not enough high-level scientific publications and comparative analyses provided focusing on the voluntary savings for retirement behaviour in these three Baltic countries.

To fulfil the research aim the research methods used are: analyses of the academic literature, scientific publications and acts of legislation, analysis of statistical data on the development of voluntary pension fund contributions in Latvia,



Lithuania and Estonia. Academic literature has been analysed to draw a framework of how the three Baltic States - Latvia, Lithuania and Estonia - are enhancing their pension systems. The provided researches and wellbeing policies papers enlighten the topicality of the 3rd pension pillar and necessity to create a sustainable pension system as soon as possible. In order to plan future developments, it is important to evaluate existing situation. Therefore, analyses of private pension fund activities in Latvia have been provided and two comparative ratios have been created in order to compare Latvia with its neighbour countries – Estonia and Lithuania. Analysis of statistical data on the assets of the third pillar pension plan and the membership is included in the paper.

To create the empirical analysis on voluntary pension plans implemented in Latvia, Estonia and Lithuania, statistical data has been collected from various sources, such as reports of Financial and Capital Market Commission of Latvia, Estonian Financial Supervision and Resolution Authority, reports of Bank of Lithuania, European Commission data as well as private pension service provider published information.

### **Literature Review**

The society's wellbeing policy makers and academic researchers all over the world are deliberating the best possible constructions of national pension systems: their components, structure and conditions. Topicality of pension systems raised during last years as the consequences of financial crises and necessity to constrain national social budget expenditures. International organizations such as the Organisation for Economic Cooperation and Development (OECD), the World Bank, European Central Bank as well as different Europe Union institutions are providing permanent monitoring of national pension system indicator improvements and legislation changes, conducting researches, publishing data and giving recommendations for the possible further pension systems enhancements.

OECD Pension outlook issue in 2018 (OECD, 2018) have initiated discussion about primary objectives of the pension systems – putting in the foreground income security, which includes “poverty relief, consumption smoothing and insurance against risks during working life and in old age”. Sustainability and adequacy have been named as the secondary goals of pension systems together with income distribution between poorer and richer people as well as reaching the largest possible exposure of system participants. However, threat to reduce sustainability is the main concern for the pension system policy makers and academy when analysing the consequences of people ageing, especially in the developed countries (Walker, 2019).

The international organizations as well as academy in their publications agree on the general structure of pension systems. It did not change significantly since the World Bank in its policy research report in 1994 presented an idea of pensions multi-pillar system. It was suggested as the way to separate the redistribution and saving functions in different forms or so-called pillars. The three basic pillars were specified as following: (I) a mandated, unfunded, and publicly managed defined benefit system, (II) a mandated, funded, and privately managed defined-contribution scheme, and (III) voluntary retirement savings (The World Bank, 1994). Later on, in year 2005 the World Bank researchers proposed 5 pillar system by adding to the existing ones - “0” pillar as the basic level pension to reduce the risk of poverty and an additional pillar on the top – the 4<sup>th</sup>, the “nonfinancial” pillar that would include family support and other social benefits. The latest researches stay on the 3-pillar system since the first pillar typically includes the basic guaranteed pension payments for poorer part of people and the 5<sup>th</sup> pillar hasn't become the focus point so far.

During the last decade the main subject of discussions was the evaluation of the mandatory payment system into state social budgets and pension funds, the national regulations established legislative frameworks, governments given promises and possibilities to fulfil them. Special attention has been paid to “pension privatization” – pension system reforming process carried out in a great part of Latin America starting from 1980s and later in former socialist countries in Europe, including Latvia (Kogut, 2008; Hu, Manning, 2010; Coman, 2011; Roberts, 2010). The pension

privatization was the World Bank's recommended way, how to improve sustainability of pension systems and soften responsibility for retirement savings of governments by moving it to the individuals. All three Baltic countries followed the developed country best practises and introduced the 2<sup>nd</sup> pension pillar with defined time schedule of when a certain part of social tax will be invested into the pension funds.

The pension reform in Latvia was carried out, believing that all three parts of the new multi-pillar pension system will stabilize each other, i.e. they will offset potential financial and demographic risks. By realizing the intention to move from a full state liability pension to each worker's ownership, a pension system has been set up, consisting of 3 parts:

- 1<sup>st</sup> Pillar - state compulsory unfunded pension scheme or so-called *Pay-As-You-Go*: based on the generation solidarity;
- 2<sup>nd</sup> Pillar includes the state funded or accumulated pension scheme: part of the social contributions are accumulated and invested in the financial and capital market and bank deposits;
- 3<sup>rd</sup> pension Pillar is private voluntary pension scheme: part of income is invested in a private pension fund by individual or by its employer.

Financial crises came with the pressure on states budget capacities to cover the 1<sup>st</sup> pension pillar financial needs. It resulted in reduction of contributions into pension funds and consequently diminished the importance of the 2<sup>nd</sup> pillar. This and drop of investments fund return rates raised the disputes on the privately managed 2<sup>nd</sup> pension system pillar input in future pensions adequacy level (Ebbinghaus, Whiteside, 2012). The researchers analysed effectiveness of provided pension reforms and questioned the reasonability of shifting investment risk to the individuals for too high price and even developed an action plan of how to reverse the pension privatization with the next reform (Ortiz *et. al*, 2018).

Several countries, including Estonia, Latvia and Lithuania, reduced the share of contributions into 2<sup>nd</sup> pillar companies by downsizing the individual accounts, other countries – Poland in year 2011 and Hungary in year 2010, terminated individual accounts in pension funds and transferred them back to the national Pay-As-You-Go system budgets (Ortiz *et. al*, 2018). Later Latvia introduced corrections into contribution rates of social tax into 2<sup>nd</sup> pillar pension funds – it was decided to keep them on 6% level instead of previously specified 10%. Since current pensioners in Latvia are receiving very small part of pension from the 2<sup>nd</sup> pillar (because of the short duration of the scheme), the real effect of the 2<sup>nd</sup> pillar cannot be fully assessed yet (Rajevska, 2013). The author presumes the topicality of effectiveness of 2<sup>nd</sup> pension system pillar in Latvia should be further explored.

From June 2019 Poland has been introducing new occupational pension saving scheme, which based on auto-enrolment and shared between employee and employer, so the contributions are to be made in both ways – mandatory and voluntary (Chłoń-Domińczak, 2019). In Estonia there is an ongoing government initiative to make the 2<sup>nd</sup> pillar voluntary from year 2020-2021 with the possibility to opt-out from the system by receiving saved capital before pension age (Eesti Pank, 2019). In Lithuania, from year 2019 new formula (4%+2%) for pension accumulation in voluntary pension funds was established. According to the Parliament of Lithuania (Seimas) approved amendments to the Law on the Accumulation of Pensions and its secondary legislation “the contribution into the pension fund is comprised of 4% of the participant's personal income and 2% of the national average salary as a supplementary contribution paid for a participant out of the state budget. After the consolidation of taxes, i.e. when the nominal earnings will grow, the accrual rates will change” (Parliament of Lithuania, 2003). Governments are looking for the possible instruments on how to lighten their states budget expenditures and maintain future pension systems on an adequate level by involving individuals into decision making for retirement savings.

Academics and pension policy creators are analysing the efficiency of pension systems by calculating the after-retirement income replacement rates calculated from pre-retirement income. According to the OECD Pensions at a Glance report from year 2017 (OECD, 2017) the gross replacement rate for average wage earner of OECD countries was 52.9% and EU 28 countries 58.3%. Latvia got the rate in amount of 47,5% which is higher than other EU countries, such as Poland (31.6%) and Slovenia (38.1%). However, calculations provided by Bank of Latvia economists (Kalniņš, Tkačevs, 2018) give a warning of the negative tendency of further reduction of the replacement rates depending on negative demography trends, growing pensioners after-retirement living period and the low rate of return of pension funds. On year 2080 Kalniņš and Tkačevs have predicted replacement rate in amount of 19.7% in the most pessimistic scenario and 45% in the most optimistic one by calculating the 1<sup>st</sup> and 2<sup>nd</sup> pension pillars together in Latvia.

According to the latest OECD Economic Survey in Lithuania (OECD, 2018) the 1st pillar pension gross replacement rate is forecasted to decline from 34,9% in 2014 to only 17,3% in 2060. Whereas in terms of the 2<sup>nd</sup> pillar the opposite trend is visible – it is expected to grow from 1% on 2014 till 16,7% in year 2060. However, both first pillars together are not expected to exceed 32%. Even more – the net replacement rate of mandatory pillars is forecasted on a level of 24% in a period from 2034 till 2038 questioning the adequacy of the system. For Estonia (OECD, 2017), OECD replacement rates of public pension system range are among the lowest ones, expected to drop to 25% by year 2060.

Both mandatory pension system pillars aim is to increase redistribution among pensioners and avoid poverty. The net replacement rates differ according to pre-retirement income level – the smaller was income – the higher is the replacement rate (OECD, 2018).

The mission of the 3<sup>rd</sup> pension pillar is to give an opportunity for higher income earners not only to cover the gap until the benchmark country replacement rates are reached, but also to give the chance to society to cumulate additional funds for retirement period to keep the living standards on the adequate level. There are countries with pension system strategy that includes strong presence of voluntary savings for retirement – United States, Ireland, Canada, United Kingdom, Japan, New Zealand, Belgium, South Africa and Germany. However, in 2017, the average 3<sup>rd</sup> pillar contribution into the replacement rate in the European Union (including the United Kingdom) was only 3.5%, whereas in OECD countries it was twice as bigger (but still small) - 6.15% (OECD, 2017).

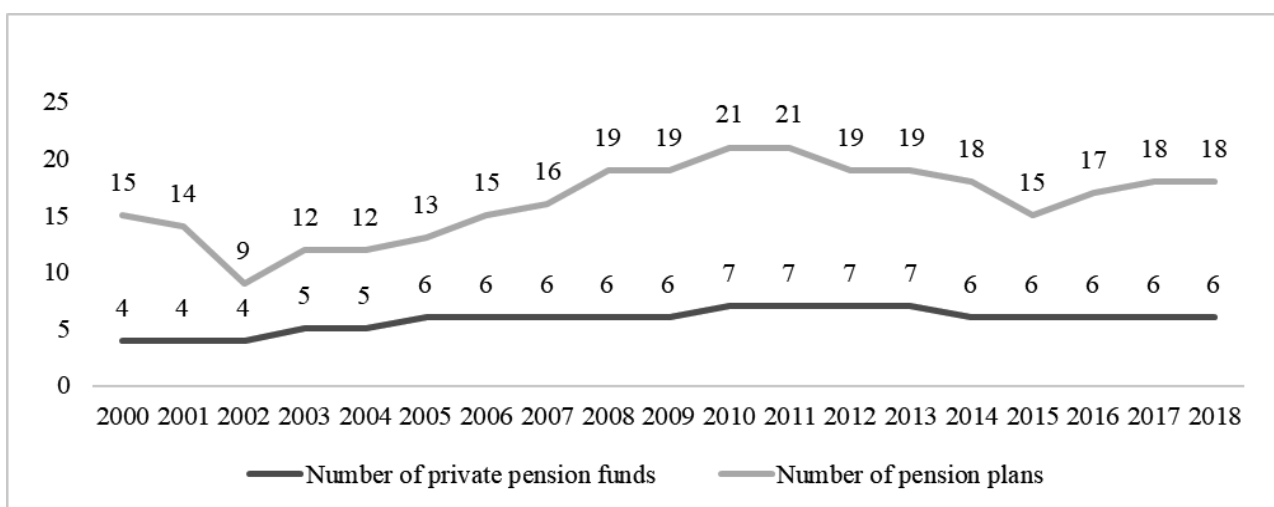
The academic researchers analyse the main factors influencing the level of household voluntary savings for retirement. The financial literacy of the population is one of the most discussed issues and often observed factor. The World Bank is measuring the people financial inclusion impacts since 2011 by creating Global Financial Inclusion (*Global Findex*) database and evaluating access to the bank accounts, making payments, saving, borrowing and managing the risk. (Asli, Klapper, Singer, Ansar, Hess, 2018). However, Lusardi and Mitchell (Lusardi, Mitchell, 2014) according to their research stated that still “many people around the world are financially illiterate” and it is one of the reasons for the inability to make long-term financial decisions. Vivel-Búa, Rey-Ares, Lado-Sestayo, Fernández-López observed financial planning for the retirement decisions from the income perspective and focused on income, socio-economic determinants and determinants of personal or individual nature (Vivel-Búa, Rey-Ares, Lado-Sestayo, Fernández-López, 2019) in Spain. There is suggestion to categorise European society in four groups depending on the “country’ ‘social model’ on the decision to invest in retirement accounts” (Rey-Ares, Fernández-López, Vivel, 2018) as the result of evaluation of factors such as age, household size, income and wealth, levels of formal education, job situation, health status, long-term planning horizons and financial risk aversion. In the Baltic states – Estonia, Latvia and Lithuania the established pension system consists of all 3 pillars, however the existing results of voluntary savings is the least discussed section among researchers, pension policy makers and society. The most attention from the academy has been paid to the structure of the pension system and validity of the first 2 pillars (Rajevska, 2016;

Dundure, 2017) as well as pension funds efficiency measurements (Arefjevs, 2017). Yet, there are researches dedicated to voluntary pensions exposure in CCE region countries (Marcinkiewicz, 2016; Marcinkiewicz, 2018), which demonstrate some similarities, such as the share of voluntary savings for retirement is very small, however growing and largest part of contributions in pension plans have been made by individuals not employers. Researchers emphasise the role of the government to motivate voluntary savings by introducing special income tax regimes which differ for countries and time periods.

### Research results and discussion

#### 1. The 3<sup>rd</sup> pension pillar in Latvia

The 3<sup>rd</sup> pension pillar has been introduced in Latvia just after establishing the existing state pension system by the Law "On Private Pension Funds" (Parliament of Republic of Latvia, 2000). The Law regulates private pension funds, pension schemes and participants, it refers to the individual and group savings in private pension funds. At the end of 2018 in Latvia there were 6 private pension funds and 18 private pension plans (Figure 1).

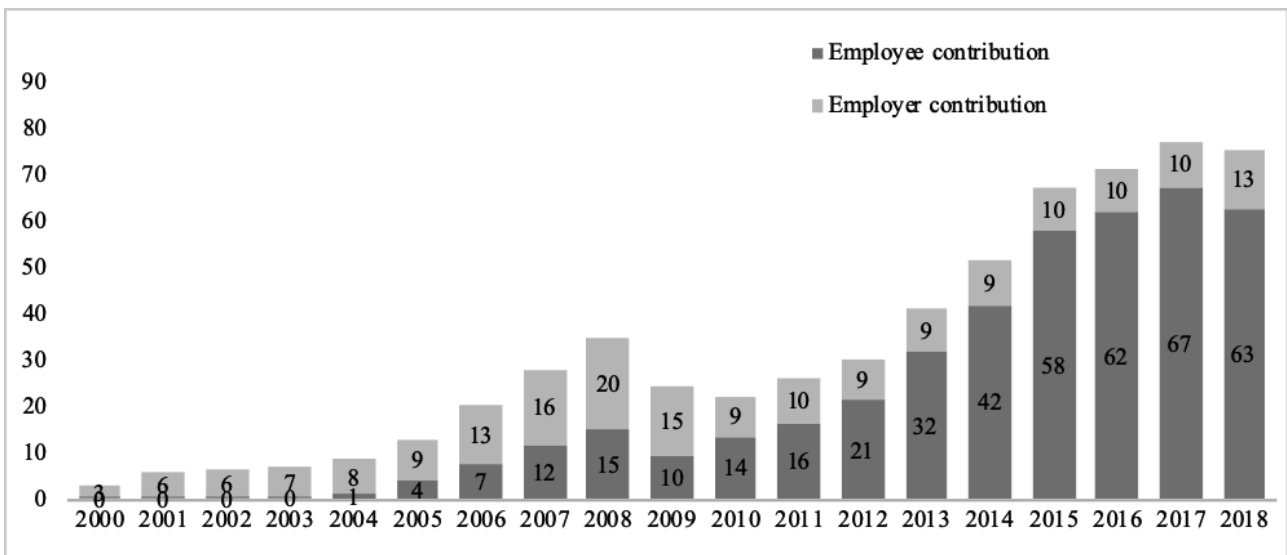


Source: author's construction based on reports by Financial and Capital Market Commission of Latvia, retrieved from [www.fktk.lv](http://www.fktk.lv)

Fig.1. Number of voluntary private pension funds and plans in Latvia, 2000-2018

The Law entitles to establish special tax regime for personal income tax. At the end of year 2019, the personal income tax can be recovered for private contributions to the third pillar of pension and life insurance, which do not exceed EUR 4 000 a year and do not represent more than 10% of gross annual salary (The Law on Personal Income Tax, 1993).

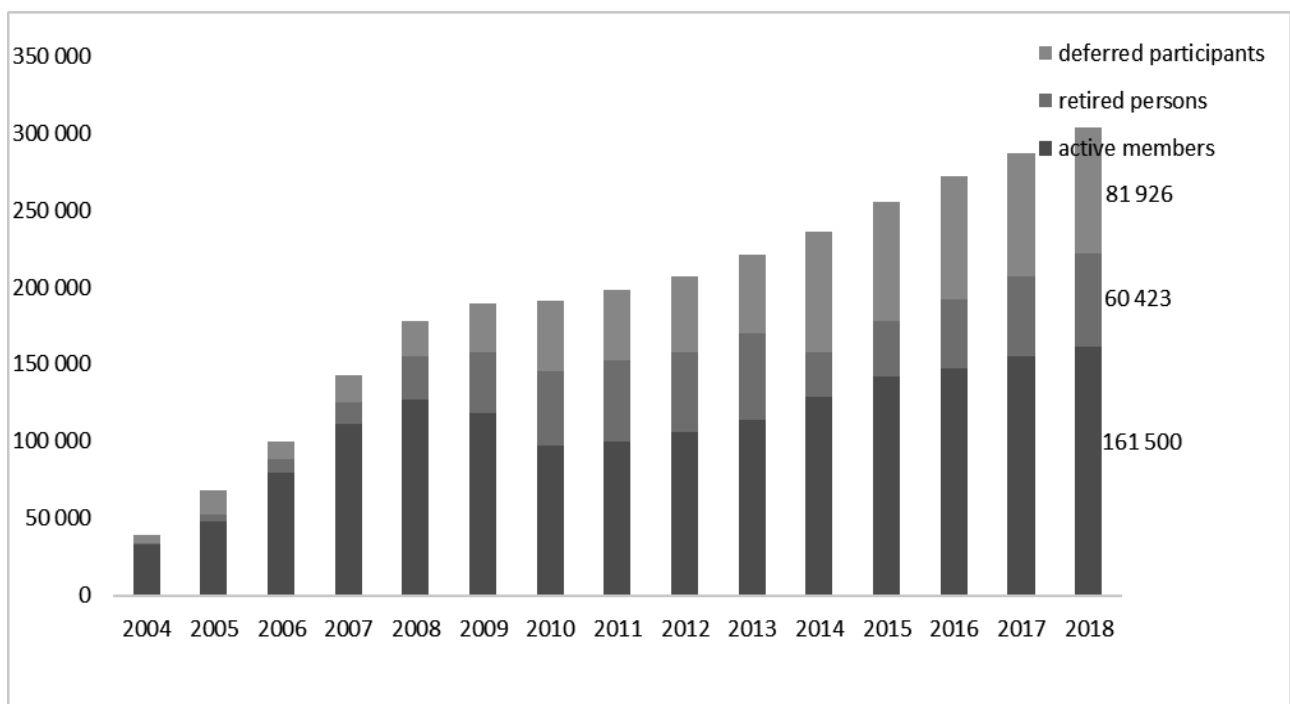
In 2018 more than 80% of contributions in private pension plans in Latvia have been carried out by individuals, yet this proportion was reverse at the beginning of private pensions funds. Contributions to the private pension funds were initiated by the employers. In figure 2 we can observe how the financial crises triggered the contribution reduction and further growth trends of both employee and employers' contributions.



Source: author's construction based on reports of Latvia Financial and Capital Market Commission, retrieved from [www.fktk.lv](http://www.fktk.lv)

**Fig.2. Contributions to voluntary private pension funds in Latvia, 2000-2018, in millions of Euros**

The number of pension plan members is represented in figure 3 and shows the constant growth by reaching 303,9 thousand members in 2018. The calculated engagement rate of the active population of Latvia aged from 20-64 (939 000 people in 2018 according to Eurostat) in private pension plans is 32,36% which can be seen as rather high.



Source: author's construction based on reports of Latvia Financial and Capital Market Commission, retrieved from [www.fktk.lv](http://www.fktk.lv)

**Fig.3. Number of voluntary private pension plan members in Latvia: active, deferred and retired, 2004-2018**

Source: Reports of Latvia Financial and Capital Market Commission. Retrieved from [www.fktk.lv](http://www.fktk.lv).

However, there is a growing part of pension plan members, which are not making contributions every year they are so called deferred participants. In year 2018 the share of inactive pension members was 27%. There is a certain part (20%) of pension plan members already retired and receiving the pension payments. If we calculate the engagement rate of active members of the population, aged 20-64 in Latvia, in year 2018 it reaches 17,2%.

## 2. The comparison between the results of the 3<sup>rd</sup> pension pillar in Latvia, Estonia and Lithuania

Latvia as the member of the European Union since 2004 and one of the OECD countries since 2016 has been analysed and compared with other countries. The closest neighbour countries to Latvia are Estonia and Lithuania. All three countries have a common experience of socialism with the consequences influencing pension system further development.

All three country pension systems are based on three components one of which is voluntary savings for retirement in private or voluntary pension funds. The governments of all three countries carry out the policy of Personal Income Tax reliefs on contributions in the 3<sup>rd</sup> pension pillar. According to data included in Table 1, different strategies can be observed between the governments: Latvia has the smallest limit of share of gross annual income while Lithuania has the smallest aggregated gross income sum as the bases to tax reliefs. From the table it can be assumed that Lithuania's target segment of tax reliefs is population with the smaller income till 7500 EUR a year while Latvia and Estonia are targeting on the equal total level of income – till 40000 EUR a year. Estonia's personal income tax relief is the highest one among the Baltic countries.

Table 1

### Personal Income Tax incentives to contributions to the 3<sup>rd</sup> pension pillar – pension funds at the end of 2019

	Latvia	Estonia	Lithuania
Limit of applicable sum from gross annual income in %	10	15	20
Aggregated limit of tax applicable sum (EUR)	4000	6000	1500

Source: author's construction based on [www.swedbank.lv](http://www.swedbank.lv); [www.swedbank.ee](http://www.swedbank.ee); [www.luminor.lt](http://www.luminor.lt)

In terms of competition, all three countries have a list of the 3<sup>rd</sup> pension pillar companies providing services to create savings in pension plans with different level of saving strategies. According to the Table 2, Latvia has the largest number of service providers with the broadest choice of investment plans.

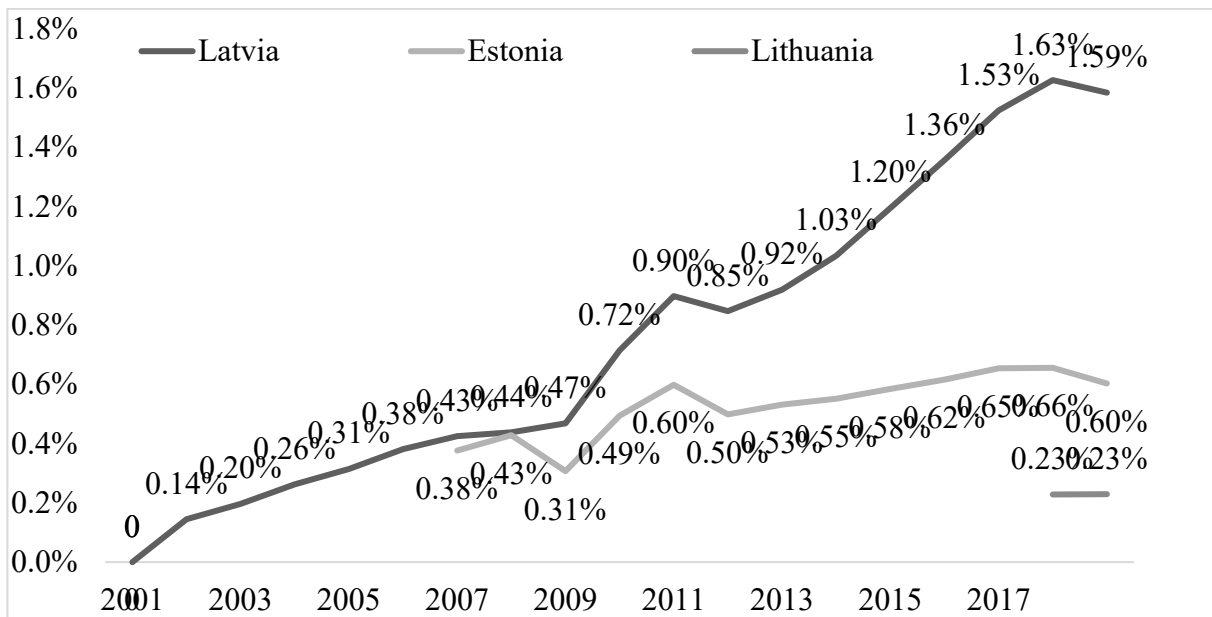
Table 2

### Number of the 3<sup>rd</sup> pension pillar companies and pension plans in the Baltic countries at the end of 2019

	Latvia	Estonia	Lithuania
Number of the 3 <sup>rd</sup> pension pillar companies	6	4	3
Number of pension/ investment plans	18	9	12

Source: author's construction based on [www.ftk.lv](http://www.ftk.lv); [www.fi.ee](http://www.fi.ee); [www.lb.lt](http://www.lb.lt)

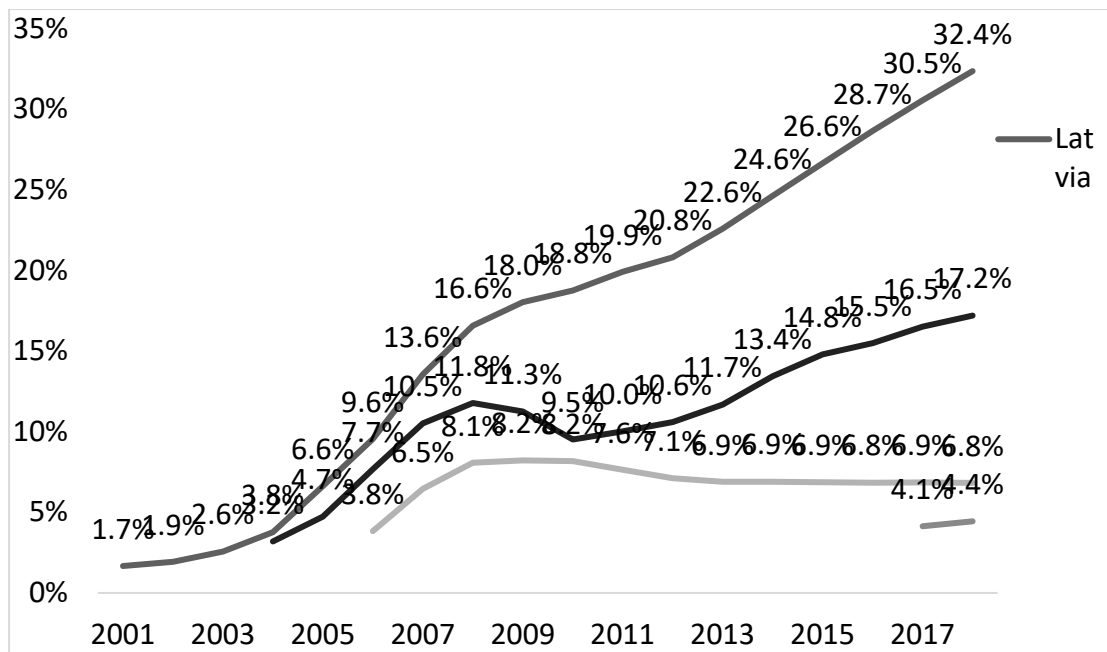
Publicly available statistical data of voluntary savings in Baltic States are rather limited especially in terms of historical data. The yearly overviews of private pension fund activities and financial results have been published by the financial capital market supervisors of each country that is by The Financial and Capital Market Commission in Latvia, Bank of Lithuania in Lithuania and The Financial Inspection in Estonia. Publicly available data about the pension funds in Lithuania gives insight about the last two years only therefore it is not possible to compare voluntary savings for retirement in a long term. Though, data available gives the perceptiveness of the existing situation in the period from 2017 till 2018 in all three countries and for Latvia and Estonia for the period from the very beginnings of the private pension funds.



Source: author's construction based on reports of Latvia Financial and Capital Market Commission [www.fktk.lv](http://www.fktk.lv); reports of Estonian Financial Supervision and Resolution Authority [www.fi.ee](http://www.fi.ee); reports of Bank of Lithuania [www.lb.lt](http://www.lb.lt); European Commission data <https://ec.europa.eu/>

**Fig.4. The assets in the third pillar as a share of GDP at market prices in Latvia, Estonia and Lithuania, 2001-2018**

Data included in the Figure 4 presents the development trend of voluntary pension funds in Latvia, Estonia and Lithuania till year 2018 in terms of accumulated assets in the third pillar as a share of national Gross Domestic Product in market prices. In year 2018, the contribution in GDP is starting from 0,23% in Lithuania till 1,59% in Latvia. Estonia's voluntary pension funds' net asset value is making 0,6% of the GDP.



Source: author's construction based on reports of Latvia Financial and Capital Market Commission [www.fktk.lv](http://www.fktk.lv); reports of Estonian Financial Supervision and Resolution Authority [www.fi.ee](http://www.fi.ee); reports of Bank of Lithuania [www.lb.lt](http://www.lb.lt); European Commission data <https://ec.europa.eu/>

**Fig.5. Number of voluntary pension fund contracts as a share of the number of active population aged 20-64 year in Latvia, Estonia and Lithuania, 2001-2018**

Data included in the Figure 5 gives overview of people engagement in voluntary pension funds in Baltic States. The ratio calculated is based on the population aged 20 till 64 for all three countries to get comparable data. Statistical



reports in Latvia provide with data on the structure of pension plan members – active, pensioners and deferred ones and therefore it gives the possibility to evaluate the active member share in population. There is no detailed information about the characteristics of the pension plan members in Estonia and Lithuania. Created comparison of all available data shows that the lowest engagement level of population in the 3<sup>rd</sup> pension pillar is in Lithuania – in year 2018 it is 4,4%, a little bit higher in Estonia – in year 2018 6,8%. Latvia has the highest population engagement ratio in voluntary savings for retirement in pension funds: active members with pension plans compromise 17,2% of all the active population aged 20 till 64.

### **Conclusions, proposals, recommendations**

In the light of the topicality of the 3<sup>rd</sup> pension pillar importance growth the current situation in Baltic States has been observed. The main conclusions are:

1. Although Latvia, Lithuania and Estonia started the 3<sup>rd</sup> pension pillar at a very early stage of pension system, the current results verify differences in development and Latvia's step ahead of its neighbour countries Estonia and Lithuania in voluntary savings in pension funds.
2. The governments of all three countries are realizing similar tax relief politics in voluntary savings, however their target audience differs.
3. Latvia has the superior results over the two other neighbour countries - Estonia and Lithuania, in terms of number of pension funds and plans, cumulated assets in private pension funds and people engagement rate into voluntary savings using private pension funds.
4. There is difficulty to compare all three Baltic countries private pension dynamics for long enough period because of the lack of publicly available statistical data, especially in Lithuania.

On the results of analyses of private pension system in Baltic countries respective recommendations are prepared:

1. In Latvia the 3<sup>rd</sup> pillar should be further improved to keep the growth of the engaged people into pension plans and create larger in volume personal savings for retirement.
2. The governments of the Baltic countries should look at the pension system as a whole and any changes in their pillars should be seen in relation to each other.
3. Government-provided statistics on the volume and performance of the 3<sup>rd</sup> pension pillar, and the number of people involved must be introduced to be aware of real pension income replacement rate calculated from all pension system monetary parts.
4. For researchers it would be useful to create the analyses of private pension contributors' structure and the incentives 'impact on employers' motivation to make a payment to employees' pension funds as part of a long-term recruitment system for skilled workers.
5. The researchers could develop comparative analysis and ground for further investigations on the reasons of current results in Baltic States the 3<sup>rd</sup> pension pillars and instruments to improve pension system structure in a sustainable and adequate level.

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**CRITICAL EVALUATION OF THE NECESSARY CHANGES OF THE INTERACTION OF  
EMPLOYERS, EMPLOYEES, LOCAL AUTHORITIES, STATE AND OTHER STAKEHOLDERS OF  
THE EDUCATION SYSTEM**

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**Abstract.** Expansion of business creates globalization, which should be balanced by the localization and development of adequate changes in education. Aim of the paper is to find the ways to solve the social problems linked with the globalization.

The review of the existing problems reveals many shortcomings of the classical “free market” theory. The increased speed of exchange of information demands special care to improve the accessibility and quality of education, using life-long learning and distance education. The appropriate attitudes, skills and knowledge should be proposed to support innovations, localization of economics and organization of interaction between employers, employees and other involved parties (state authorities, local communities) to cope with the future challenges.

Research methods used in this paper are scientific publications and previous research analysis, statistical data analysis for the critical evaluation of social structure, interaction of people and possibilities for the cooperation. The dispersed knowledge, necessary for the successful action of economics belong to different actors. Creation of trust between all involved actors becomes more important now. Education must give not only skills and knowledge, but also attitudes and morality.

All stakeholders of the education system should participate to support changes in education and lifelong learning according to the fast changes in the social structure. The main part of the interaction should be informal. Cooperation and negotiations, using local networks, are the most effective way to receive the knowledge and skills and to create trust and motivation. Innovations should be linked with the development of local networks and other necessary changes in the social structure. Informal regulations, trust and morality should support management. Humanities, art and philosophy must be used by the education system to form the attitudes and motivation.

**Keywords:** *innovations, attitudes, knowledge, skills, lifelong learning.*

**JEL code:** J24, J44, J5, J6, Q28

### Introduction

Different aspects of employer support for education is on research agenda world-wide for many researchers (Kimpah, Ibrahim and Raudeliuniene, 2017); including the evaluation of factors determining the efficiency of knowledge sharing process in different fields (Raudeliūnienė, Meidutė-Kavaliauskienė and Vileikis, 2016). Capitalism is changing (Galbraith, 1967). Now free market cannot exist without state regulations and without the help of non-governmental organizations. Labor market more and more uses not only skills and knowledge, but also attitudes are important criteria for labor force (Buligina *et al.*, 2014). Employers must solve numerous complicated tasks in the field of processing all the different kinds of information. Successful employers should use interaction with employees to receive and to use valid information. Positive attitudes in the mutual relations and cooperation during the problem solving are important. The most critical is cooperation in services and in small business. Large industries can use more formal interaction between employers and employees, but the trend is the same. Formal, hierarchical, one way command system, vertical relations are changing to cooperation, and to horizontal relations. The number of hierarchical levels of management is decreasing and autonomy of actors is increasing at all levels.

New framework for the interaction between employers and employees should be used. Instead of one way system of regulations and commands with retarded feedback negotiations with immediate feedback should be used.

**Problem.** Labor market does not satisfy all new needs of employers. Employees must be capable of finding and using information, know how to cooperate with coworkers to solve problems and to negotiate. New skills to process information and the appropriate attitudes are critically important for employers. New ways of cooperation with education system should be established.

**Purpose.** Investigation of possible changes of relations between employers and employees are necessary. Informal ways of cooperation are evaluated. The possible new activities and regulations must be investigated to introduce new frameworks for the interaction between employers and employees. Suggestions for the improvement of education should be formulated with the help of employers.

**Object.** The organization of the exchange of information and the cooperation between different participants of the production process is under investigation. The education system for employees has been analyzed. Changes of formal and informal regulations are important conditions for the improvement of business. Organization of negotiations and cooperation between employers, employees and other stakeholders is important. Possible activities of Sector expert councils and Conventions of vocational education and training (VET) institutions have been investigated.

**Tasks:**

- to review the role of the dispersed (distributed, spread) knowledge for the business and to evaluate the possible ways to improve the receiving and use of the dispersed knowledge;
- to estimate possibilities to gather information about the trends of the desired qualifications of the labor force;
- to identify needs of employees and employers to receive support for the improvement of the quality of employees' qualifications;
- to propose new frameworks for the cooperation between employers and employees;
- to show the possibilities for introducing innovations for the cooperation of employers with education.

The improvement of the support for education must help the whole society to achieve its goals. Therefore first step should be review of the changing goals of the society. Next preliminary step should be revision of the general tasks of business. Third step should be revision of the education and information systems.

We shall investigate first of all the formal education, controlled by the government, but we shall take into account that adult education and all informal education system has an increasing role. Open sources of information and internet create increasing possibility to receive knowledge and to improve qualification on the individual basis. Formal and informal learning should be united in one complex life-long learning system, acting according to the aims of all stakeholders. The aims of stakeholders are different therefore activities should be discussed and agreed by all involved groups.

**Research methods** - scientific publications and previous conducted research analysis, statistical data analysis are applied. The investigation is based on the critical analysis of the different existing sources of information. The synthesis of the different evaluations of trends is carried out. The review of official regulations and information about their effectiveness provide basis for the recommendations concerning the future development of education and business.

## **Literature Review**

### **1. Dispersed knowledge**

The concept of the dispersed (distributed, spread) knowledge is the basis to explain advantages of capitalism and free market in industrial society (Boaz, 1997; Popper, 1986). Distributed knowledge might be called the aggregate knowledge of a community. The distributed knowledge to solve a problem is decentralized (Hayek, 1945). The

knowledge is unevenly dispersed among different members of society. As a result, decisions are best made by those with local knowledge.

The knowledge about the market always is uncertain, because the basic uncertainty principle does not allow to know precise information (Heisenberg, 1927). The extent of uncertainty depends from the velocity of the exchange of information between community members and from the dynamics of the change of environment, market and community. If the dynamics is faster than the exchange of information, the dispersed knowledge cannot be gathered and the possibility to use principle of self-organization, proposed by Hayek (Hayek, 1945), is lost.

Appearance of information technologies demonstrates transfer to new, postindustrial situation. The velocity of the changes of market and its environment often becomes significantly faster than the velocity of the exchange of information between persons involved in the economics. The theory of free market (Hayek, 1945) is not valid now, because interaction between actors often is slower, than changes of important conditions (prices, needs, supply etc.). Activities of individual actor (employee) in classical situation are restricted and stable. Skills and some professional knowledge usually is enough. Main part of business problems can be solved by owner – employer. Modern situation gives much more freedom for individuals and asks much more flexibility. Problem solving in unclear situations asks to include motivation, attitudes. Employees should participate in problem solving of business, using and creating the dispersed information.

The concept of human capital (Nelson and Phelps, 1996) has been used to investigate the development of skills. Formal education level is not sufficient to explain the relations between demand and supply of skills in the labor market (Spence, 1973). According to the investigation of strategically most demanded skills in future Latvia (Poject and Quality Management, 2013), the skills are developed not only in the framework of the educational system, but increasingly more and more directly in the work environment. A fundamental problem is, that there exists an information asymmetry between the demand of labor market and the information used for the formal education, i.e. which skills an individual must have after a successfully completing an educational level. Skills are continuously developed on the basis of informal learning by employees already active in the labor market. Individuals improve and change their qualification according to the needs of employers using different possibilities for learning.

Important partners for the effective cooperation of all stakeholders are the local governments (municipalities). The role of local governments has been emphasized in several studies (Poject and Quality Management, 2013; Buligina *et al.*, 2014; Kantane *et al.*, 2015). The authors of the scenarios for the future development (Poject and Quality Management, 2013) believe, that the most realistic is a moderate GDP growth and a gradual restructuring of the economy toward high added value sectors. There should be medium strength cooperation among the EU countries with a relatively severe competition. Consolidation of all local stakeholders is necessary (Buligina *et al.*, 2014; Kantane *et al.*, 2015).

Health and social care sectors may increase more significantly in EU and in the world due to GDP growth and society aging. New technologies and innovations, based on psychology, biology, chemistry and physics should stimulate the growth of social care and health sectors.

Latvia has good possibilities to develop health sector, including pharmacy. Investment and Development Agency of Latvia (IDAL, 2019) states: “Latvia has been exhibiting the fastest growing economy among the Baltic countries over the last five years, according to the latest statistics of the third quarter of 2017 by the Central Statistical Bureau of Latvia. The most recent data from the third quarter show that Latvia’s GDP has grown by 5.8%, which is the highest increase over the last five years in the Baltics. An important factor in the economy growth stimulus was the increase in investments. In the third quarter of this year, gross fixed capital formation was 1/5 higher than a year ago. Investments in housing, buildings and construction increased by 25%, while in machinery and equipment – by 13%.

Additionally, investment in intellectual property products (research, computer software, databases, copyright, etc.) has increased by 17%. Investment dynamics continue to be positively affected by both growing external and internal demand, the expansion of the availability of EU structural funds investment as well as the increase in credit limits. With continued favorable environment for investments and high capacity, a relatively rapid investment dynamics can be expected in the future. At the same time, the economic growth continues to be driven by an increase in private consumption – household consumption expenditure increased by 5.8% in the third quarter. It should be noted that the increase in consumption is positively affected by the noticeable improvement in the labor market – the number of employed increased by 0.9% in the third quarter, the unemployment rate decreased to 8.5%, while the average gross wage increased by 7.5% during the year. Comparatively to previous years, export volumes have reached the highest level. Exports of goods and services increased by 2.4% in the third quarter (exports of goods by 2% and exports of services by 4%), while earnings from export increased by 6.7% (comparatively, in the second quarter by 6.3%). It should be noted that the faster growth of export earnings was largely driven by the increase in prices of exported products. In the third quarter of this year, producer prices for exported products increased by 3.3% year-on-year. A significant factor in the GDP growth in the third quarter was the construction industry that saw an increase in investments as high as 25%. At the same time, the base effect also should be considered – the industry's rapid growth is compared against 2016, when the construction sector saw sharp declines in volumes due to delays in European Union investment fund availability. In comparison with the third quarter of 2015, the construction volume was still lower by 2.5%” (IDAL, 2019).

This forecast should be corrected, taking in account the development of the health sector and adding education as a driver for the future development (Kantane *et al.*, 2015). Increasingly important is cooperation between professional education and higher education (Buligina *et al.* 2014).

A complex approach to various tasks asks to use integral understanding of professional competences (Kouwenhoven, 2003). Professional competence is more than only professional knowledge, skills and attitudes (Korthagen, 2004). Behavior and competences include personal traits (Kouwenhoven, 2009). Beliefs, personal identity and mission should be included in the integral approach to the professional skills (Hager, 2007).

Integral approach to the interaction of education and labor market is included in the theological studies (Taivāne, 2010). Beliefs as a part of personal identity are changing according to the context and must be investigated as a complex of sociological, historical, philosophical, ethnological and psychological parts (Smart, 1999). Employees and employers should have common traditions and beliefs with each other, should be linked with common for all culture and history, and at least should understand all parts of the dispersed knowledge about environment, society, social relations. In this case it will be easy to work together, to use and to change the specific, professional knowledge about the technologies, to use the professional and general skills and to use the effective attitudes during the communication. The common culture and history is not automatic, therefore the education system should take care for the synergy of personal traits and beliefs. The local community should participate as an active actor to organize the exchange of information necessary for the effective development of competences including information about culture and history. Integral approach to education, culture, industry and social problems should be organized, first of all, by local government. If the local people will be linked together, they will be able to use the dispersed knowledge to solve all social and economic problems. Globalization and freedom should be balanced by localization and synergy of attitudes.

## **2. Decreasing time periods for the decision making**

The time period to create some new governmental regulation usually is from several months and up to more than a year. For a new law it can take one year to accept it, but negotiations and discussions between stakeholders go on for several years as if the changes of the real situation are slower than regulations can be enough effective. If the



critical time period for the changes of the situation becomes less than the period for the appropriate changes of the regulations, the management system must be changed and the level for the decision making must become lower. Now this decrease of the time periods for the decision making demands, for example, the transfer of the creation of regulations from state to municipal level in public administration (Van De Ven, Ganco and Hinings, 2013). There is a global consensus that sustainable development implementation should be based on local level solutions and initiatives designed with and by the local communities (Leach, Mearns and Scoones, 1997). It is widely agreed now, that wages and prices do not adjust as quickly as needed to restore equilibrium (Romer, 2011).

Authoritarian style of management allows to shorten time for the decision making, but lowers significantly the amount of information which can be used for the decision making. Other possibility is wider discussions at the lowest levels of management. Now the necessary level of decision making in many cases is individual employee, who should participate in the direct negotiations with employers. The most important field of changes is education, because the time period for the changes in education system is rather long, up to at least several years, in many cases more than ten years. Different ways to include employees in decision making about education are very important for the business administration (Dzelme, 2009). Such aspect is supported in academic publications also by other authors.

### 3. Overlapping networks

Information technologies and globalization of economics allows to create multiple networks for the supply with goods, services, information, finances etc. Freedom of choice and technologies allow to find and to change suppliers around the globe. Globalization seems as an advantage for the effective development, but it is in contradiction with human nature and creates undesirable instability.

Localization of networks within restricted region push the networks to overlap. The nodes of different networks become the same partly or fully. For small local networks the nodes most often are just individual persons. Overlapping different relations, formal and informal, administrative and business, social and personal creates stability of the local community and gives the tools to diminish risks (Van De Ven, Ganco and Hinings, 2013; Sapru, 2008). Affective and socio-psychological aspects of human behavior in organizations are under investigation (Sapru, 2008), but more attention should be paid to personal relations, morale and leadership in business. The optimal organization, leadership, or decision making style depends upon various internal and external constraints (Van De Ven, Ganco and Hinings, 2013). The theory of structuration investigates various aspects of the environment, which change the management style and organizational structure: the structuration factors (Giddens, 1984). These investigations should be continued and linked with the investigations of socio-psychological aspects.

Networks of individuals as a basis for the investigation have been set in the activity theory (Foot, 2001). Here the world was not seen as composed of human subjects and objects, but rather objects are secondary constructs whose nature depends on the activity applied to them. Activity is not so much an attribute of any individual but rather a system within which an individual is placed and which determines how they behave. Activity theory provides a method of finding patterns and describing interactions. Special language, used by the activity theory, allows to investigate different goals and their systems and to find the ways to achieve the goals.

The activity theory has been used by Shchedrovitsky G.P. (Shchedrovitsky, 1997; Foot, 2001) and other researchers to create practical tools for the investigation of complex systems with many overlapping elements (Foot, 2001). The most interesting approach is the development of activity games. These investigations should be continued. They allow to find the dispersed knowledge and to use it more effective.

There is other general method, proposed to solve different problems in all sectors of human activities – the theory for solving tasks of inventions (TRIZ) (Altshuller, 2005). This method is useful for many engineering problems, but for social problems it is much less effective. The basis of TRIZ is combination of objects and their interactions to

achieve specific goals. This method is valid for mechanistic systems, but becomes much less effective for biological and social systems. Complicated links and interactions do not allow free combination of the elements of biological or social system. The holistic approach, including personal identity in case of society, should be involved.

The activity theory and TRIZ could be used as useful tools to find the solutions in complicated situations. The main idea of both theories is to discover new combinations of the existing elements. In the case of social and economic problems this approach gives only part of the possible solutions. If the changes of the elements are necessary and if the interactions between elements are comparable with the interactions inside the elements, more complicated theory is necessary. Therefore TRIZ is not valid, for example, in case of chemistry. Effective theories of economic and society, which can predict and plan changes and evolution of all society, should contain all significant sectors of private and public relations, including personal identity, faith and religious problems (Giddens, 1998) as well as other aspects, are analysed by academic researchers.

#### **4. Social needs and aims**

The evolution of mankind during at least hundred thousand years has created the modern type of emotions, attitudes, morality and social relations (Burlak, 2011; Fuerle, 2008). The natural selection is targeted to two main objects, two main levels of the complicated system of interacting representatives of mankind – individual persons and closely linked groups (tribes, populations). Empathy, altruism, morality are partly based on the genetic level information, created and selected for the groups to survive (Izard, 1991; Lefebvre, 1982). Social structure of the modern society must use the same biological basis as it was created thousands of years ago.

Stable and happy society must have social structure similar to the group structure of ancestors. The ancestor customs and our morality use the same biological background. Personal relations are very significant. Virtual reality and World Wide Web must not cancel direct social interaction (Boaz, 1997). Local communities should restore human relations according to the socially and biologically determined needs (Renge, 2003). The main needs were analyzed by A.Maslow. Social structure is highly depending of inclusion and recognition, pointed out by A.Maslow. Now the most important need becomes self-realization, possible as a creative process, in artistic and scientific activities. The aim of society should be - to stress self-realization, recognition and inclusion as a priority for national and local politics and economics. Physiological needs and safety are already achieved level, which must be maintained, but future stability depends of other part of needs, linked with acquisition and use of knowledge. Knowledge society must be oriented to social interaction in overlapping local communities, linked by different overlapping networks. Virtual reality must serve as tool, aid to establish stable communities, consisting of some hundreds interacting traditional families. Local economics should help to transit to such social structure.

Local governments with the support of whole society should concentrate and personalize as much as possible interpersonal relations of different kind. Trust between the members of the same community stimulate cooperation, exchange of information and other activities to be performed more effective, but trust does not appear automatically. State, local governments, education system must use all possibilities to strengthen trust between all members of the society. Local networks for cooperation in economics should be used to develop social and cultural interaction, to improve and widen the existing networks.

#### **5. Local economics**

Large systems with many internal freedom levels are unstable. Physics demonstrated (Prigogine and Stengers, 1994), how in such systems starts order out of chaos. Similar processes are going on in large social systems. Some social order should be created and maintained to avoid catastrophes and revolutions. The possible way is local cooperation between employers, employees and all other stakeholders within the territories of local municipalities. Local government and local participants of different business activities are better informed about possible responses

and therefore can decrease the negative influence of accidental deviations, using local reserves. To increase local flexibility, the necessary reserves and appropriate institutions should be created, for example, local saving banks.

Local governments must have enough rights in the field of public administration to have real independence. Corruption and activities against interests of local people is easier to hide in a large system. Indirect and direct interaction of the representatives of the local administration with local people discovers real situation, activities and attitudes. The local decisions are under effective informal control of the social environment. Appropriate formal control together with informal control could create a stable model of the local power (Van De Ven, Ganco and Hinings, 2013). Analysis of the political problems shows, that the power of the state government should be decreased and decentralization of the public administration is desirable (Pūķis, 2016).

Important tool for the improvement of cooperation between people is common faith. Ethical and religious issues are closely linked. Effective economics should receive support from attitudes arising from the common ethical principle. Now the Christianity is the easiest way to the common ethics, but future development should give more place for the ethics based on science, philosophy and art (Knitter, 1991; Klīve, 1995). Other religious systems, different from Christianity, also could be used (Klīve, 1998). For example, Buddhism and Shintoism could become popular and helpful.

## Research results and discussion

### 6. Future qualifications

According to the demands all participants of business activities should change at least partly their skills, knowledge and attitudes. The changes have been identified as The Fourth Industrial Revolution (Gray, 2016). The predictions recognize that for individual's emotional intelligence, attitudes will become more important (Toffler 1970; Dzelme 2002; Dzelme 2009).

The skills and competences that are found necessary on the labor market in Europe are similar, e. g. effective communicative skills, flexibility, cross-cultural competence and ability to work in multilingual and multicultural teams.

In the information report on long-term labor market forecasts for 2030, the Ministry of Economy of the Republic of Latvia informs that the labor market demands graduates with good communication, IT, problem-solving, information analysis and interpretation skills as well as with the ability to find solutions and take decisions independently. The report emphasizes the importance of the transfer of the given skills to other fields and a high level of language competence (Labour Market Research activity of the ESF programme, 2013).

Important criteria for the strategic plans in education are the level of qualification, employment and unemployment rate - data on employment and unemployment in Latvia according to the job position are included in the table 1.

Table 1

#### Employment and Unemployment in Latvia According to the Job Position 2010; 2017; 2018

	2010		2017		2018		2010		2017		2018	
	1000	%	1000	%	1000	%	1000	%	1000	%	1000	%
Branch	Employed persons <sup>1</sup>						Unemployed persons <sup>2</sup> by occupation in the last job Unemployed persons <sup>3</sup>					
1	2						3					
	850.7	100.0	894.8	100.0	909.4	100.0	167.3	100.0	67.6	100.0	56.7	100.0
1. Managers	86.1	10.1	90.9	10.2	90.6	10.0	8.6	5.2	2.8	4.1	2.5	4.3

1 The total number also includes military occupations and persons with unspecified occupation.

2 Unemployed persons who stopped working within the past 8 years.

3 The total number includes unemployed persons who were employed in military occupations as well as persons who did not indicate occupation thereof in the last job.

2. Professionals	144.3	17.0	159.1	17.8	154.5	17.0	12.0	7.2	4.4	6.5	3.7	6.5
3. Technicians and associate professionals	115.3	13.6	126.7	14.2	124.7	13.7	16.7	10.0	5.1	7.5	4.9	8.6
4. Clerical support workers	50.3	5.9	47.3	5.3	51.0	5.6	10.7	6.4	2.8	4.1	3.7	6.6
5. Service and sales workers	123.9	14.6	134.8	15.1	136.1	15.0	28.0	16.8	12.3	18.3	8.2	14.4
6. Skilled agricultural, forestry and fishery workers	36.7	4.3	31.3	3.5	30.1	3.3	2.6	1.5	2.1	3.1	2.0	3.5
7. Craft and related trades workers	96.3	11.3	105.8	11.8	112.8	12.4	39.2	23.4	10.2	15.1	10.8	19.1
8. Plant and machine operators, and assemblers	79.7	9.4	81.3	9.1	85.8	9.4	15.1	9.0	6.7	9.9	5.5	9.7
9. Elementary occupations	114.4	13.5	112.1	12.5	115.9	12.7	34.0	20.3	21.2	31.4	15.0	26.4

Source: Authors construction based on CSB database NBG100; NBG282

The Ministry of Welfare's report, 2019 "Training results of unemployed and job seekers in 2018 and priority training directions" states that the largest share of registered unemployed in Latvia is vocational education - 36%, half of whom are over 50 years old. Of the total number of unemployed, the largest target groups at the end of June 2019 are unemployed people aged 50 and over - 41.2% (Ministry of Welfare, 2019).

According to the data the higher level of qualification and salary the less unemployment rate. Some problems are with managers. The quick changes creates unemployment problems, but these problems are more linked with reorganization tasks. Real long time unemployment is a difficult problem for the lowest qualification groups. This problem has been discussed at the World Economic Forum in Davos (World Economic Forum, 2018): "The least-skilled jobs which often involve non-routine tasks (such as cleaning) remain because they cannot easily be undertaken by machines, whereas routine work that can be automated is heavily concentrated in the middle of the skills distribution, leading to higher levels of job displacement there. Digitalization, at the same time, augments the productivity of the most highly skilled workers and leads to a rising relative demand for high-skilled workers. The wage premium of high-skilled workers relative to low-skilled workers therefore increases, leading to growing wage inequality. This skills polarization has particularly profound effects in those economies lacking the institutions and policies to prevent or mediate this impact on inequality. ... a successful strategy for innovation diffusion will require a workforce which possesses the right skills to work with advanced technologies. If access to reskilling and upskilling is indeed evenly distributed across the population, this will in turn reduce one source of inequality, creating less need for redistributive policies. The evolving division of labour between workers and machines is transforming current job profiles and shifting the skills required to perform them. Global average skills stability— the proportion of core skills required to perform a job that will remain the same— is expected to be about 58%, meaning an average shift of 42% in required workforce skills over the 2018–2022 period."

At the World Economic Forum in Davos in the Future of Jobs Report (2016) new skills such as emotional intelligence and cognitive flexibility have been treated as indispensable to an individual in 2020, but at the World Economic Forum Annual Meeting 2019 (World Economic Forum, 2019), it is facing a major problem in the world of

improving the working skills of young people. Today, the labour market requires transferable skills such as problem solving, team building, communication, confidence building skills as well as specific professional skills such as accounting, business, digital skills, green technology, modern agriculture or engineering, joinery skills. etc. skills.

Now the Christian values should be the basis for ethics and cross-cultural competence in Europe. In future more efforts must be made to understand the complex of sociological, historical, philosophical, ethnological and psychological roots of morality (Allen, 2005). Philosophy, based on science, should serve as a basis for morality, ethics, motivation and attitudes and should be included in the education and culture system of society in nearest future. Failure of many existing traditional religious systems to serve as a foundation for the value education demands more attention to philosophy, art and science.

The economics of Latvia become more involved in the global processes. According to the data, included in the Table 2 and Table 3, the main part of GDP and of employees is in the service sector of economics (Latvia: Review on Nation Development 2015/2016. 2017). The export and import grows continuously. Society of Latvia become more dependent from the globalisation and this dependence could become dangerous during changes of the world economics. The service sector is the biggest and continuously growing sector, but the productivity is expected to be higher in industry. The state support for education should be increased for the qualifications valid for the development of industry.

Table 2

#### Indicators of National Income of Latvia 2000-2017

Years	Gross Domestic Product (GDP), billions EUR	Added value to GDP % - Agriculture	Added value to GDP % - Industry	Added value to GDP % - Services	Export from GDP %	Import from GDP %
2000	6850,3	5	20	75	36,9	44,9
2001	7460,1	5	19	76	38,1	48,5
2002	8397,1	5	19	76	36,6	46,7 <sup>1</sup>
2003	9552,7	5	18	77	36,2	48,7
2004	11048,7	5	18	77	39,1	54,6 <sup>1</sup>
2005	13597,2	4	16	80	43,2	57,7
2006	17101,9	4	15	81	40,0	60,6 <sup>1</sup>
2007	22592,0	4	15	81	38,5	57,5 <sup>1</sup>
2008	24351,2	3	14	83	39,5 <sup>1</sup>	52,5
2009	18862,6	4	16	80	42,6	44,2 <sup>1</sup>
2010	17937,9	4	19	77	53,7	55,1 <sup>1</sup>
2011	20302,8	4	18	78	57,8 <sup>1</sup>	62,8 <sup>1</sup>
2012	21885,6	4	18	69	61,3 <sup>1</sup>	65,8 <sup>1</sup>
2013	22831,5	4	17	79	60,3 <sup>1</sup>	63,9 <sup>1</sup>
2014	23681,5	3 <sup>1</sup>	20 <sup>1</sup>	77 <sup>1</sup>	60,7 <sup>1</sup>	62,2 <sup>1</sup>
2015	24353,1	4	20 <sup>1</sup>	76 <sup>1</sup>	60,4 <sup>1</sup>	60,9 <sup>1</sup>
2016	24925,6	3	19	78	60,0	59,1
2017	26 856,6	4	22	74	60,5	61,8

GDP figures are calculated according to the methodology of the European System of Accounts (ESA-2010).

<sup>1</sup> Data are revised

Source: Author's calculations based on Latvia: Review on Nation Development 2017/2018. (page 138).

The main reason of low development of industry is insufficient links with education and research. Unsatisfactory financing level of research and higher education is the key problem for the innovations and the development of high technologies. High level specialists, necessary for industry and business, cannot appear without high level research and excellent education.

Table 3

#### Employment in Latvia 2000-2017

Years	Inhabitants billions	Employed inhabitants % <sup>1</sup>	Employed in Agriculture % <sup>2</sup>	Employed in Industry % <sup>2</sup>	Employed in Services % <sup>2</sup>	Increase of income %	Working week hours
2000	2,4	51,4	15	26	59	5,7	41,4
2001	2,4	52,2	15	26	59	6,1	41,3
2002	2,3	53,9	15	26	59	8,0	41,9 <sup>3</sup>
2003	2,3	54,5	14	27	59	10,9	41,7
2004	2,3	54,9	13	27	60	8,8	40,9 <sup>3</sup>
2005	2,2	55,9	12	26	62	17,0	41,3
2006	2,2	59,7	11	28	61	23,1	41,3
2007	2,2	61,6	10	28	62	32,0	40,6 <sup>3</sup>
2008	2,2	62,0	8	29	63	22,5	39,4
2009	2,2	54,3	9	24	67	-2,3	38,9
2010	2,1	52,0	9	23 <sup>3</sup>	68 <sup>3</sup>	-7,5	38,4
2011	2,1	54,0	9	23	68	4,5	38,5
2012	2,0	56,1	8	24	68	3,9	38,3
2013	2,0	58,2	8	24	68	5,6	38,3
2014	2,0	59,1	8	24	68	8,6	38,6
2015	2,0	60,8	8	24	68	7,6	38,3
2016	2,0	61,6	8	24	68	4,7	38,4
2017	2,0	62,9	7	23	70	7,0	38,3

Source: Author's calculations based on data on sources indicated below<sup>1</sup> Labor Force Survey data. 2000-2001 Persons aged 15 and over in 2002, aged 15-74 from 2002.

<sup>2</sup> From 2008 - Statistical classification of Economic Activities NACE Rev.2

<sup>3</sup> Data are recalculated according to the results of the 2011 census. Source: Latvia: Review on Nation Development (page 134).

The biggest problem for the future development of Latvia is decreasing population in rural regions as a result of the decreasing employment in agriculture. The identity of Latvia and many historical and ideological roots of Latvian people are linked with agriculture and local communities in rural regions. Development of agriculture and other related industries in rural regions could be achieved by adequate cultural and educational policy. Agriculture should be linked with services and businesses complementary to agriculture.

## 7. Lifelong learning

Effective way to overcome the problems in economics is improvement and change of education system (Sloka, 2007). The most interesting for employers could be the possibility to organize adult education together with central and local governments. Involvement of the inhabitants of Latvia in the adult education are included in the table 4.

Table 4

### Participation in Adult Education (Participation in Non-formal Education as Percent of Total Population in the Corresponding Group) by Sex, Age, Level of Education and Labour Status in Latvia 2007, 2011, 2016

Population in the Corresponding Group	2007	2011	2016
Total	30.7	30	45.7
Males	24.6	24.3	41.4
Females	36.2	35.4	49.6
25-34 years	35.2	33.1	51.7
35-54 years	32.5	32.9	48.7
55-64 years	20.9	19.3	34
Higher education	53	50.8	63.6
Secondary education	26.1	22.8	37.6
Below secondary or no formal education	11	9.5	25.7
Employed	37.6	37.5	54.2
Unemployed	16.3	19.1	27.7



Inactive	9.6	9.2	15.6
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Source: Author's construction based on CSB database

([http://data1.csb.gov.lv/pxweb/en/sociala/sociala\\_izgl\\_pieaug\\_izgl/PIA60.px/table/tableViewLayout1/](http://data1.csb.gov.lv/pxweb/en/sociala/sociala_izgl_pieaug_izgl/PIA60.px/table/tableViewLayout1/))

There are important problems of employment in the age group 55-74 years. Education of this age group is complicated task, but local governments should solve this problem together with employers. Involvement of the inhabitants of Latvia from the age group 55-74 years in the lifelong learning is twice less than average in European Union (Cabinet of Ministers, Republic of Latvia, 2016). Recent data on share of inhabitants involved in life-long learning in Baltic countries and EU average are included in table 5.

Table 5

**Share of Inhabitants of Baltic Countries and EU -28 in the Age Group 25-64 years Involved in the Lifelong Learning 2009-2018**

GEO/TIME	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	9,5	9,3	9,1	9,2	10,7	10,8	10,7	10,8	10,9	11,1
Euro area (19 countries)	8,1	8,1	8,3	8,5	10,6	10,9	10,9	11,2	11,3	11,5
Estonia	10,5	11,0	11,9	12,8	12,6	11,6	12,4	15,7	17,2	19,7
Latvia	5,6	5,4	5,4	7,2	6,8	5,6	5,7	7,3	7,5	6,7
Lithuania	4,6	4,4	6,0	5,4	5,9	5,1	5,8	6,0	5,9	6,6
Latvia – males	3,7	3,6	4,1	6,2	5,1	4,9	4,1	6,1	6,0	4,8
Latvia – females	7,3	7,0	6,5	8,1	8,2	6,3	7,2	8,5	8,8	8,4

Source: Author's construction based on EUROSTAT data

Data included in table 5 indicate that in Latvia share of inhabitants involved in life-long learning is almost two times less as in EU-29 and Euro area and almost three times less than in Estonia. In Latvia male persons are almost twice less involved in life-long learning. In average share of inhabitants involved in lifelong learning since 2009 has a positive trend  $y=5,3733 + 0,1721*t$ ,  $R^2= 0,3694$ ; for male persons:  $y=3,85333 + 0,183*t$ ,  $R^2= 0,3146$ ; for female persons  $y=6,7 + 0,1691*t$ ,  $R^2= 0,3369$ .

Starting from 2011 there is possibility to receive qualification using prior learning and experience (Cabinet of Ministers, Republic of Latvia, 2016). This possibility will help to solve some of the problems of education and employment. Special attention must be paid to the organization of support for the education in rural regions. All inhabitants of rural regions should have possibilities to participate in lifelong learning, using distance education and information technologies.

## 8. Complex reforms

The changes in all administrative and managerial system are going on continuously. The more important changes should be reviewed and controlled specifically, therefore the word 'reform' could be used for the most important changes. Changes influence not only the system under the action, but also other systems interacting the changing system. Important changes, which are possible to have the name "reforms", should be complex. Before reforms negotiations with all stakeholders are necessary (Udam and Heidmets, 2013). The reforms in state regulations, such as education standards, should be negotiated with local governments, employers, society. A good tool for such negotiations are the Sector expert councils horizontally and VET Conventions at local and regional levels. The main parts of state system, involved in managerial reforms are at least state government, local governments, education system, trade unions and representatives of employers and of society. All levels of administration should be included, but the most important are the lower, basic levels. The sector expert councils are the best tool, the best platform for many discussions. Direct participation of employees is very important for the problem solving in many cases and other forms for negotiations of all interested parties are necessary. The Sector expert councils and VET conventions could serve as a starting point for many forms of cooperation. Special care about the organization of such exchange of opinions within society should be taken by local and central government.



### **Conclusions, proposals, recommendations**

1. Public responsibility and localization of economics should increase. Globalization and the development of knowledge and technologies create fast changes in the social relations. Free market forces cannot stabilize the global market, international relations and social structure. Mobility of labor force, services, products and capital increase the social instability. Local communities and state should cooperate with business to avoid instability. The social structure of the society should be stabilized by support of local economics, education and culture.
2. Direct cooperation between employers and employees, with involvement of all stakeholders, should support the education system. The main way to cope with the increasing diversity and multiculturalism is “internal”: to increase self-regulation and integration of society, to intensify negotiations to avoid conflicts internally, using ethical authority. The “external” way (to increase the amount of legislation acts and to solve conflicts externally, by the legislative power and by the implementation of the regulations, using state authority) can only help to implement the “internal” way faster and more effective.
3. The best, but more complicated way to cope with the future challenges is to create internal mechanisms, to create and change attitudes, to use morality and ethical principles as a tool for the self-regulation and problem solving in the society. Creation of new and strengthening of existing overlapping networks for interaction of people is necessary.
4. Stabilization and integration of the society becomes one of general tasks both for public and for private sector in economics.
5. Employers are interested to create the conditions for effective economic activities, using formal and informal possibilities to improve the environment for business. Number of formal regulations should decrease, but the role of negotiations between all stakeholders should increase.
6. Education is the most important field of cooperation between employers and employees. Different tools could be used to carry out negotiations and other forms of cooperation between stakeholders of education. The Sector expert councils were created to carry out cooperation between state, trade unions and employers in professional education in Latvia. This tool should be improved and could be proposed for use not only in Latvia. Participation of the representatives of local governments should be added and the activities should go further, involving also other kinds and levels of education, such as higher education and interest education.
7. The Sector expert councils and the VET Conventions should be used as a platform for negotiations and changes in education and industry in Latvia. Similar approach could be used in all cases, all states, where interaction between education, employers and government is useful. The development of Sector expert councils and similar organizations should continue. Intensification of interaction between business, state, local communities and all other stakeholders is necessary. Further studies are needed on the subsequent developments of Sector expert councils and VET institution conventions.
8. The co-operation between stakeholders to develop the education system should be established in two main levels: 1) development of specific professional knowledge and skills according to the development of technologies; 2) development of general skills and attitudes according to the changes of the social structure. The first task is continuation of previous development of the specific professional fields, but asks to find new, more effective solutions, more active forms of co-operation. Use of Sector expert councils is one of many possible ways, at the moment rather effective, but other ways also should be looked for. The second task is arising quickly and is a new challenge for the society. Art and humanities could be very useful to find the possibilities and tools for the improvement of the integration of society, cooperation in all fields, increasing the stability of the social structure. Both tasks are important and should be solved together.

9. Promotion of new forms of co-operation and management of education and employment processes - as part of the modern society development, is necessary. Art and philosophy must be included in the education process to create and strengthen motivation and attitudes. Knowledge and skills must be integrated with attitudes, morality and ethics. Further developments in the legal framework and the effectiveness of the actual developments based on the new regulation depend of effective networks of people interaction according to morality and ethics.

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## ORGANIZATIONAL INNOVATION FOR SME'S: A MODEL FOR LATVIA

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**Abstract.** Small and medium-sized enterprises (SMEs) can be a significant source of innovation in small economies. SMEs face challenges of limited capacity, personnel and resources for long-term investments. Additionally, they might not see and understand the benefits of innovation. Implementation of organizational innovation (OI) could give such enterprises an opportunity to improve competitiveness and develop other types of innovation.

The purpose of this study is to develop a model, explaining OI through such factors as organizational culture (OC) and knowledge management (KM) in SMEs via an empirical study across various industries.

Surveying 600 SMEs in Latvia, the authors explore the contribution of organizational factors - cooperation, trust, inclusive decision making, result orientation and long-term strategic planning, as well as knowledge management and organizational learning processes to OI performance. The authors propose a conceptual model in several steps, the current step focuses on Organizational Innovation Analysis through Regression Methods and on a final step a whole model for all kinds of Innovation outputs (not only organizational) will be designed through Structural Equation Modelling. After current analysis the influence of Human/Individual values over Organizational Innovation seems to be confirmed.

**Keywords:** *innovation, organizational innovation, organizational learning, regression models, organizational culture.*

**JEL code:** D83, O31

### Introduction

Innovation can have a vital role to improve business competitiveness, performance and sustainable development in knowledge-based economies. Innovative SMEs could differentiate themselves from the competition (Porter, 1980), however, SMEs significantly lag large companies in terms of innovation.

SMEs face challenges of limited capacity, personnel and resources for long-term investments. Additionally, they might not see and understand the benefits of innovation.

Innovation is frequently seen in a rather narrow context; however, innovation is not limited to introduction of new products and services. New forms of workplace organization, new managerial concepts, cross-functional teams, decentralization of decision making and continuous quality improvement – all can be considered forms of organizational innovation (Schumpeter, 1934; Damanpour, 1987; OECD-Eurostat, 2005). Various types of technological and non-technological innovation exist, often closely interlinked. While many studies focus product and process innovation, an increasing number of studies assess also non-technological, including organizational innovation.

Organizational culture and knowledge management processes are important drivers of innovation. A culture oriented towards collaboration, trust and open-mindedness, for instance, encourages new initiatives and ideas. A culture can foster long-term thinking and understanding of responsibility through collective values, behaviors and practices, thus contributing to innovation performance (King, 2007; Turró et al., 2014). Culture shapes attitudes towards independence, risk and the power balance (Shane, 1994; Tan, 2002; Alvarez and Urbano, 2012). Culture has an impact on the form and effectiveness of leadership (Aktas et al., 2015). More ethical work culture and organizational behavior could also lead to better organizational innovation performance (Apsalone & Flores, 2018).

Culture has an impact on productivity, as it influences decision-making process, can increase organizational resilience and forms attitudes towards social equality (Throsby, 2001).

Knowledge management and organizational learning contribute to skillsets and abilities of individual employees and strategic approach towards building a resilient, innovative organization. Several studies (Argyris & Schön, 1978, Nonaka & Takeuchi, 1995) consider the positive impact of organizational learning on innovation, most of these studies, however, analyze technological innovation. Fewer studies exist on KM related to non-technological innovation, particularly in SMEs. Several previous studies (Apsalone et al., 2017; Dukeov et al., 2018) concluded that OC has a strong, positive influence on organizational learning and OI, and that taken together with KM and organizational learning OC could partly explain all types of OI.

Thus, this study further examines the relationship and develops a statistical model that could better explain the relation between the OC - cooperation, trust, learning, involvement in decision making, evaluation of inputs towards the results, long-term strategic planning, knowledge management processes and OI performance. The study proposes insights that contribute to theoretical and practical discussions on fostering small business innovation of small businesses in small economies.

## **Literature Review**

### **Organizational Innovation:**

The literature review demonstrates that innovation contributes to organizational competitiveness (Damanpour et al. 1989; Schulz & Jobe 2001). Innovation includes an adoption of an idea, behavior, system, policy, program, device, process, product or service new to the organization (Damanpour, 1992). Organizations can implement innovation at various levels and structures, and it can also relate to the overall structure and principles of the organization (Wengel et al., 2002).

Several definitions of OI exist (Gera & Gu, 2004, Lam, 2004). Black and Lynch (2005) described OI through workforce training, flexible and decentralized design of work, greater employee autonomy and shared rewards. Some studies suggest OI as a response to technological innovation (Danneels, 2002), at the same time others emphasize the independent role that OI can play for organizational development (Tidd et al., 2005). This study uses the OECD-Eurostat definition provided in the Oslo manual (2005: 51) and defines the OI as a *“the implementation of a new organizational method in business practices, workplace organization or external relations.”*

### **Direction of long-term research about innovation ecosystems:**

The current research needs to be considered inside of a bigger scope research to be carried out in the long term in the framework of Innovation Ecosystems.

Taking as a starting point the Research performed by a multinational research team, The Consortium on Applied Research and Professional Education (CARPE), which includes several Universities and Research Centers from European Union under the FINCODA project (Pérez-Peñalver, M.J. et al, 2018), the authors of the current research pretend to replicate an experiment, in the long term, replacing behavioural indicators by Human/Individual Values as those explained in the beginning of this document.

Currently we are in the first stages of such long-term research, applying multivariate methods, in this case Factor Analysis and Multivariate Regression Analysis, in order to get an idea of the factors of influence over organizational innovation of SME's in Latvia.

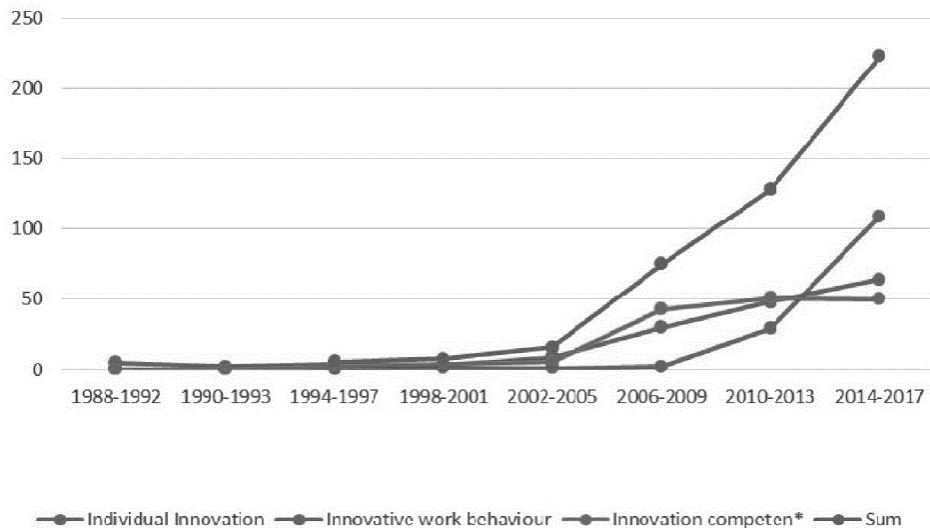
This first analysis will give place later to a full network of relationships between Organizational Innovation outputs and other forms of innovation in which variables will be both exogenous and endogenous, depending on the equation selected, inside of a Structural Equation Model.

### **Reference Model:**



From all researches found the most interesting one was Identification and Classification of Behavioural Indicators to Assess Innovation Competence (Pérez-Peñalver, M.J. et al, 2018) as intended to create a Model for Assessing Innovation Competence based on 34 Items (through a Likert Scale with answers in the range of 1 to 5) which were condensed in 5 main components after applying Exploratory Factor Analysis. These components were Creativity, Critical Thinking, Initiative, Team Work and Networking.

Due to the fact that the number of researches about this topic is huge and that it is increasing exponentially along time we do not discard that more relevant researches could be found later on as we keep researching.



Source: Pérez-Peñalver, M.J. et al, (2018)

Fig. 1. Evolution of number of researches on Innovation between 1988 and 2017

## Research results and discussion

### Data base:

We used a structured, closed-ended questionnaire to assess the relationship between human/individual values and organizational innovation.

The first part of the questionnaire included statements about organizational values, attitudes and behaviours. The questions about human/individual values were asked not about managers themselves, but about employees in their organizations. Statements were measured using the Likert scale from 1, where the statement was completely inapplicable to the enterprise, to 10, where the statement was fully applicable to the enterprise.

### Diagnose:

Following Hair and co-authors (Hair et al., 2010) we selected Exploratory Factor Analysis as the right statistical technique according to the nature of our data (discrete quantitative) and the assumptions needed in order to be able to generalize conclusions to the population (to perform Statistical Inference).

First thing to be performed was trying to decrease the dimension of the problem by finding common roots (components) which could allow us to group variables and to summarize them in just one component which could summarize all the information about such variables. Its main purpose is to skip multicollinearity when analyzing data through Regression Analysis in a further step.

### Regression Analysis:

After getting the main components or factors we can use these factors to perform a Regression Analysis without Multicollinearity.

### Assumptions Testing:



The main assumptions to be tested for Regression Analysis are those of Classical Methods, this assumption testing is needed for a double goal, first it will help us to diagnose the technique that best fits our Database and second, it will determine the possibility of performing Inference (Hypothesis Testing) about some parameters.

### **I.Linearity:**

As an average the explaining variables have a linear relationship with the dependent variable, this means that:

$$\bar{y} = \hat{a} + \hat{b} * \bar{x} \quad (1)$$

### **II.Independence:**

Variables of the sample are stochastically independent, that means:

$$E(X_i X_j) = 0 \quad \forall i \neq j \quad (2)$$

### **III.Homoscedasticity:**

The variance of the error or residuals keeps constant by different levels (values) of the dependent variable. Mathematically:

$$Var(X_i) = \sigma^2 \quad \forall i \quad (3)$$

### **IV.Normality:**

The error or residuals behave in probability like a Normal Distribution, that way putting all assumptions together we would get:

$$Y_i \sim N(\mu, \sigma^2) \quad \forall i \quad (4)$$

This means that the dependent variable follow a Normal Probability Distribution with mean  $\mu$  and Variance  $\sigma^2$ .

In our case we have detected Heteroscedasticity in error or residuals in some models. Being this true the consequences for the Estimators of the Predictors coefficients (The Betas of our Regression equation) are that such estimators would keep being unbiased and consistent, but they would not be efficient anymore.

### **Results:**

The use of the Factor Scores, obtained through Factor Analysis technique, as Predictors of Organizational Innovation (OI) did not give good results. They assured to fulfill the assumption of No-Multicollinearity but the Goodness of Fit measured through the Adjusted Pearson's Coefficient of Determination was very low, less than 2%, and, on the other hand, they gave high values for the Standard error.

The main predictors of Organizational Innovation were Creation, Updating and Planning. There were dummy effects which would shift the Regression Line upwards or downwards for variables Seniority, Size, Foreign Capital, Turnover, Address and Industry.

About whether the Goodness of Fit of the Regression Line to the data points, as measured by the Adjusted Pearson's Coefficient of Determination, is big enough or not we have found in the Literature about this issue several opinions that consider that in Social Sciences is terribly difficult to get a value for this coefficient greater than a 50% (See the Reference manual on scientific evidence, 3rd ed, from the American National Academy of Sciences, 2011) since there will be always some predictors which will not be included in the Regression Model due to the subjectivity of this kind of phenomena. Being ours close to 40% we consider that it is good enough and, therefore, results are both significant and generalizable to the population.

### **Conclusions, proposals, recommendations**

The results seem to show that certain Human/Individual values, like Creation, Updating and Planning, influence Organizational Innovation in Latvian SME's. The consequences of this is that companies could foster Organizational Innovation by recruiting employees who score high in these values and this could be assessed by companies through

some psychometric tests to be performed by future employees. The usefulness of the present research is about making SME's in Latvia aware of this possibility.

In future steps of the current research line other features of Innovation in Latvian SME's will be analysed, enlarging the scope and the utility for such companies. Nonetheless these results could still be improved by applying some statistical methods and techniques related to the following features:

**Variable types:**

The variables used along this research are of a quantitative nature but, nonetheless, are not continuous variables unless discrete ones. Additionally, they use a few values, integer numbers from 1 to 10, and this fact limits their computation for Regression purposes.

**Homoscedasticity:**

We have detected heteroscedasticity for error or residuals while applying Regression methods. We could still improve the accuracy of the estimators for the coefficients of the predictors by fixing residuals' homoscedasticity through some advanced statistical techniques.

**Correlation does not mean causation:**

This sentence refers to the fact that effects from third variables could be influencing results and if positive there would be a misspecification error.

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## THE INCLUSION OF RESEARCH AND KNOWLEDGE TRANSFER IN ART GAMES

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**Abstract.** This article promotes the inclusion of research and knowledge transfer in digital art game creation. The author argues that by creating art games which introduce players to art history and by facilitating transfer of this knowledge during the game players will become interested in and educated about digital art. A new game named Art Space is being created as a part of this project that incorporates the suggested approach in the context of contemporary aesthetics. Art Space is a potentially marketable game that hopes to reach the enthusiasts of art among youth and adults. In order to explain the idea of knowledge transfer, this article represents the research results into naïve art, the antecedent of one of the current aesthetical tendencies in the field of art games that will be introduced to the player in the Art Space's virtual academy. The framework of this research project is determined by the post-doctoral program that requires a potentially marketable product coupled with theoretical study. The project encompasses a body of articles published between 2019 and 2021 and describes a prototype of the game Art Space. The methods used in this study are audio-visual and stylistic analyses of games and literature studies. The paper explores the research results into digital art theory in a context of modernism heritage and art game's discourse, and treats art game as an important media that helps to write the history of visual aesthetics.

**Keywords:** *digital art game, methodology of art games, contemporary aesthetics, naïve art.*

**JEL code:** I210

### Introduction

The author of this study is particularly interested in contemporary aesthetics and its stylistic heritage from modernism art. She has engaged in this research project with a goal to help to clarify modern art's profile which often seems puzzling and even uncanny to the public not familiar with its specific audio-visual language. This research project involves a body of papers and the new game Art Space which further an understanding of modern art and hopes to shed light on the fuzzy trends of art game that is one of the most topical areas of digital art today. The author has previously analyzed the aesthetical tendencies of digital games in the context of their historical heritage (Gintere 2019a; Gintere 2019b). This ensemble of articles encompasses several trends of art game (glitch, noise, kitsch/camp and others) that could be introduced to the Art Space player in the virtual classroom so that he/she could study their antecedents and use their means of expression.

The project deals with the current situation of art game and suggests improvements in the context of edugames. Art game could be used as an effective media to inform and educate players. At present, it mostly embodies the experiments of artists, and the results of their creative imagination, but its educational capacity is unexplored. It could show the full picture of modern art, through the results of contemporary art research. One of art game's functions might be to inform the player about how the art of today is related to art history, and what are the links of contemporary art to the previous art paradigms. The author's assertion is that there should be a category of art games that connect modern art trends to the context of their past. The new game Art Space is created to undertake this function.

Art Space is being created as a possibly marketable game and could function as a startup in future just like, for instance, Musemio (2019), a virtual reality game that aims to bring cultural knowledge closer to children through playing. The mission of Art Space is much like this, with the difference that it has been created not for children, but for youth and grownups. Yet Art Space cannot compete with the commercial games since it is created as a highly targeted product, and the attraction of a large number of players is not the goal of the game's authors. The game does not meet the standards of mainstream gaming such as competitiveness and dynamics.

Work on the new game is being carried out in collaboration between the researcher, Dr.Art. Ieva Gintere (Vidzeme University of Applied Sciences, Latvia) and the game artist, Mag.Art. Kristaps Biters (Latvia). The game is being

created within the framework of a post-doctoral project led by Ieva Gintere during 2018-2021 with the financial support of the European Regional Development Fund (see Acknowledgments).

### Literature Review

This paper is built on the basis of art game analysis, literature studies and stylistic studies of modernism art. To this point around 250 art games have been audio-visually analyzed in the course of this research, and the research project is still in progress (the new art game is intended to be ready in 2020).

The study describes trends concerning modern games that might seem puzzling and uncomfortable without knowledge of their past. Many art games incorporate signs in a sense that they need to be decoded to be properly understood. Works such as *Untitled Game* (Jodi, 1996), *SOD* (Jodi, 1999) or *Memory of a Broken Dimension* (Hanson-White, 2015) leave an impression of something concealed behind the scenes, and therefore might be confusing. The aesthetic message of these games, which includes their fuzzy gestures cannot be easily perceived without the background knowledge that makes the picture look more familiar and comprehensible. As the digital art theorist Christiane Paul has rightly noted, the “aspect of encoding” (Paul, 2003: 51) is very characteristic of digital art in general, including art games. This feature has been mentioned also by other art game researchers: Johanna Drucker speaks about “codification of visual principles” (Drucker, 2014: 37), while the game artist Joan Leandre explains that new media works are often conceptually complex and require a commentary. We need time to understand their “edgy ideas”. Artistic software projects today, admits Leandre, are “far from being fully understood in a conventional cultural context” (Michael & Chen, 2005: 226).

For instance, *The Artist is Present* (Barr, 2012) shows a seemingly mysterious situation with people standing in a line in an art museum. They are waiting to sit in front of an artist. At the first glance, the game is semantically opaque: to understand its idea, one has to grasp the indirect reference to the postmodern theory, to the relational aesthetics that treats modern art as a space of human relations (Bourriaud, 1998). The game is inspired by the performance artist Marina Abramovic and depicts her famous work of the same title (2010, MoMA) where she sits motionlessly at the exhibition hall and maintains eye contact with visitors sitting individually in a chair in front of her (Parker, 2014: 188). The game implies the philosophical question about the author’s presence in art and his/her control over it.

Thus, to a player not familiar with the visual and acoustic language of modernism, these games might look awkward and strange, the same as contemporary painting and music. The uncanny feeling follows the modern works of art largely because they are loaded with references to other works of art and texts. Those references, if known and explained, would clarify the work’s idea. Because of their intertextual message these works can be called coded. They form a specific area of contemporary art that cannot be entered without specific keys of knowledge in order to comprehend the mood of the works and the ideas of artists. This way of presenting is inherited from the period of modernism and can be well illustrated by the work of Nam Jun Paik, *Piano-Activated Door* (1976). The door exhibited in this work “can only be opened by pressing the right combination of keys” (Pearce, 2006: 83): the room is closed if the code is unknown. Many trends of contemporary art use this kind of language, including naïve art which is analyzed in this article. Even if the idea of naïve art seems to be elementary, its’ conception is not quite transparent since it is greatly intertextually charged: it hides a corpus of theoretical texts that clarify its seemingly simple appearances.

This project intends to fill the gap of aesthetical analysis in the game discourse where only a few examples contain references to the historical styles and aesthetical theory of the games. Celia Pearce, Alican Koc and some others are among the authors who have paid attention to this subject. Pearce touches upon the heritage of fluxus and dada and shows its importance in the conception of hacking in games (Pearce, 2006), Koc curiously clarifies the important reference to Immanuel Kant’s aesthetics in the context of the trend of vaporwave (Koc, 2017). Christiane Paul shows the manifold tendencies of modern gaming such as hypertextuality, random access and others using their historical

background (Paul, 2003). Abstractionism is a well-recognized category of games, and its relation to abstract art has been explained, for instance, by calling the abstract style in video games “an extension of abstract art” (Wolf, 2003: 47). Other authors seem to forget that and use the term “abstractionism” with a universal meaning without mentioning its historical origin in the context of visual art (Gee, Dolah, 2018). Photorealism as a successor of this artistic style is present in the discourse of games, too (Jakdonlan, 2019), even if an exact reference to the era of modernism is sometimes missing (Järvinen, 2002: 121).

In her captivating book, Johanna Drucker touches upon the Bauhaus heritage in digital art (Drucker, 2014: 35) that would also be topical in art games, but there is no focus on artistic heritage of gaming in this work. In the discourse of digital aesthetics, there is a comprehensive analysis of web page design that contains traces of modernism trends such as glitch and deconstruction (Pring, 2003: 142; Wiedemann, 2002: 575). During the last decades of 20<sup>th</sup> century, web pages are evidently influenced by the stylistics of modernism. Games are not the subject of these books, yet since website design is an area related to the games, these sources can be used to study the features that are common to games and web design. Matīss Kūlis, the Latvian theorist, has published a magnificent book about interface aesthetics that shows the influences of modernism in graphic design. This work is only available in Latvian, but it is a valuable input into the discourse of modernism heritage that covers tendencies of futurism, cubism, constructivism, surrealism, minimalism and others that form the background of contemporary gaming (Kūlis, 2015). There is a considerable number of monographs about digital art’s tendencies (Kane, 2014; Lieser, 2010; Lovejoy, 2004; Grant, Vysniauskas, 2004; Grau, 2003, and others), nevertheless, there are no contributions to the modernism heritage in art games in particular. Yet art games show a great variety of stylistics inherited from modernism that recall the meaningful cultural background, shed light on modern thought in art and can help to write contemporary art’s history.

There is also a significant number of edugames, for instance, a serious game about Mozart’s Magic Flute where students “learn and practice the characters of opera”. The context of this game consists of “role playing, singing songs, dancing, doing art” and other creative activities (Kim, Oh, Park, 2015). However, there are practically no educative games devoted to modernism heritage in art. An interesting example is Patrick LeMieux’ Art Games (2008-2009), a series of art games designed to be projected and played on top of original paintings by Yves Klein and four other prominent monochromatic artists. The five games “explore aesthetic traditions” of games and show that moments of contemplation are more “useful” than the fictions of the mainstream gaming (LeMieux, 2016). LeMieux invites us to compare the currently popular dynamics of games with the slow, meditative perception of the previous generation of artists, but the project is not aimed at examples of modern games where this mode of thought would be inherited or what would be the connection between art games today and the monochromatic conceptions of the previous century in art.

A standard practice in game art (a field of art that is made of or related to digital games) is re-enacting artistic performances in a game environment. In 2007, Mark Beasley created a trilogy of artistic video games Vito Acconci, in which the player can re-enact the famous performance by Acconci “Following Piece” (Jansson, 2012). Thus, art games are aimed at illustrating the art situation of today.

In 2020, a wonderful art game Prisme7 was created where a player can interact with contemporary artworks in a playful way. This new game from Oliver Mauco and Abdel Bounane is about “experiencing art in an immersive, engaging way”, navigating through the online collection of the Musée national d’art moderne in Paris. The players “discover the physical and sensory properties of the works of art” from the Centre Pompidou collection (Gamescenes, 2020). Prisme7 is one of the rare examples that cross-cut the fields of contemporary art and edugames. Nevertheless, as far as the author of the current study has found, there are no art games that would convincingly exemplify the modern art game aesthetics linked to the recent paradigms in art. This project intends to improve the current state-of-



art in art games by creating a prototype of a serious art game devoted to the modern audio-visual aesthetics and their cultural background.

## Research Results and Discussion

### 1. The concept of the new art game

The new game Art Space is structured in several sectors delineating the contemporary trends of art game aesthetics (Table 1). However, as the artistic trends are too many for a single game, only some of them might be included in Art Space and the rest will just remain a theoretical part of the project and be eventually left for games in the future. Most of the trends and the games mentioned in Table 1 were discussed by the author before (Gintere, 2019, Gintere, 2020), but lie outside of the scope of this paper, however, they are shown here to clarify the profile of the new game.

Table 1

**Classification of Artistic Trends in Art Space with Contemporary and Historical Examples**

No.	Type of aesthetics of the art games	Examples of contemporary games and game art works	Antecedents
1.	Photorealism	Evil Interiors (2003), The White Room (2004), The Outlands (2011), Dear Esther (2012)	Robert Bechtle. '61 Pontiac (1968–69)
2.	Futurism	Recurse (2010), Fotonica (2011), Race the Sun (2013), MirrorMoon EP (2013), Smash Hit (2014), Fract (2014), Bound (2016), Superhot (2016)	Marcel Duchamp. Nude Descending A Staircase (1912), Giacomo Balla. Espansione dinamica (1913), Gino Severini. Armored Train in Action (1915)
3.	Glitch	Untitled Game (1996), Memory Of A Broken Dimension (2015), Sakuragaoka Kids (2015), Error City Tourist (2016),	Vincent Van Gogh. Bedroom In Arles (1888), Interior Of A restaurant (1887), Backyards Of Old Houses In Antwerp In The Snow (1885), Paul Cézanne. Nature morte aux oignons (1898)
4.	Pixel art	Passage (2007), Every Day The Same Dream (2009), Nidhogg (2014), The Pyramid Gate (2014)	Pablo Picasso. Les Demoiselles d'Avignon (1907), Varvara Stepanova. Costumes (around 1920), Vladimir Tatlin. Tower (1919-1920)
5.	Hacking	The Intruder (1999), Nude Raider I & II Patches (1999), RetroYou R/C (1999), SOD (1999), Atari Noise (1999), QQQ (2002), Super Mario Clouds (2002), [domestic] (2003), Cities in Flux (2010)	Marcel Duchamp. L.H.O.O.Q. (1919), Robert Rauschenberg. Erased de Kooning Drawing (1953), Lucio Fontana. Concetto spaziale (1960)
6.	Generative art	Euforia (2009), Diablo (2013), Bellwoods (2018)	Marcel Duchamp. The Large Glass / The Bride Stripped Bare by Her Bachelors, Even (1915-1923), John Cage 4'33" (1952), Music of Changes (1951)
7.	Noise music	Untitled Game (1996), SOD (1999), The Intruder (1999), Memory Of A Broken Dimension (2015), Shrine Maidens of the Unselie Court (2017)	Karlheinz Stockhausen. Studie I (1953), György Ligeti. Poème symphonique for 100 metronomes (1962)



8.	Kitsch/camp	Painting (2018), Pin Pon (2015), Bananoculus (2015)	Henry Matisse. Red room (1908), Otto Dix. Salon 1 (1927)
9.	Naïve art	Blueberry Garden (2009), Ulitsa Dimitrova (2011), Monument Valley (2014), Samorost 1-3 (2003, 2005, 2016), Questionaut (2009), Chuchel (2018)	Paul Klee. Red Bridge (1928), Joan Miró. The Sun (1949), Marc Chagall. Sun with Red Horse (1979)

Art Space is built on the basis of an aesthetical analysis of the art games produced between 1999 and 2019. References to the games created by artists in the first decades of the 21<sup>st</sup> century will serve as educational items for the player. While activating the respective trends in the palette of effects, the player will learn about their historical antecedents. For example, by using the effect of glitch, the player could be introduced to Error City Tourist (Strangethink, 2016) that represents the tendency of glitch in the modern art game area or game art works such as Drew McIntyre's Sakuragaoka Kids (Gamescenes, 2019). Likewise, the player could discover precursors of glitch in the modernism era through the painting by Vincent van Gogh, Bedroom in Arles (1888). It shows the first signs of deformation in modern art that turned into significant deviations from images of conventional reality. Thus, the new game will encompass the historical background of digital art games today.

Art Space is an experimental research-based educational game of contemporary audio-visual aesthetics that serves as a knowledge bearer. It will teach the player to recognize the current trends as well as the aesthetical antecedents of art games. Art Space hopes to increase the acceptance of art games as educational games in the area of modern aesthetics.

The new game is intended to be a sandbox-style constructing game. The player will be able to create his/her own visual and acoustic artifacts using the current trends of digital art inherited mostly from modernism. Art Space will familiarize the player with digital art's historical context and encourage him/her to form individual objects. For instance, if the player chooses the trend of visual glitch, he will deconstruct an offered abstract object by glitching its form and color and create his own artifact in a manner of glitch.

#### Naïve art

This paper presents the theoretical conception of Art Space devoted to codes of modern art: it intends to clarify the stylistics of contemporary art game, to show the reasons why those games look and sound the way they do: sometimes glitchy, noisy, even ugly and weird. These features are inherited mainly from the era of modernism in art and they turn out to be much more comprehensible as the user gets familiar with the theoretical settings of modern aesthetics. The trend of naïve art in its contemporary version is one of the examples that represents the coded area of modern art. This article shows the relationship of naïve art to contemporary art games.

Although naïve art's pieces are not difficult to read, they might still be confusing. Art games made in this style sometimes look awkward just because of their childlike simplicity as if they were created especially for children. This kind of aesthetics refers to the modernism era in art when a playful ambiance came to the scene with surrealism, by works of Joan Miró (1893-1983) and artists from other directions like Paul Klee (1879-1940) and Marc Chagall (1887-1985). If this aesthetics is read just as drawings for or by children, they might seem superficial and infantile. The naïve trend is better understood if the viewer can orientate within its cultural background and read the references to the idea of unconsciousness and deliberation of cultural restrictions. It became topical in the era of modernism, with its connection to psychoanalysis and the savage mind that lets the inner child express his untamed spirit by presenting amusing, sometimes distorted and dream-like images. Sigmund Freud questioned whether we could possibly liberate ourselves from the restraints of a system's culture or social rules (Freud, 2010[1927]). Freud himself agreed that this idea is utopic and we can only discuss it theoretically, although, he argued, culture brings displeasure and neurosis

and it is tempting to think that life without culture would bring us more joy. This assumption is deliberately used in naïve art as a form of escapism from reality.

Works of naïve art leave an impression that their author is not academically educated although it is not always true. When a trained artist uses naïve aesthetics, it is sometimes called also pseudo-naïve art, faux naïve art, primitive art or primitivism. These works do not fit into the academic/formal conventions of composition and perspective. They are characteristic of a childlike expression and frankness (Walker, 1992: 433). Henry Rousseau (1844-1910) and Alfred Wallis (1855-1942) are particularly influential figures of naïve art. The Latvian artist Elita Patmalniece (1964) is also an interesting example of contemporary naïve art. Naïve aesthetics has long been present in art history, however, the most direct influence in contemporary digital art belongs to the relatively recent period of modernism. The lithograph *Sun with Red Horse* (1979) by Chagall could be mentioned among the examples of this style (Fig. 1).



Source: *MutualArt*, 2019

Fig. 1. **Marc Chagall. Sun with Red Horse**

Art Space would show the reliance of some of the recent art games on naïve art and present some examples of naïve art as its antecedents. Among the most sophisticated digital art games that represent naïve art are *Blueberry Garden* (Svedäng, 2009), *Ulitsa Dimitrova* (Schönfelder, 2011), *Monument Valley* (Ustwo Games, 2014), *Samorost 1-3* (Amanita Design, 2003, 2005, 2016), *Questionaut* (Amanita Design, 2009), *Chuchel* (Amanita Design, 2018) and some other delicate games from the Amanita Design company. Naïve stylistics in these games are close to the subtle drawings of Klee and Chagall. For instance, *Red Bridge* (1928) by Klee (Fig. 2) recalls the game *Monument Valley*, in particular the scene where a lonely building is seen in a moonlight (Fig. 3). Hand drawn characters, bright colors, a lack of perspective and simple expression in those games are some of the typical features of naïve art.



Source: *Inverse*, 2019

Fig. 2. **Paul Klee. Red Bridge**



Source: Pininterest, 2019

Fig. 3. **Monument Valley**

### **Conclusions**

1. The project supports knowledge transfer, research and the educational focus of art games.

Some of the games of the first decades of the 21<sup>st</sup> century represent cultural activism and critical thought. Artists such as Jodi, Jason Rohrer, Mary Flanagan, Pippin Barr and others have created interesting art games with an intellectual mission. Gaming has already been culturally sophisticated for about 20 years now and games surely can also take on the function of knowledge transfer in the field of modern art, however, this emphasis is missing.

There have been some attempts to popularize contemporary art in gaming, but art game has not been well exploited as a knowledge transferee to date. Art game would be a suitable medium for informing the players about the latest findings in the modern theory of art, the new tendencies, intertextual links and other aspects of the current situation in the art world. Art games undoubtedly have the potential to raise the intellectual capital of gaming by reflecting the research results in art, but this aspect is not presently topical in art games. The author recommends creating art games on the basis of research and the historical background in order to transfer knowledge to the game players.

2. The new edugame Art Space represents the approach of research and knowledge transfer.

The trends of digital art games (glitch, noise and others) will be represented in Art Space and introduced to the player in the virtual classroom so that he/she could study their antecedents and use their means of expression. The game will show some current trends of the contemporary game aesthetics, their historical antecedents and examples of the games of the last decades. Since Art Space cannot encompass all the art game trends, some of them will be left out of the game and only presented on paper in order to illustrate the historical background of contemporary games related to the era of modernism. This article demonstrates the example of naïve art that could be included in the art game. Klee and Chagall are among the best-known modernism artists whose works are sometimes associated with naïve art and are related to the naïve aesthetics in games today.

3. Mission of the project: to encourage the manifestation of knowledge in the future art games.

The project aims to promote the discussion of art research in the art game discourse. It intends to explain the specific means of expression governing the contemporary game language such as naïve art and to show the new trends in the context of their cultural background. This paper is devoted to the aesthetical heritage, but the suggested methodological approach is certainly not limited to the area of aesthetics: it encompasses all subjects of modern art research.

The article speaks to art game designers and theorists, and suggests creating a new niche of art games that would encompass the research results into contemporary art and transfer those results to the general public of players. The new game Art Space is presented as an example of this approach, and naïve art illustrates the principle of how research results could be manifested in the new game. Art Space belongs to the large number of games which have the goal of supporting knowledge of culture yet it hopes to open a new page in edugames devoted to research into contemporary art.

Art Space could be a suitable medium for education at universities and colleges, nevertheless, its highest goal will be to reach the enthusiasts of art outside formal education. It hopes to spark the interest of the general public taking into account that gaming as an interactive medium has the potential to effectively address an audience that would otherwise stay outside the fuzzy area of contemporary art.

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## TAX INCENTIVES TO ENCOURAGE CORPORATE INVESTMENT IN LATVIA

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**Abstract.** During 2006-2017, Latvia has applied a rather generous accelerated depreciation (AD) policy to stimulate firm investment. The AD policy included: (1) the general AD scheme, (2) incentives to acquire new technological equipment, and (3) Investment incentives in the specially assisted areas. This paper analyses the effect of accelerated depreciation policy on firm investment using administrative firm-level data for 2007–14. Lacking data for a natural experiment (AD began before our sample period), we use difference-in-differences methodology with identification based on variation either across time (the crisis period serving as quasi-counterfactual) or by firm size (with large firms unlikely to be genuinely affected by the policy). We find that past use of AD had a positive effect on firm investment rates. The effect is stronger in industries with most of their assets in long-duration categories and among enterprises with fewer than six employees. AD of new equipment has a significant effect both on next year investment rate and on probability to invest next year, but only for firms with six to ten workers.

**Keywords:** *tax incentives, corporate investment, accelerated depreciation.*

**JEL code:** D22, D25, H25, G41

### Introduction

During 2006-2017, Latvia has applied a rather generous accelerated depreciation (hereafter AD) policy to stimulate firm investment. Neighbouring Estonia has applied, since 2000, a zero corporate income tax on reinvested profit (Masso and Meriküll, 2011; Masso et al., 2011). During 2008-2015, business investment rate (defined as gross investment divided by gross value added of non-financial corporations) in Latvia was in line with other Baltic countries and Poland. However, since 2010, Latvia lags behind Estonia in terms of investment per person employed, and the gap is increasing (see Annex 1 for details). Moreover, in Latvia economic activities with high investment per person employed and high business investment rate are not among those with the highest apparent labour productivity. This might indicate that the AD scheme in Latvia was too general and/or too generous, resulting in over-investment in less productive firms or industries.

The purpose of this paper is to shed light on responses to the following questions:

- Did the AD policy encourage firms to invest in Latvia? Was the policy well targeted?
- How did experience in using AD (in terms of relative and absolute size of accelerated depreciation value and the magnitude of the reduction of taxable income) affect the size of investment?
- Was the effect of AD of new equipment stronger than that of other types of AD?

Previous studies have identified several channels through which accelerated depreciation (AD) might affect investments. First, it lowers the user cost of capital (Jorgenson, 1963; Zwick and Mahon, 2017). Second, for firms on a tight margin it relaxes the cash flow constraint (Kaplan and Zingales, 1997; Stein, 2003, Devereux and Liu, 2017; Zwick and Mahon, 2017, among others). Third, managers keen on tax saving might use AD for this reason but only when the tax benefits are immediate (Zwick and Mahon, 2017), as is often the case under the Latvian AD policy.

### Literature Review

So far, only a few studies have investigated the effect of tax incentives and different types of depreciation, especially on business investment across sub-groups of firms.

Bronzini et al. (2008) evaluated the impact of the investment tax credit on business investment in Italy. They focus on the tax credit, which is not restricted to profitable enterprises with tax liability but can also be deducted from any outstanding payment due to central government. The amount of tax credit differs by area of eligibility, and the amount



of the deduction decreases as local development grows. The results suggest that the program has been effective in boosting investment.

Devereux, Maffini, and Xing (2016) provide evidence of a substantial positive effect of higher depreciation allowances on firm investments. In the UK, firms that qualify as an SME can claim a higher first-year capital allowance than the larger firms if they were below two of three thresholds for turnover, total assets, and number of employees. In 2004, the UK more than doubled the turnover and total assets thresholds. The authors found that access to more generous capital allowances increases firm investment by 2.1–2.6 percentage points (pp) relative to firms that never qualified for the more generous treatment; at the mean, this is equivalent to an 11 percent increase in investment.

Yagan (2015) studied the effect of the 2003 US dividend tax cut on corporate investment and labour earnings. In his estimation, the tax cut caused zero change in corporate investment and employee compensation. Similarly, Desai and Goolsbee (2014) showed that the dividend tax cut, despite its high revenue cost, had minimal, if any, influence on investment incentives.

Bonus depreciation, passed in the US in 2002 (it expired at the end of 2004) and again in 2008 allowed firms to deduct from their taxable income a “bonus” percentage of the cost of investment purchases. House and Shapiro (2008) explored the effect of the bonus depreciation allowance in 2002–03. Only investment goods with a tax recovery period up to 20 years qualified. The results suggest that bonus depreciation had a powerful effect on the composition of investment, in that there were steep increases in capital investment in assets that benefited substantially from the policy.

Recently Zwick and Mahon (2017) found that bonus depreciation had a substantial effect on investment in 2001–04 and 2008–10. Theirs was the most complete dataset yet applied to study US business investment incentives, and their results suggest that the investment response is larger for small, cash-poor firms—but only when the policy generates immediate rather than future cash flows. Ohn (forthcoming) estimated the response of manufacturing to bonus depreciation and depreciation allowances in the US that adopted such policies and found that both policies have been effective in boosting investment. The policies also affected employment and total production, but only several years after adoption. In a companion study, Ohn (2018) examined how firms responded to the domestic production activities deduction, which allows firms to deduct a percentage of domestic manufacturing income from their taxable income and found that corporate tax rate reductions motivated larger firms with more cash flow to invest more, but smaller, more financially constrained firms were more responsive to depreciation policies. Edgerton (2010) found that tax incentives like bonus depreciation have the least impact on investment exactly when they are most likely to be used—during economic downturns when cash flows are low.

To our best knowledge, this paper is the first to ask whether the investment tax incentives that Latvia put in place in 2007–12 were effective. (Forthcoming papers by Guceri and Albinowski (2018) and Mosberger and Varga (2018) look at the effects of tax incentives in two other CEE countries, Poland and Hungary).

### 1. Policy Context

Since 2006, Latvia has used AD policy to stimulate firm investment. It allowed firms to use for tax purposes a larger asset depreciation value (ADV, or AD deduction, hereafter) than for balance sheet depreciation, so that firms were able to reduce taxable income by the difference between ADV and the balance sheet depreciation value (BDV).

The AD policy has three main components: (1) the general AD scheme, (2) incentives to acquire new technological equipment, and (3) investment incentives in Specially Assisted Areas (SAAs). Closely related to AD (but not limited to it) are R&D incentives (effectively, the fourth component of the AD policy).

*The general AD scheme* sets out five asset categories, and the baseline depreciation rates range from 5 to 20 percent. The effective rates are twice the baseline rates for most types of assets. For passenger cars, motorcycles, water and air means of transport, the multiplier is 1.5 rather than 2, and representation passenger cars are not eligible for AD at all.

Depreciation (and hence the AD policy) does not apply to land, works of art and antiques, jewellery and other fixed assets that are not subject to physical or economic depreciation, as well as to investment properties, organic assets, and long-term investments held for sale, which the taxpayer has chosen to value at their true value.

*The incentives for new technological equipment* applied to new production equipment acquired or established by the taxpayer in a taxation period commencing in 2006 or later and used in economic activities. For such assets, the acquisition or creation value was multiplied by 1.5 before calculating the depreciation deduction (in 2007 the multiplier was 1.4 and in 2008 it was 1.3). On top of this, the general AD scheme with double depreciation rates applied.

*Investment incentives in SAAs* applied to taxpayers established and operating in such areas (the least developed municipalities, listed in the Cabinet regulations amending the Regional Development Law). Before calculating the depreciation value of fixed assets used for economic activities in SAAs, eligible firms could multiply asset acquisition or creation value by a coefficient varying from 1.3 to 2.0 for different categories of assets. Taxpayers eligible for both the SAA incentives and the incentives to acquire new technological equipment could apply just one (at their own choice) to the same fixed asset.

*R&D incentives* allowed taxpayers to write off 100% (after January 1, 2014 – 300%) of the costs of research and development related to their economic activity (other than costs for geological exploration) in the year when the costs are incurred.

Between 2006 and 2017, the Latvian AD policy was a *permanent feature of the tax code*, unlike the US bonus depreciation (see, e.g., House and Shapiro, 2008; Zwick and Mahon, 2017) but similar to the UK first-year allowance (see, e.g., Maffini et al., 2016). Due to multipliers, the Latvian AD policy was much more generous than the US bonus depreciation.

Due to space restriction, the analysis in this paper is largely limited to the general AD scheme and the incentives for new technological equipment.

Apparently, firms found the AD policy attractive. As shown in Table 1, AD deductions accounted for 11–12% of Latvia's GDP in most years reviewed, though during the crisis it was about 13%. The AD policy apparently reduced firm taxable income by 2.8% of GDP in 2008, 1.5–1.8% in 2009–11, and 2.4% in 2012–14. In 2009–14, more than 90% of all firms with depreciating assets applied AD schemes for tax purposes (Table 1). Indeed, in most cases AD makes it possible to write off an asset faster for tax purposes than for balance sheet needs, thus reducing taxable income.

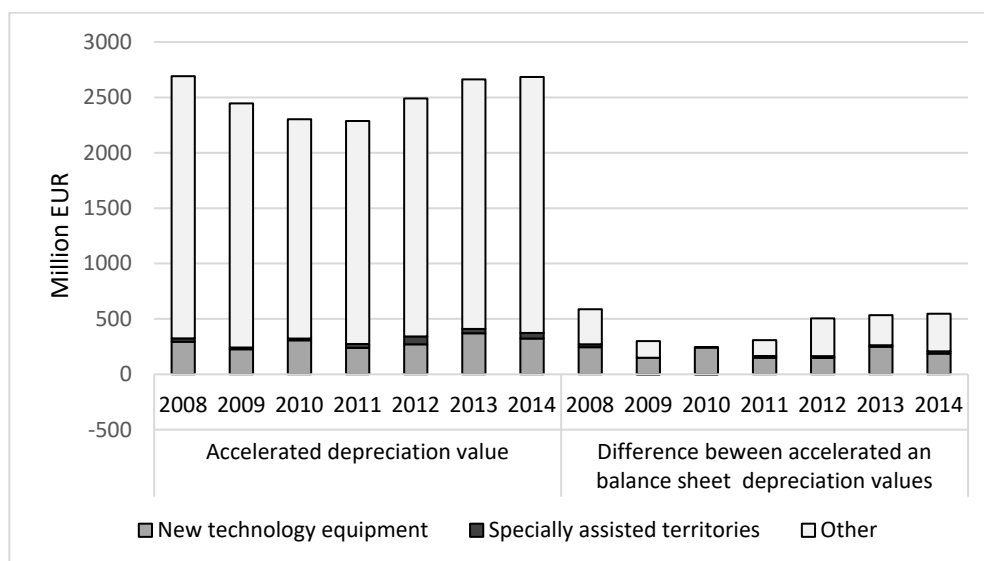
Table 1

**Accelerated and Balance Sheet Depreciation Values, Latvian Firms, 2008–14**

Year	Accelerated Depreciation Value (ADV)			Balance Sheet Depreciation Value (BDV)			ADV-BDV	ADV Coverage (ADV>0)	
	€ Mill.	% of GDP	# Firms with ADV>0	€ Mill.	% of GDP	# Firms with BDV>0	% of GDP	% of Firms with BDV > 0	% of all Firms in CIT data
2008	2691	11.1	50591	1999	8.2	57075	2.8	88.6	66.1
2009	2446	13.0	52158	2109	11.2	55511	1.8	94.0	67.6
2010	2303	12.8	51121	2030	11.3	54954	1.5	93.0	63.7
2011	2286	11.3	49504	1953	9.6	53317	1.6	92.8	60.4
2012	2491	11.4	48312	1960	9.0	51502	2.4	93.8	57.2
2013	2662	11.7	49473	2108	9.3	52400	2.4	94.4	56.9
2014	2684	11.4	49216	2120	9.0	51908	2.4	94.8	56.0

Source: MOF CIT data

AD for new technological equipment accounted for only a small share (from 9% in 2009 to 14% in 2013) of the total AD value but for a very substantial share of the total reduction in corporate taxable income (Figure 1).



Source: MOF CIT data

**Fig. 1. AD Value and Implied Reduction in Corporate Taxable Income by Category, Latvia, 2008–14**

The share of new equipment in the reduction in corporate taxable income was 40–50% in 2008, 2009, 2011, and 2013; about 33% 2012 and 2014; and almost 100% in 2010 (Figure 1).

As of 2018, Latvia has abandoned its AD policy because its tax reform introduced, among other changes, the Estonian model of a zero CIT rate on reinvested profit. Jacobs et al. (2017) provide a discussion of possible advantages and disadvantages of applying the Estonian model in Latvia.

## 2. Data

The main data source for this paper (hereafter: CIT data) is the (anonymized) annual panel of CIT declarations of all 128,459 Latvian firms that paid CIT in 2008–14. In addition to pre-tax profit and loss statements, the data include detailed information necessary for calculating taxable income, such as total depreciation values for accounting purposes and AD values for tax purposes. For total depreciation value, the data report separately the depreciation of new equipment, assets employed in SAAs, and patents. The data include 4-digit NACE codes, 6-digit municipality codes, and type of settlement. The panel is not balanced, but for 47,280 firms data are available for each of the 7 years studies, and at least 5 years of data are available for more than 50% of all firms. However, the CIT data do not contain our key variables of interest, investments and fixed capital.

As an additional data source we use anonymized extracts from annual reports of all Latvian enterprises for 2007–14, provided by Lursoft IT. For each firm and year, this dataset covers tangible fixed assets and intangibles at the end of the year, profit or loss before taxes, the 4-digit NACE code, registration year, legal form of the enterprise, turnover, number of persons employed, CIT paid for the given year, and a 4-digit municipality code. In merging the two datasets we used variables available in both (year, profit or loss, NACE, municipality, CIT paid). Doing so is complicated for several reasons, among them (1) the CIT declarations (extracted from the SRS data warehouse in 2016) include the most recent versions of profit data, which might differ from those in the annual reports. (2) Similarly, the NACE and the municipality codes for the same firm might differ.

Our matching procedure works as follows:

Step 1a. Match by year profit or loss before taxation, 4-digit NACE code, and 4-digit municipality code. Step 1b. For every pair of firms matched in Step 1a for a given year, compare profit or loss before tax for other years. If the

absolute difference does not exceed €10 in at least one other year, the two firms are fully matched. However, if a firm from CIT data can be matched in annual report data with more than one other firm (i.e., has multiple twins) it is not considered fully matched.

Step 2a (for firms not fully matched): Match by year, profit or loss before taxation, 2-digit NACE code, and 4-digit municipality code. Step 2b: Similar to Step 1b, but follows the Step 2a result.

Step 3a (for firms not yet fully matched): Match by year, profit or loss before taxation and 4-digit NACE code. Step 3b: Similar to Step 1b, but follows the Step 3a result.

Step 4a (for firms still not yet fully matched): Match by year, profit or loss before taxation and 2-digit NACE code. Step 4b: Similar to Step 1b, but responds to the Step 4a result.

Step 5a (for any firms remaining unmatched): Match by year and profit or loss before taxation. Step 5b: Similar to Step 1b but responds to the Step 5a result.

Steps 1–5 result in matching 67.5% of all enterprises in the CIT data. For the firms still unmatched, we implement a second and third round of the same five steps but this time allowing for a profit difference of up to €100 rather than €10. This allows matching of 1.5% of all firms, thus raising total matching rate to 69%. In the fourth round, we repeat the matching procedure using, in each step, the value of CIT paid in addition to the firm characteristics used in rounds 1-3; adding this new matching variable results in finding single twins in many new cases. As the result, 88.5% of all CIT payers (and 93% of observations in the CIT database) for 2008–14 are matched.

Descriptive statistics (omitted here) suggest that matched firms are representative of all firms. Indeed, distributions of the two sets by 2-digit NACE sectors, by region, and by type of settlement are very similar, as are also distributions by profit before taxes. However, matching CIT and annual report data is not our main purpose: what we need are data on tangible assets and derived investment data. Depending on the year, data on tangible assets are missing for 20% to 33% of matched firms. Hence, the working sample (matched firms with non-missing data on tangible assets) covers about 55,000 firms in each of the study years, accounting for more than 90% of firms in the CIT dataset whose balance sheets declare some asset depreciation. This suggests that for the purposes of this paper, the working sample is representative.

### 3. Econometric Methodology

#### 1. Panel data models

To evaluate the effect of a firm's past AD experience on its investment we estimate fixed-effects panel data models of the following type:

$$Y_{it} = \alpha_t + \beta_t Z_{AD_{it-1}} + \gamma X_{it-1} + u_i + \varepsilon_{it} \quad (1)$$

Here,  $Y_{it}$  is a measure of investment by firm  $i$  in year  $t$ ;  $\alpha_t$  are time fixed effects;  $Z_{AD_{it-1}}$  is a measure of AD used by firm  $i$  in the previous year;  $\beta_t$  are time-varying effects of AD on investment;  $X_{it-1}$  is a lagged vector of firm characteristics (including fixed assets, employment, turnover, profit, and firm age);  $u_i$  are unobserved firm fixed effects; and  $\varepsilon_{it}$  are error terms. To simplify notation, we allow  $t$  in (1) to take all values including the one for the reference year, say, 1.

In model (1), the AD variable can suffer from endogeneity caused by reverse causality (a firm planning to invest in  $t$  may want to make use of AD in  $t-1$ ) or by time-varying unobserved factors affecting both investment and AD decisions. Our baseline models use investment and AD rates rather than just indicators of positive investment and positive AD value, which arguably makes the endogeneity risk less significant. However, to address the endogeneity problem we proceed as follows:

1. Construct the treatment group  $T$ , firms whose investment behaviour is likely affected by the AD policy, and the control group  $C$ , firms probably not significantly affected by the policy (see details below).

2. Estimate (1) separately on  $T$  and  $C$ .
3. Apply the difference-in-differences methodology by comparing the change in  $\beta_t$  (vs. the base year) in the treatment group with the corresponding change in the control group. Technically, this is equivalent to estimating on the pooled ( $T$  and  $C$ ) sample a fixed-effect model like (1) amended with the treatment group dummy (also denoted  $T$ ) and its interactions with other variables:

$$Y_{it} = \alpha_t + \beta_t Z_{AD_{it-1}} + \lambda_t T + \delta_t T \times Z_{AD_{it-1}} + \gamma X_{it-1} + \mu T \times X_{it-1} + \varepsilon_{it} \quad (2)$$

The coefficients of interest in (2) are  $\delta_t$ ; these are equal to differences in  $\beta_t$  from (1) estimated on treatment and control groups. As argued next, if the base year corresponds to the crisis period, significant and positive  $\delta_t$  in other periods will indicate that AD has a positive effect on firm investment.

We then modify this version of regression discontinuity design (RDD) by replacing the variation across time with the variation (within treatment and control groups) across firm size (in terms of employment). After replacing time effects with size-specific effects, the model takes the form

$$Y_{ist} = \alpha_{st} + \beta_s Z_{AD_{t-1}} + \lambda_s T + \delta_s T \times Z_{AD_{t-1}} + \gamma_s X_{-it-1} + \mu_s T \times X_{-it-1} + u_i + \varepsilon_{it} \quad (3)$$

Here,  $s$  varies across size categories and  $X_{-}$  includes firm characteristics other than employment. If one can argue that in the base category the treatment effect is absent, significant and positive  $\delta_s$  will indicate that AD has a positive effect for firms in other categories.

## 2. Treatment and control groups

Our identification strategy follows the idea of Zwick and Mahon (2017) to use as the control group firms in industries where investment is mostly short-term, as AD only modestly alters their depreciation schedule. Technically, our analysis differs from that of Zwick and Mahon (2017), who assign industries to the treatment group (respectively, control) group if the industry average discounted value of one dollar of investment deductions without bonus depreciation is low (respectively, high). We use for the same purpose the industry average ratio  $DR$  of accelerated depreciation value to balance sheet depreciation value, and the industry average difference  $DD$  of the same quantities. Our treatment group features high values of  $DR$  and  $DD$ , and our control group has low values. Like Zwick and Mahon (2017), we use four-digit industries.

When all types of AD are considered together, *the treatment group* includes firms belonging to the top 20% in terms of  $DR$  (i.e., having  $DR \geq 1.275$ ) and to the top 33% in terms of  $DD$  (i.e., having  $DD \geq \text{€}3,000$ ), which ensures that AD provides a non-negligible increase in tax deductions. On the other hand, *the control group* includes firms from industries with either  $DR < 1.05$  or  $DD < \text{€}500$  and hence the increase in tax deductions due to AD is small. See Table A2.1 for details.

Our estimates of the AD effect on investment include firm fixed effects and control for a number of time-varying firm characteristics. Nevertheless, in the spirit of the D-i-D methodology, it is preferably that the control and the treatment groups be as similar as possible. Descriptive statistics (omitted to save space) show that distributions of treatment and control groups by firm size, turnover, investment rate, region and type of settlement are quite similar. Moreover, across the years, the average proportion of firms making an investment of at least €100 is about 50% in both groups, and average investment rate (with respect to beginning-of-the-year capital) is 24.3% in the treatment group and 27.9% in the control group. Note, however, that there are inevitable differences between treatment and control groups in terms of industry composition, because definitions of the groups refer to industry level indicators. Real estate activities account for more than half of the treatment group observations, while retail trade (incl. trade and repair of motor vehicles) account for one-third of the control group. Most other services are almost completely in the control group, although manufacturing, utilities, and construction firms are present in both groups.

As AD began before our sample period, we are not able to use its introduction as a natural experiment, in which case  $t = 1$  in (1) would correspond to the pre-reform period. Instead, we argue that during the crisis in 2009–10 investment rates were very low (see Figure A1) due to cash constraints and the uncertain prospects of the economy, and hence the effect of past AD experience on investment was absent or very small in both groups (see Figure 2 below for empirical evidence). Hence, we use the crisis period as a quasi-counterfactual. Post-crisis, investment activity in Latvia revived, but not to the pre-crisis level (Figure A1); firms are more often cash constrained and are more careful in making decisions to invest. We expect that in comparison with 2009, the increase of the effect of past AD experience on investment is much larger in the treatment than in the control group, so the post-crisis  $\delta_t$  in model (2) are positive. Figure 2 below supports this hypothesis. A weakness in this approach is that we cannot convincingly test the parallel lines assumption because we only have two crisis years.

Our second version of RDD refers to *variation across firm size instead of across time*. Small firms are more likely to be cash-constrained and to have uncertain prospects; hence, we expect that in the treatment group, the effect of past AD experience on investment increases as firm size (measured by employment) falls. By contrast, in the control group, because small firms do not see an immediate cash benefit from AD, they are likely to invest only sporadically if at all. For large firms in the control group investment is likely to be a part of their business model; plausibly, these investments are regular due to short asset lives, leading to reversed causality of the estimated AD effect, which is likely to increase with firm size (larger firms invest more regularly).

#### 4. Research results and discussion

##### 1. Key variables

We define a firm's investment rate in year  $t$  as

$$Inv\_rate(t) = \log(1 + (Gross\ investment\ in\ fixed\ assets)(t)) / (K(t - 1)) \quad (4)$$

where  $K(t)$  is the end-of-year value of fixed assets, and

$$(Gross\ investment\ in\ fixed\ assets)(t) = K(t) - K(t - 1) + Balance\ sheet\ depreciation\ value(t) \quad (5)$$

Note that (4) is just the continuously compounded version of the usual investment rate. We have used two firm-level measures of AD experience: the accelerated depreciation rate:

$$AD\_rate(t) = \log(1 + ADV(t)/K(t - 1)) \quad (6)$$

and the reduction in taxable income caused by AD (also scaled by  $K(t-1)$ ):

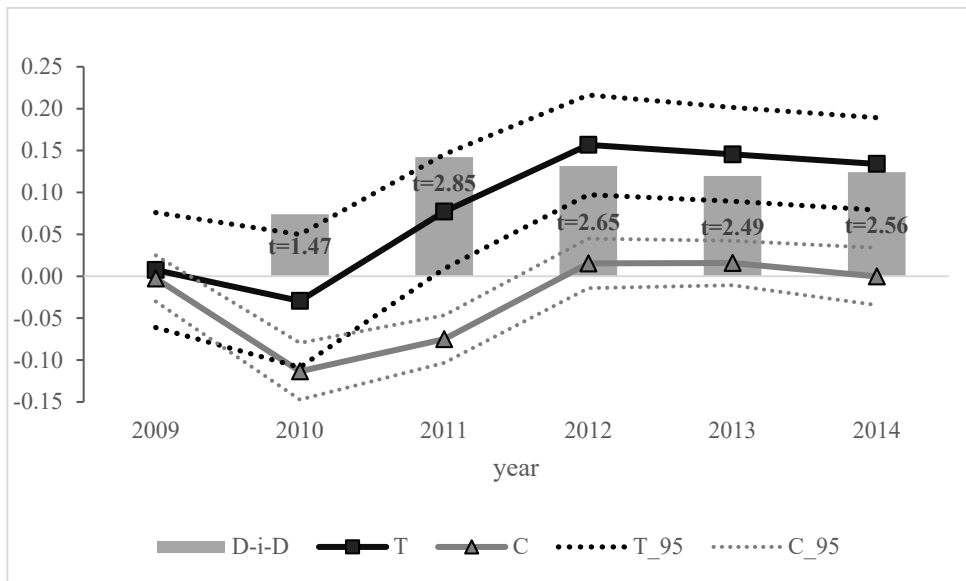
$$AD\_gain(t) = \log(1 + (ADV(t) - BDV(t))/K(t - 1)) \quad (7)$$

The rationale for using  $AD\_gain$  is straightforward; use of the  $AD\_rate$  is motivated by behavioural considerations: the tax declaration template refers to ADV as one of the items reducing taxable income, so managers or owners of small firms might see this (rather than  $AD\_gain$ ) as a measure of the tax benefit. In models with  $Inv\_rate$  as the dependent variable, estimated coefficients on lagged  $AD\_rate$  or  $AD\_gain$  can be interpreted as investment elasticities with respect to the previous year AD value or the corresponding reduction in taxable income.

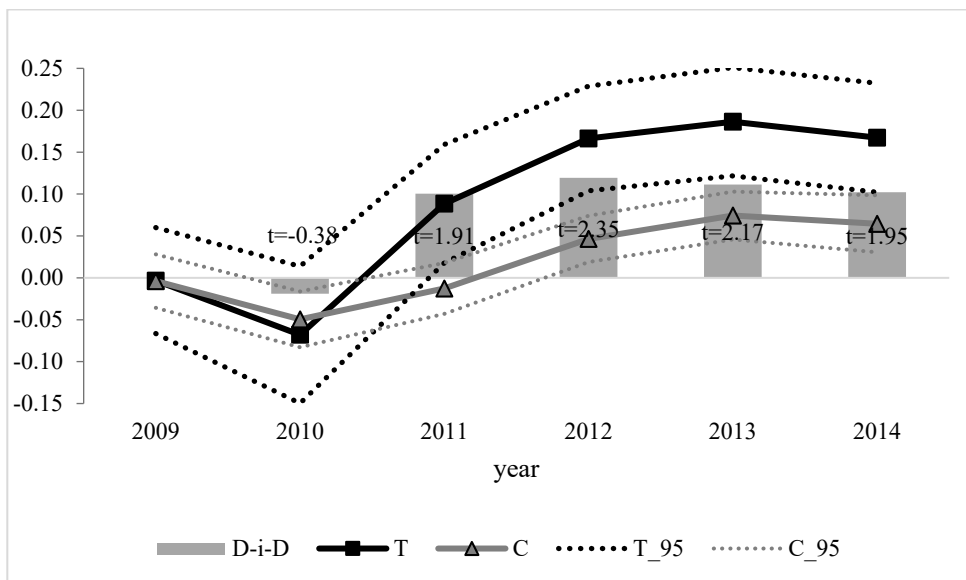
##### 2. Total aggregate effects of accelerated depreciation

Table A3.1 presents estimation results from specifications (1) and (2) which use the crisis period as a quasi-counterfactual. Expectedly, in both treatment and control groups and for both AD value and tax gain, lagged AD variables have no effect on firm investment in 2009–10. In 2011–14, we find a positive and significant effect for the treatment group (Figure 2). In the control group, there is no effect of the past AD value; the past AD gain appears to be significant in 2012–14, but the effect is much weaker than in the treatment group. Both specifications produce a strongly significant positive D-i-D effect of AD in 2011–14 (Figure 2).

A. Effect of Lagged AD Value



B. Effect of Lagged AD-caused Reduction in Taxable Income



Source: authors' calculations using MOF CIT data

Notes: Labels in the D-i-D series show t-values from fixed-effect model with interactions

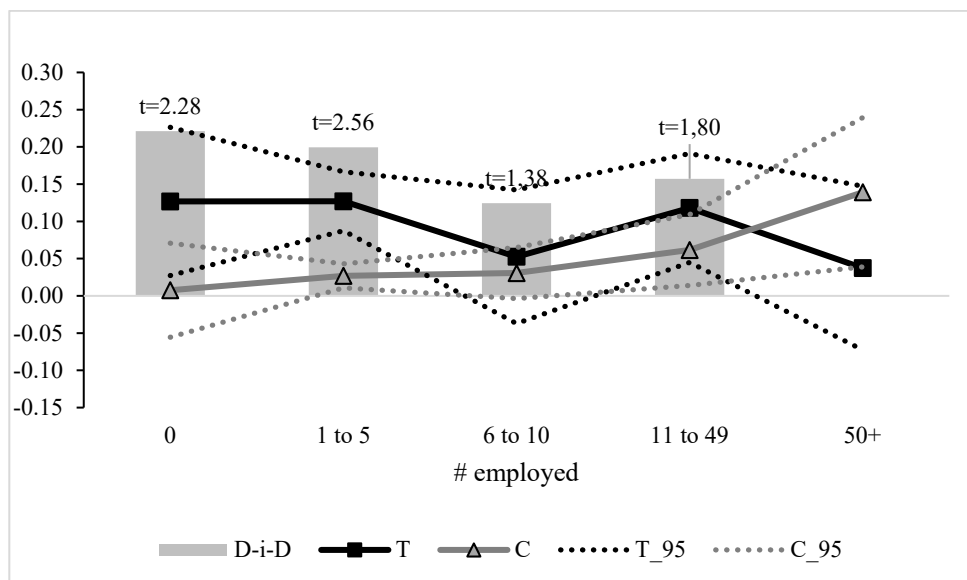
**Fig. 2. Estimated Effect of Past AD Experience on Firm Investment. Treatment and Control Groups, D-i-D:  $(T_{year} - T_{2009}) - (C_{year} - C_{2009})$**

As far as other factors are concerned, the investment rate tends to increase with firm size and turnover, other things equal. Lagged capital stock has a negative effect on investment. Not surprisingly, enterprises in the first two to three years after registration invest the most.

Among profit-making enterprises, as might be expected, investment rises in track with the previous year's profit—but loss-making firms also tend to invest more the larger the previous year's loss (the effect among loss-makers is much weaker than among profit-makers). It might be rational for firms with large losses to invest more than do those with small losses, but this might also relate to losses carried forward and coordination of investment plans with a tax-optimization strategy.

Figure 3 presents AD effect on investment derived from specification (3) with identification based on variation across firm size instead of variation across time.





Source: authors' calculations using MOF CIT data

Notes: Labels in the D-i-D series show t-values from fixed-effect model with interactions

**Fig. 3. Estimated Effect of Past AD Experience on Firm Investment, by firm size. Treatment and Control Groups, D-i-D:  $(T_{size} - T_{50+}) - (C_{size} - C_{50+})$**

Using large (50+ worker) firms as the base category, we indeed find a positive and significant effect of lagged AD-caused reduction in taxable income on investment for smaller firms in the treatment group, except for firms with six to ten workers. This effect gets larger as firm size falls, suggesting that there is no reversed causality. In the control group, the estimated effect of AD-caused reduction in taxable income is positive and significant among firms with at least one worker. This effect grows with firm size, suggesting that reversed causality is at work (firms use AD because they invest regularly) in the control group. In both specifications, the D-i-D estimate of AD effect on investment rate is highly significant for firms with fewer than six workers. The effects of lagged AD value (not shown to save space) are similar but somewhat less significant.

### 3. Disaggregated AD effects on firm investment rate and investment decisions, by program type

Each of our main explanatory variables,  $AD_{rate}$  and  $AD_{gain}$ , can be decomposed into three components corresponding to AD of new equipment, AD in SAAs, and other types of AD. To isolate the effect of the AD of new equipment, we narrow down the Treatment group used until now ( $T_{tot}$ ) by imposing, in addition, the following conditions (as before, we use four-digit level industry): (i) the industry average accelerated depreciation value of new equipment  $ADV_{new} \geq 1000$  euro; (ii) the industry average ratio of the accelerated depreciation value to the balance sheet depreciation value of new equipment  $DR_{new} \geq 2.00$ ; (iii) there are more than three observations with positive  $ADV_{new}$  in the industry.

These conditions reduce the number of firms by nearly a half, from 10.6 thousand in  $T_{tot}$  to 6.2 thousand in  $T_{new}$  (Table A2.1). For firms in  $T_{new}$ , one can expect substantial tax savings from using the AD of new equipment. The restriction on the total Control group ( $C_{tot}$ ) that the industry average difference  $DD = ADV - BDV \leq 500$  EUR applies of course also to  $DD_{new}$  and is sufficient to make non-negligible tax savings unlikely. To ensure sufficient common support with the Treatment group  $T_{new}$ , we require, in addition, the industry average share of firms using AD of new equipment in  $C_{new}$  to be at least 0.38% (the minimum in  $T_{new}$ ). This reduces the number of firms by one-third, from 30.9 thousand in  $C_{tot}$  to 20.5 thousand in  $C_{new}$  (Table A2.1). Descriptive statistics (omitted to save space) shows that  $T_{new}$  and  $C_{new}$  do not differ much in terms of distribution by firm size, turnover, investment rate, region and type of settlement.

Disaggregated by type of AD models (2) and (3) estimated on pooled  $T_{new}$  and  $C_{new}$  samples provide some (inconclusive) evidence of the effect of the past AD of new equipment on firm's investment rate and investment decisions. In this paper (see Table A3.2), we present only results from model (3), with identification across size groups. AD of new equipment is found to have a significant (at 5%) effect both on next year investment rate and on probability to invest next year, but only for firms with six to ten workers; the effect on investment rate is also positive and close to being significant for firms with 11 to 49 workers.

### Conclusions

1. This paper has studied the effect of generous accelerated depreciation (AD) policy on firm investment in Latvia in 2009–14. Lacking data for a natural experiment, we use difference-in-differences methodology with identification based on variation across time, with the crisis period serving as quasi-counterfactual, and by firm size, with large firms unlikely to be genuinely affected by the policy.
2. We find a positive effect of the past use of the general AD scheme on firms' investment rate.
3. The AD effect on investment is stronger in industries with most of their investment in long-lasting assets and in enterprises with fewer than six employees.
4. Regarding AD of new equipment, we find a significant effect both on next year investment rate and on probability to invest next year, but only for firms with six to ten workers.
5. Our results indicate that AD policy has indeed stimulated investment in Latvia. However, the evidence for the effect is stronger for the general scheme than for new equipment, and this raises the question whether the AD scheme in Latvia was too general and/or too generous, resulting in over-investment in less productive firms or industries.

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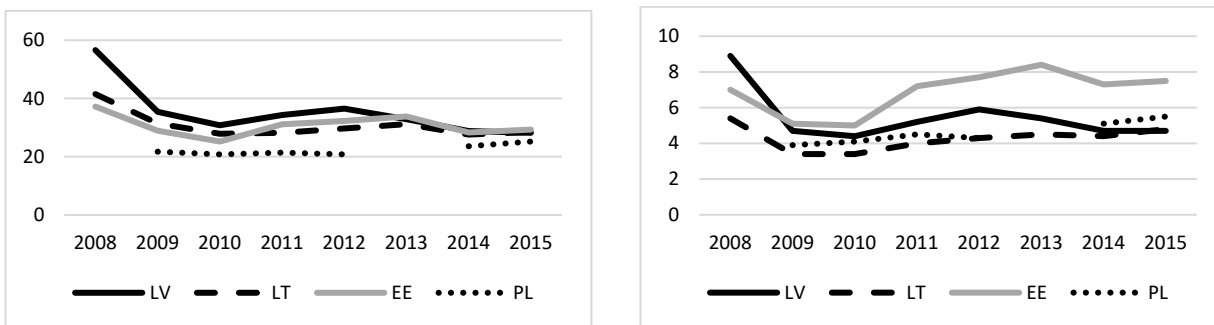
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Annex

1. The Economic Context: Firm Investment in the Baltic Countries and Poland



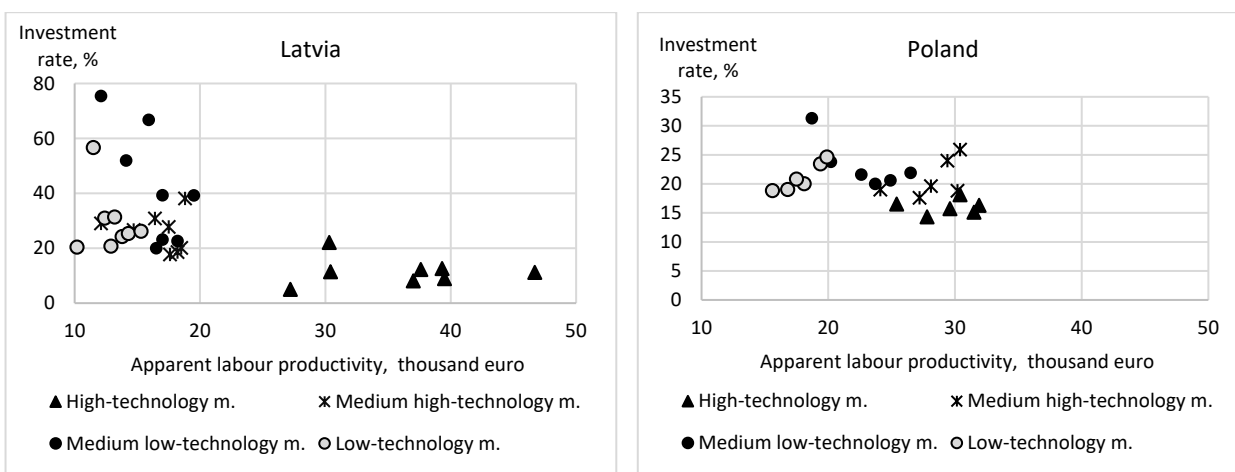
A. Business Investment Rate, Percent.

B. Investment per Person Employed, € thousands

Sources: Calculation with Eurostat data. Legend: LV – Latvia, LT – Lithuania, EE – Estonia, PL – Poland

Notes: Total business economy includes all NACE activities except sections A, K, O, P, Q, R, S94, S96, T, U.

Fig. A1. Investment intensity in Total Business Economy. The Baltic countries and Poland, 2008-15



Source: Eurostat data

Notes: Every point corresponds to one annual observation for one of the four industry groups

Fig. A2. Business Investment and Apparent Labour Productivity by Level of Technology in Manufacturing, Latvia and Poland, 2008–15

2. Treatment and control groups

Table A2.1

Definitions of treatment and control groups in terms of 4-digit industry average accelerated depreciation value (ADV) and balance sheet depreciation value (BDV)

	Accelerated depreciation category			
	Total		New Equipment	
	Treatment	Control	Treatment	Control
ADV/BDV	≥ 1.275	< 1.05	≥ 1.275	< 1.05
ADV - BDV	≥ € 3000	< € 500	≥ € 3000	< € 500
ADV new/BDV new			≥ 2.00	
ADV new			≥ € 1000	
N obs with ADV new > 0			> 3	
% obs with ADV new > 0				> 0.38%
N firms / N obs	10649 / 59297	30872 / 158259	6245 / 36907	20544 / 106119

Source: Firm CIT and annual report data

Notes: Firm size refers to the previous year. N firms and N obs refer to the working sample

## 3. Estimation Results – Fixed Effects Panel Data Models

Table A3.1

Determinants of Firm Investment Rate with Total AD Effects, 2009–14

Dep. Var.: Inv_rate, see (4)-(5)	AD = AD_rate, see (6)			AD = AD_gain, see (7)		
	Treatment	Control	D-i-D	Treatment	Control	D-i-D
L.Log(Fixed assets)	-0.5017*** <i>0.0122</i>	-0.3738*** <i>0.0054</i>		-0.5053*** <i>0.0124</i>	-0.3843*** <i>0.0057</i>	
L.Log(Turnover)	0.0790*** <i>0.0083</i>	0.0767*** <i>0.0043</i>		0.0778*** <i>0.0082</i>	0.0754*** <i>0.0043</i>	
L.log(Profit) (if Profit ≥ 1 EUR)	0.0149*** <i>0.0037</i>	0.0108*** <i>0.0019</i>		0.0151*** <i>0.0036</i>	0.0105*** <i>0.0019</i>	
L.log( Loss ) (if  Loss  ≥ 1 EUR)	0.0125*** <i>0.0036</i>	0.0033* <i>0.0019</i>		0.0124*** <i>0.0036</i>	0.0034* <i>0.0019</i>	
Firm age (vs. 2-3 yrs)						
4-7	-0.0282 <i>0.0207</i>	-0.0498*** <i>0.0102</i>		-0.016 <i>0.0205</i>	-0.0419*** <i>0.0101</i>	
8-10	-0.0677** <i>0.0293</i>	-0.037** <i>0.016</i>		-0.0505* <i>0.0287</i>	-0.0306* <i>0.0159</i>	
11-19	-0.0759** <i>0.0383</i>	-0.0547*** <i>0.021</i>		-0.0482 <i>0.0375</i>	-0.0485** <i>0.0210</i>	
20+	-0.0586 <i>0.0471</i>	-0.0513* <i>0.0264</i>		-0.033 <i>0.0461</i>	-0.0488* <i>0.0263</i>	
L.#employed (vs. 1-5)						
0	0.0896*** <i>0.0234</i>	0.0398*** <i>0.014</i>		0.0835*** <i>0.0232</i>	0.0411*** <i>0.0139</i>	
6-10	0.063*** <i>0.0196</i>	0.0679*** <i>0.0104</i>		0.0590*** <i>0.0195</i>	0.0690*** <i>0.0103</i>	
11-49	0.0916*** <i>0.0282</i>	0.0905*** <i>0.0151</i>		0.0949*** <i>0.0281</i>	0.0953*** <i>0.0149</i>	
50+	0.1230*** <i>0.0456</i>	0.1106*** <i>0.0277</i>		0.1230*** <i>0.0456</i>	0.1179*** <i>0.0276</i>	
L.AD	0.0074 <i>0.0350</i>	-0.0026 <i>0.0140</i>		-0.0033 <i>0.0323</i>	-0.0039 <i>0.0163</i>	
year#LAD: 2010	-0.0369 <i>0.0457</i>	-0.1109*** <i>0.0213</i>	0.0740 <i>0.0504</i>	-0.0647 <i>0.0457</i>	-0.0457** <i>0.0214</i>	-0.019 <i>0.0505</i>
2011	0.0697 <i>0.0457</i>	-0.0725*** <i>0.0202</i>	0.1422*** <i>0.0499</i>	0.0917* <i>0.0474</i>	-0.0088 <i>0.0227</i>	0.1005* <i>0.0525</i>
2012	0.1494*** <i>0.0453</i>	0.0179 <i>0.0201</i>	0.1315*** <i>0.0496</i>	0.1696*** <i>0.0459</i>	0.0503** <i>0.0218</i>	0.1192** <i>0.0508</i>
2013	0.1381*** <i>0.044</i>	0.0184 <i>0.0194</i>	0.1197** <i>0.0481</i>	0.1896*** <i>0.0462</i>	0.0782*** <i>0.0225</i>	0.1113** <i>0.0513</i>
2014	0.1267*** <i>0.0433</i>	0.0024 <i>0.0222</i>	0.1243** <i>0.0486</i>	0.1705*** <i>0.0462</i>	0.0684*** <i>0.0244</i>	0.1021* <i>0.0522</i>
Year fixed effects	yes	yes	yes	yes	yes	yes
Firm fixed effects	yes	yes	yes	yes	yes	yes
R-sq: within	0.3252	0.2387	0.2678	0.3167	0.2402	0.2655
overall	0.0753	0.0479	0.0329	0.0679	0.0476	0.034
N obs/N firms, 1000	37.3 / 8.98	103.9 / 26.6	141.2 / 35.6	37.0 / 8.97	103.4 / 26.6	141.4 / 35.5

Source: Calculation with firm CIT and annual report data. Notes: AD refers to total accelerated depreciation variables

Notes: Columns “Treatment” and “Control” present estimates of model (1) on groups defined in Table A2.1 (panel “Total”). Columns D-i-D present only time-varying coefficients  $\square$  of interactions of the treatment dummy (T) with lagged AD\_rate or AD\_gain from model (2) estimated on the Treatment + Control sample. Robust standard errors (shown in italics) are clustered on firms. Legend: \*  $p < .1$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

Table A3.2

## AD of New Equipment: Effects on Firm Investment Rate and Probability of Investment

	Dep. Var.: Inv_rate, see (4)-(5)			Dep. Var.: 1 if investment ≥ 100 EUR		
	AD = AD_rate, see (6)			AD = AD_gain, see (7)		
	T_new	C_new	D-i-D	T_new	C_new	D-i-D
LAD_new	-0.0686	0.0256		0.0307	0.004	
	<i>0.0894</i>	<i>0.1219</i>		<i>0.0495</i>	<i>0.071</i>	
N workers (vs. 50+)#LAD_new						
0	0.3184**	0.4146***	-0.0962	-0.0945	0.1772	-0.2717*
	<i>0.1452</i>	<i>0.155</i>	<i>0.2123</i>	<i>0.1069</i>	<i>0.1184</i>	<i>0.1594</i>
1 to 5	0.0595	-0.0373	0.0968	-0.038	0.1036	-0.1416
	<i>0.1249</i>	<i>0.1362</i>	<i>0.1848</i>	<i>0.1075</i>	<i>0.0785</i>	<i>0.1331</i>
6 to 10	0.7773***	0.1444	0.6329**	0.4237***	0.1017	0.3220**
	<i>0.2318</i>	<i>0.142</i>	<i>0.2717</i>	<i>0.1051</i>	<i>0.0976</i>	<i>0.1434</i>
11 to 49	0.2347**	-0.0454	0.2801	0.0293	0.0641	-0.0348
	<i>0.1019</i>	<i>0.1498</i>	<i>0.1811</i>	<i>0.0602</i>	<i>0.0895</i>	<i>0.1079</i>
LAD_terr	0.1454***	0.1247		0.0537***	0.1512	
	<i>0.0412</i>	<i>0.1915</i>		<i>0.0188</i>	<i>0.1702</i>	
N workers (vs. 50+)#LAD_terr						
0	-1.6803	-0.3311	-1.3492	-1.250***	0.1571	-1.407***
	<i>1.6234</i>	<i>0.262</i>	<i>1.6430</i>	<i>0.3144</i>	<i>0.3312</i>	<i>0.4565</i>
1 to 5	-0.1306	0.0058	-0.1364	-0.0821**	-0.1049	0.0228
	<i>0.0832</i>	<i>0.2045</i>	<i>0.2208</i>	<i>0.0403</i>	<i>0.1732</i>	<i>0.1778</i>
6 to 10	0.051	0.0511	-0.0002	0.1013	-0.1721	0.2735
	<i>0.457</i>	<i>0.2005</i>	<i>0.4987</i>	<i>0.2117</i>	<i>0.1749</i>	<i>0.2745</i>
11 to 49	-0.118	0.0221	-0.1401	0.0537	-0.1102	0.1639
	<i>0.283</i>	<i>0.2415</i>	<i>0.3719</i>	<i>0.0684</i>	<i>0.1784</i>	<i>0.1911</i>
LAD_oth	0.0377	0.1568***		0.0704	0.0747**	
	<i>0.1054</i>	<i>0.0602</i>		<i>0.045</i>	<i>0.0346</i>	
N workers (vs. 50+)#LAD_oth						
0	0.1028	-0.2376***	0.3404**	-0.0473	-0.0564	0.0090
	<i>0.1198</i>	<i>0.0711</i>	<i>0.1392</i>	<i>0.0523</i>	<i>0.0397</i>	<i>0.0656</i>
1 to 5	0.0826	-0.1835***	0.2661**	-0.0332	-0.0442	0.0110
	<i>0.1065</i>	<i>0.0609</i>	<i>0.1226</i>	<i>0.0456</i>	<i>0.0349</i>	<i>0.0574</i>
6 to 10	0.045	-0.1267**	0.1717	-0.0245	-0.032	0.0074
	<i>0.1235</i>	<i>0.0642</i>	<i>0.1391</i>	<i>0.0504</i>	<i>0.0363</i>	<i>0.0621</i>
11 to 49	0.0056	-0.1424**	0.148	-0.0145	-0.0148	0.0003
	<i>0.1126</i>	<i>0.0642</i>	<i>0.1296</i>	<i>0.0502</i>	<i>0.0369</i>	<i>0.0623</i>
Other controls	As in Table A3.1					
N obs/N firms, 1000	24.4 / 5.6	70.3 / 17.7	94.7 / 23.3	24.3 / 5.6	70.5 / 17.8	94.8 / 23.5
R-sq: within	0.3592	0.2416	0.2802	0.0396	0.0308	0.0329
overall	0.0915	0.0510	0.0582	0.0009	0.0062	0.0000

Source: Calculation with firm CIT and annual report data

Notes: AD\_new, AD\_terr and AD\_oth refer to AD of new equipment, AD in specially assisted areas and other types of AD, respectively.

Columns “T\_new” and “C\_new” present estimates of fixed effect models  $Y_{it} = \alpha_i + \beta_s Z_{AD_{it-1}} + \gamma_s X_{it-1} + u_i + \varepsilon_{it}$  on groups defined in Table A.2.1 (panel “New equipment”). Columns D-i-D present only size-varying coefficients  $\beta_s$  of interactions of the treatment dummy (T) with lagged AD\_rate or AD\_gain from model (3) estimated on the pooled (T\_new and C\_new) sample. Robust standard errors (shown in italics) are clustered on firms.

## HEALTH CARE SYSTEM'S AND HEALTH SELF-EVALUATION OF LATVIA INHABITANTS IN THE CONTEXT OF THE EUROPEAN QUALITY OF LIFE SURVEY (EQLS) OF 2011 AND 2016

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**Abstract.** The quality of the inhabitants of the country is a decisive factor influencing production. At the same time one of the factors characterizing the quality of the inhabitants is their health. Researches of scientists in the last decades have proved mutual interrelation of health of the inhabitants and economic growth: a healthy nation is an important factor of economic growth and vice versa, i.e., the economic growth improves the inhabitants' health improving life quality in total. The subjective evaluation of the life quality supplements the official statistical information. The European Quality of Life Survey (EQLS) is an approved quality supervision and analysis tool that has taken place for the 4th time in 2016 and includes evaluation of the health care system, the inhabitants' awareness of their health situation and mental well-being.

The aim of the article is to assess the changes in separate indicators of health of Latvia society in the context of the European Union countries in the EQLS in 2016 in comparison with the survey in 2011.

To achieve the aim the following tasks were forwarded:

- 1) to offer insight in the present understanding of the concept of society's health and problems;
- 2) to analyse the EQLS 2016 data contrasting them with the data in Latvia and the EU in total.

Descriptive and indicative statistical methods for analyses were applied in the research. As informative sources of inhabitants the European Life and Work conditions improvement fond in 2011-2012 and 2016 from the UK Archive, as well as the data of the World Bank, the World Health organization and Latvia Statistical directorate were used.

As confirmed by the data of 2016 according to self-evaluation of respondents in total the healthcare quality in the EU has increased from 6,07 to 6,18 and this increase must be considered as statistically significant. In Latvia statistically insignificant decrease of the quality of the healthcare from 5,13 to 5,01 can be seen (European Foundation for the Improvement of Living and Working Conditions, 2018).

In Latvia the inhabitants' awareness of personal health condition (*In general, how is your health?*) has been evaluated as average while the average showing in the EU – as good.

Latvia respondents the following statements (*how you have been feeling over the last two weeks*) about the last two weeks “I have felt cheerful and in good spirits”, “I have felt calm and relaxed”, “I have felt active and vigorous”, “I woke up feeling fresh and rested”, “my daily life has been filled with things that interest me” estimate more positively. At the same time “I have felt lonely” and “I have felt particularly tense” and “I have felt downhearted and depressed” are valued more negatively in 2016 in comparison with 2011, but it is statistically insignificant. However, it gives evidence about the increase of everyday life intensity, tension and stress, unfavourable conditions for mental and psychic health and the demand for immediate reaction.

**Keywords:** *Health, Health indicators, Health care system.*

**JEL code:** I15, F63, P36

### Introduction

In 1979 when receiving the Nobel prize in economics for pioneering research into economic development research with particular consideration of the problems of developing countries Theodore W. Schultz accentuated in his lecture that the decisive factor in production is the people's quality and it is important to make investments in education and health. He also spoke about main opportunities how health could promote the production of economics and growth (The Sveriges Riksbank, 1979). Since 90ies research has proved that health when defining it as life expectancy is equally as important indicator of the labour force quality as education. When considering the growth of economics and health it has been proved that economics improves health and this coherence is valid also at present. Thus, for



example, the report of the OECD Health at a Glance 2017, when evaluating the indicators of the OECD countries, concludes that expenses for health care promote life expectancy but it explains only part of differences in life expectancy of inhabitants of various countries. Alongside with the economic growth and investments of countries in health that on average now accounts for about 9% of GDP of no lesser importance are the social factors and habits determining health (OECD, 2017). Empiric research results show that health care expenses of countries is the main life expectancy stimulus in the last decades. Calculations show that the growth of expenses for health care by 10% per capita increases the life expectancy by 3,5 months. Taking into consideration the growth of health care expenses during the last 20 years the life expectancy has increased by 42,4 months (OECD, 2017).

### **Theoretical Aspects of Health and Health Care**

Health depends on investments in the health care system and also outside it. Biological provision and accessibility of health care services are not sufficient to explain the differences in the health of individuals. Education and personal income highly influence the increase of life expectancy. The rise of the level of education by 10% results in the increase of life expectancy by 3,2 months, but the increase of income by 10% per capita prolongs life expectancy by 2,2 months. The improvement of healthy lifestyle by 10% is linked with 2,6 months increase of life expectancy (with smokers it is 1,6, but less use of alcohol – 1 month) (OECD, 2017). Other health social factors such as expenses, healthy food, unemployment, air pollution – influence the common health conditions less though at the same time they are not insignificant. By ensuring sufficient income people can obtain goods and services that maintain or improve health, however, higher income may mean also longer work periods and greater stress (Fuchs V., 2004). Educated people who are also richer are better informed about opportunities for health improvement and maintenance (Mackenbach J. et al., 2008). Unemployment and bad work conditions influence mental health negatively and create traumatism risks (Bassanini A. & Caroli, E., 2014). Living in antisanitary, unsafe and polluted environment increases risks for illnesses and death (Gibson M. et al., 2011; Deguen S. & Zmirou-Navier D., 2010).

It must be emphasized that the observed connection between life expectancy and explanation of its factors must be considered as causal relationship in both directions, as bad health decreases productivity and influences development of human capital negatively that in its turn results in diminished economic growth. On the contrary, high level of inhabitants' health goes hand in hand with high income level of the country. Bloom, Canning and Sevilla in 2004 using the data of 104 countries proved that increase of each year of life expectancy increases productivity of economics for 4% (Bloom D., Canning D. & Sevilla J., 2004). At the same time health can be not only the result of well-being but also the source of high income that ensures higher labour productivity; when being healthy, people are able to learn and acquire better education. Good health can strengthen stimulus to make accumulation for pensions and increase wealth, at the same time healthy labour force strengthens stimulus for investments in business (Bloom D. & Canning D., 2008).

During the last two decades the positive interconnectedness between health and economic growth has strengthened and mechanisms through which health influences economic growth and reverse causal relationship that economic prosperity promoting better health complicates the description of these relations. Besides, such factors as technological progress and institutional improvements favour both - inhabitants' health and economic growth. All these aspects create problems to theoretical modelling and empiric identification (Bloom D., 2018) and research in this direction is continuing.

However, it is clear that on a macrolevel abstracting from other factors it can be said that a healthier nation guarantees economic development, increase of income and well-being of the country, and vice versa – inhabitants of a welfare country are healthier.

What is the health characterising situation in Latvia?

### Research results and discussion

The main indicators according to which the health situation of inhabitants is valued is the life expectancy at birth, healthy life years and, by sex and health care expenses from gross domestic product (GDP)). Since gaining independence of Latvia life expectancy at birth of men and women has increased (Table 1), at the same time in Latvia it is comparatively lower than in the EU-28 countries on average where in 2017 life expectancy at birth on average is 80,9 years - 78,3 years for men and 78,3 years for women (Eurostat, 2019, b).

Table 1

#### Life expectancy at birth, by sex in Latvia

	Total	Males	Females
<b>1990</b>	69,5	64,2	74,6
<b>2000</b>	70,2	64,6	75,8
<b>2010</b>	73,1	67,9	77,9
<b>2011</b>	73,7	68,6	78,5
<b>2016</b>	74,8	69,8	79,4
<b>2017</b>	74,8	69,8	79,6
<b>2018</b>	75,0	70,0	79,6

Source: author's construction based on Central Statistical Bureau of Latvia, 2019

Another indicator that characterizes health – healthy life years and life expectancy at birth, males, 2017 was 50,6 years in contrast to EU-28 average – 63,5years, females in Latvia - 52,2 years in contrast to EU-28 average – 64,0 years. It is the lowest showing of both male and female within the EU group of countries. It means that there is a long and difficult way for Latvia to go to improve the health and healthcare system (Eurostat, 2019, a).

An essential indicator that characterizes the role of the state in the improvement of the health care system is government expenditure for health. How much a country spends on health care over time relative to spending on all other goods and services in the economy can be down, to both growth in health spending itself as well as how well the economy is performing overall. Government expenditure for health has increased for most countries, albeit at a slower rate than gross domestic product (GDP) (Table 2).

Table 2

#### Gross domestic product and Domestic general government health expenditure per capita of EU countries.

##### PPP changes in % in 2016 in comparison with 2011

Country Code	Changes GDP, PPP (current international \$), 2016/2011, %	Changes Domestic general government health expenditure per capita, PPP, 2016/2011, %	Country Code	Changes GDP, PPP (current international \$), 2016/2011, %	Changes, Domestic general government health expenditure per capita, PPP, 2016/2011, %
GRC	16,2	-11,1	BEL	57,8	15,1
CYP	14,4	-8,0	AUT	7,4	18,3
HRV	24,4	0,9	CZE	32,6	20,9
ITA	1,5	3,2	DEU	14,2	21,4
NLD	22,3	6,5	POL	30,7	22,9
PRT	16,9	6,9	SVK	34,1	23,3
ESP	14,2	7,8	FRA	10,2	23,7
LUX	25,9	9,5	LVA	21,4	25,0
IRL	4,3	10,2	LTU	15,9	25,3
SVN	14,5	12,1	GBR	33,3	28,5
FIN	7,5	12,3	BGR	12,0	32,1
DNK	12,3	13,5	MLT	15,2	40,0

HUN	18,1	13,5	EST	19,6	40,1
SWE	17,6	14,2	ROU	16,7	43,1

Source: author's construction based on The World Bank, 2019, c.

Estimating GDP per capita PPP (current international \$) in 2016 in comparison with 2011 it can be concluded that smaller or greater growth can be seen in all EU countries. However, it cannot be said about Domestic general government expenditure per capita PPP (current international \$). There is a relative decrease in , e.g., Greece and Cyprus, and a relatively greater increase in comparison with Changes GDP, PPP, e.g., in Italy, Ireland, Finland, Denmark, Austria, Germany, France, Latvia, Lithuania, Bulgaria, Malta, Estonia and Romania. When calculating mutual correlation of both showings in the EU countries in total, the showings make positive, statistically significant close correlation (Table 3), i.e., if at an average GDP increases also Domestic general government expenditure per capita, PPP (current international \$) grows, though the closeness of the correlation in 2016 is weakening.

Table 3

**GDP per capita, PPP (current international \$) and Domestic general government health expenditure per capita, PPP (current international \$) correlations**

Indicators		Domestic general government health expenditure per capita, PPP (current international \$), 2011	Domestic general government health expenditure per capita, PPP (current international \$), 2016
GDP per capita, PPP (current international \$)	Spearman's rho Correlation Coefficient	,945**	,926**
	Sig. (2-tailed)	,000	,000
	N	28	28

Though the growing GDP in total means also an increase of government expenditure for health just in Eastern European countries more rapid positive changes in government health care financing can be observed. It can be explained by the necessity of these countries to bring the quality of the health care system closer to the developed EU countries. In Europe there exist not only different health care systems but each system has its historical development and experience within the framework of cooperation with private service providers. There are two main kinds of health care systems - on insurance and on tax based integrated health care systems.

According to the data of the WHO domestic general government health expenditure (%of GDP) in 2016 equals 3,41% that falls behind the OECD countries (10,05%) as well as the average level of European countries – 7,92%. It must be added that in Latvia this showing is lower than in Estonia (5,04%) and Lithuania (4,3%) (The World Bank, 2019, a).

According to the data of the OECD summing up Government Compulsory and Voluntary/Out-of-pocket, health expenditure in Latvia as a share of GDP, 2016 makes 5,75 that is less than in Lithuania and Estonia (6,7%) (OECD, 2017).

Beside the percentage evaluation the domestic general government health expenditure per capita, a more understandable evaluation is PPP (current international \$) that in Latvia in 2016 is 868,49 PPP in contrast to Estonia's 1499,0 and Lithuania's 1297,0 PPP. In the European Union in 2016 this showing is 3,040,05, OECD – 3,998,70 (The World Bank, 2019, b).

According to the OECD data summing Government/Compulsory and Voluntary? Out-of-pocket health expenditure per capita in Latvia 2016 makes 1466 PPP, in Lithuania – 1970 PPP, and in Estonia – 1989 PPP (OECD, 2017).

When verifying the existence of correlation between Domestic general government health expenditure per capita, PPP (current international \$) and changes in inhabitants' estimations the EQLS in the EU countries (2016 average estimation minus 2011 average estimation) the correlation is weak, in fact unimportant (Table 4).

Table 4

**Correlations between changes of Domestic general government health expenditure per capita and changes of estimation of health care**

Indicators		Changes of estimation of health care (2016 average estimation - 2011 average estimation)
Changes of Domestic general government health expenditure per capita (2016 average estimation - 2011 average estimation)	Spearman's rho Correlation Coefficient	-,168
	Sig. (2-tailed)	,393
	N	28

It can be explained by differences in subjective and objective (official statistics) estimations in many areas, health care included. The proof is given also by Latvia research in 2018 about patients' satisfaction with the quality of health care services (Ministry of Health, 2019). It was found that inhabitants when estimating the quality of the received services consider them as separate episodes but they do not value them in the context of the whole system. At the same time, when valuing the state offered health care in total probably the existing in the society opinion about the health care system is expressed that in the last decade is rather negative.

Since gaining independence considerable changes and reforms have taken place in Latvia health care system. The accessible results of the World Bank research confirm the necessity to continue the reforms started in the previous years that are oriented to the development of the quality insurance system, reform of the financial management of health care, development of integrated health management and information system, gradual investments in the infrastructure of health care and human resources (Ministry of Health, 2018).

Beside the official statistical showings that characterize the situation of Latvia inhabitants' situation more or less objectively there exists a subjective evaluation of health and health care situation, e.g., the above mentioned Research of the patients' satisfaction with the quality of health care services presented in 21.01.2019. In total more than half of respondents in Latvia are satisfied. At the same time, the patients' satisfaction with concrete services is higher. The research results are used to continue the accessibility and quality of health care services (Ministry of Health, 2019).

The data of the European quality of life survey (EQLS) allow to compare the dynamics of the inhabitants' opinions of health and health care services.

In the EU on average in 2016 in comparison with 2011 the evaluation of health care services has increased from 6,07 to 6,19 points within the system of 10 points. However, as mentioned above, different social economic situations in the countries determine different evaluations of health and health care systems.

In such countries as Austria, Belgium, Denmark, Finland, Luxembourg, Malta, the Netherlands and Sweden the subjective evaluation of the quality of health care services fluctuates between 7,0 to 8,0 points, while in Greece, Bulgaria, Slovakia, Poland both in 2011 and 2016 it has not exceeded 5,0 points (Table 5).

Table 5

**Evaluation of the quality of health services (within 10 point system)**

Country code	2011	2016	Country code	2011	2016
AUT	8,01	7,93	EST	5,71	5,91
BEL	7,76	7,62	CYP	5,41	5,70

LUX	7,46	7,49	ITA	5,49	5,57
FIN	7,12	7,42	HRV	5,43	5,46
DNK	7,49	7,27	PRT	5,52	5,44
SWE	7,35	7,26	LTU	5,11	5,43
MLT	7,21	7,25	ROU	4,72	5,34
NLD	7,19	7,07	HUN	5,12	5,33
FRA	6,86	7,06	IRL	4,96	5,28
ESP	7,02	6,81	LVA	5,13	5,01
GBR	7,01	6,79	SVK	4,84	4,99
DEU	6,64	6,58	POL	4,67	4,91
CZE	6,51	6,42	GRC	4,85	4,89
SVN	6,46	6,05	BGR	4,48	4,56

Source: author's construction based on European Foundation for the Improvement of Living and Working Conditions, 2018

Thus, the quality of health services according to the opinion of inhabitants has statistically significantly diminished in Belgium (Kolmogorov Smirnov  $Z = -2,649$ ,  $p = 0,008$ ), Denmark ( $Z = -3,399$ ,  $p = 0,001$ ), Spain ( $Z = -4,268$ ,  $p = 0,000$ ), the Netherlands ( $Z = -3,610$ ,  $p = 0,000$ ) Slovenia ( $Z = -5,380$ ,  $p = 0,000$ ) and the UK ( $Z = -4,497$ ,  $p = 0,000$ ). At the same time statistically significant growth of estimation has been stated in Cyprus ( $Z = -3,473$ ,  $p = 0,001$ ), Lithuania ( $Z = 3,763$ ,  $p = 0,000$ ), Estonia ( $Z = -2,754$ ,  $p = 0,006$ ), Poland ( $Z = -4,161$ ,  $p = 0,000$ ), Romania ( $Z = -8,280$ ,  $p = 0,000$ ). The most rapid improvement of the quality of health services has been noticed in Romania – from 4,72 points in 2011-2012 to 5,34 points in 2016. Comparing the data of the estimation of the quality of health services by Latvian society in 2016 and 2011 it must be concluded that the estimation has lowered statistically insignificantly ( $Z = -1,310$ ,  $p = 0,190$ ).

Analysis of the answers to the question “In general, would you say your health is ...” (1 – very good, 2 – good, 3 – fair, 4 – bad, 5 – very bad) the evaluation of Latvian inhabitants approaches more to fair (2,83), it has improved in comparison with 2011 for 0,04 points. A similar situation is seen also in Lithuania (2,85 points) and Estonia (2,73 points), the conscious evaluation of the health situation average in the EU is 2,32 points, approaching more to – good (Table 6).

Table 6

**Average answers to the question “In general, would you say your health is...” (1 – very good, 2 – good, 3 – fair, 4 – bad, 5 - very bad) in the EU countries 2011 and 2016**

Country code	2011	2016	Country code	2011	2016
AUT	2,02	2,03	IRL	1,94	1,83
BEL	2,27	2,24	ITA	2,21	2,20
BGR	2,49	2,40	LTU	2,92	2,85
CYP	2,03	2,10	LUX	2,17	2,14
CZE	2,33	2,32	LVA	2,87	2,83
DEU	2,34	2,30	MLT	2,17	2,24
DNK	2,19	2,16	NLD	2,30	2,22
EST	2,79	2,73	POL	2,55	2,52
GRC	1,96	1,95	PRT	2,63	2,52
ESP	2,14	2,14	ROU	2,74	2,66
FIN	2,33	2,31	SWE	2,18	2,16
FRA	2,19	2,14	SVN	2,30	2,37
HRV	2,27	2,41	SVK	2,47	2,46
HUN	2,49	2,55	GBR	2,30	2,23

Source: author's construction based on European Foundation for the Improvement of Living and Working Conditions, 2018

Statistically significant improvement in estimation of health awareness has been displayed in Bulgaria ( $Z=1,358$ ,  $p=0,050$ ), Croatia ( $Z=1,834$ ,  $p=0,002$ ), Portugal ( $Z=1,997$ ,  $p=0,001$ ) and the United Kingdom ( $Z=1,526$ ,  $p=0,019$ ). Changes in estimation by inhabitants of other countries in one or other direction are not statistically significant nor essential, the average changes in the group of the EU countries ( $Z= 0,534$ ,  $p = 0,938$ ) are not essential.

Existence of chronic physical or mental health problems (Do you have any chronic (long-standing) physical or mental health problem, illness or disability?) has been indicated by 29,3% respondents in the EU countries, in Latvia by 30,0% where this estimation actually has not changed since 2011. 32,2% of respondents characterize this health problem or limitations caused by invalidity as strong.

Health and well-being that can be characterized as positive emotions belong to the most significant human life quality indicators and needs. Both notions are mutually interconnected and influence each other in physical and mental areas of a person's development. A person can consider himself/herself physically and mentally healthy if he/she feels harmony between all areas of self-development (physical, mental, social) and opportunities to reach his/her defined aims in the concrete life conditions (Hurrelmann K. & Razum O., 2012). The European Quality of Life Survey includes assertions that give opportunities to estimate well-being changes in the research periods.

According to the data in the EU countries in total the average changes of the evaluation of the statement "I have felt cheerful and in good spirits", "I have felt calm and relaxed", "I have felt active and vigorous", "I woke up feeling fresh and rested" and "My daily life has been filled with things that interest me" in the period under discussion can be estimated as positive (1 - All of the time, 2 - Most of the time, 3 - More than half of the time, 4 - Less than half of the time, 5 - Some of the time, 6 - At no time). Though the average estimation has diminished the changes have not been radical and can be considered as statistically insignificant. (Table 7).

Table 7

**Changes of estimation of the positive emotional state in the EU countries**

Indicators	I have felt cheerful and in good spirits	I have felt calm and relaxed	I have felt active and vigorous	I woke up feeling fresh and rested	My daily life has been filled with things that interest me
EU 2011 Mean	2,79	2,93	2,97	3,14	2,96
EU 2016 Mean	2,75	2,91	2,95	3,12	2,88
Kolmogorov Smirnov Z	0,365	0,758	0,280	1,030	0,658
Sig (2-tailed)	0,999	0,614	1,000	0,239	0,779

In various countries the estimation certainly was different and statistically significant positive differences of statements, e.g., "I have felt cheerful and in good spirits" have been shown in Greece ( $Z = 1,670$ ,  $p = 0,008$ ), Croatia ( $Z=1,856$ ,  $p= 0,002$ ), but in the negative direction in Italy ( $Z=2,603$ ,  $p=0,000$ ). In the evaluation of the statement "I have felt calm and relaxed" statistically significant positive differences in 2011 and 2016 surveys have been expressed in Greece ( $Z=2,039$ ,  $p=0,000$ ) and France ( $Z=1,701$ ,  $p=0,006$ ), but negative in Cyprus ( $Z=2,073$ ,  $p=0,000$ ) and Italy ( $Z=2,328$ ,  $p=0,000$ ).

When evaluating the estimation of "I have felt active and vigorous" it must be concluded that the evaluation of this concrete statement has significantly improved in Ireland ( $Z=1,571$ ,  $p=0,014$ ), but worsened in Cyprus ( $Z=3,931$ ,  $p= 0,000$ ) and Italy ( $Z=2,738$ ,  $p=0,000$ ), Croatia ( $Z=1,731$ ,  $p=0,005$ ). Similar is the situation with the evaluation of the statement "I woke up feeling fresh and rested" that has statistically significantly worsened in Cyprus ( $Z=3,442$ ,  $p= 0,000$ ) and Italy ( $Z=2,014$ ,  $p=0,001$ ), while the evaluation has improved statistically significantly in Croatia ( $Z=1,435$ ,  $p=0,032$  and Ireland ( $Z=2,189$ ,  $p= 0,000$ ).

The above mentioned points out countries in which the positive emotional state has considerably diminished such as Cyprus, Greece where Changes Domestic general government expenditure per capita, PPP, 2016/2011, % has decreased. The list is supplemented by Italy, sometimes Croatia whose Changes Domestic general government health expenditure per capita, PPP, 2016/2011, % is one of the lowest In the EU countries. (Table 2).

In Europe there are differences in inequality in the health area that are connected with the social economic situation of inhabitants (Mackenbach, 2008, 2017). The material life conditions determine health by influencing the quality of individual development, family life and interchange as well as the environment of the society. The material conditions create differences in psychosocial stress. This inequality can be diminished by widening education opportunities, improving distribution of income, activities connected with health or access to health care, and the countries are already doing it.

However, undeniably beside the above mentioned activities estimations of the inhabitants of each country are determined by geopolitical environment and events, e.g., the crisis of the migration flow in Europe that was especially hard in Southeuropean countries.

The subjective estimation of the positive emotional state by inhabitants in Latvia when comparing the data of 2016 and 2011 has not essentially changed though it has lowered by some tenths of the point (Table 8) and it must be positively marked.

Table 8

**Changes of the positive emotional state in Latvia**

Indicators		I have felt cheerful and in good spirits	I have felt calm and relaxed	I have felt active and vigorous	I woke up feeling fresh and rested	My daily life has been filled with things that interest me
Latvia 2011	Mean	3,21	3,31	3,28	3,32	3,20
Latvia 2016	Mean	3,10	3,24	3,21	3,28	3,04
Kolmogorov-Smirnov Z		0,907	0,527	0,603	0,400	1,28
Sig. (2-tailed)		0,383	0,944	0,860	0,997	0,075

More essential but not statistically significant ( $p=0,075$ ), changes of the positive emotional estimation are shown by the evaluation of the statement “My daily life has been filled with things that interest me” that in the EU countries in total has changed only by 0,08 points. The estimation has increased statistically significantly in Hungary ( $Z=1,447$ ,  $p=0,030$ ), The Netherlands ( $Z=1,952$ ,  $p=0,001$ ), Slovenia ( $Z=2,444$ ,  $p=0,000$ ) and the UK ( $Z=1,458$ ,  $p=0,028$ ), but diminished in Croatia ( $Z=2,183$ ,  $p=0,000$ ), Italy ( $Z=1,877$ ,  $p=0,002$ ).

When evaluating the changes in estimation of the negative emotional state of the statements “I have felt particularly tense”, “I have felt lonely” it must be concluded that insignificant increase of the estimation can be noticed, while at the same time the estimation of the statement “I have felt downhearted and depressed” in the EU on average shows statistically significant worsening ( $p=0,013$ ) that can be considered negative as it points to strengthening of the negative emotional state (Table 9).

Table 9

**Changes of the negative emotional state in the EU on average and in Latvia \***



Indicators	I have felt particularly tense	I have felt lonely	I have felt downhearted and depressed
EU 2011 Mean	4,47	5,06	5,01
EU 2016 Mean	4,49	5,09	5,03
Kolmogorov Smirnov Z	0,766	1,053	1,588
Sig. (2-tailed)	0,600	0,217	0,013
Latvia 2011 Mean	4,25	4,97	4,76
Latvia 2016 Mean	4,35	5,04	4,88
Kolmogorov Smirnov Z	1,986	1,668	2,377
Sig. (2-tailed)	0,001	0,008	0,000

*\*Answers to the statement: 1 - All of the time, 2 - Most of the time, 3 - More than half of the time, 4 - Less than half of the time, 5 - Some of the time, 6 - At no time*

A similar strengthening of the negative emotional state has been revealed by the answers of inhabitants of Latvia, the more so that the estimations in 2016 and 2011 are statistically significant. They point to a special tension caused by various factors, sense of loneliness, gloomy and depressed mood that for some of the inhabitants can turn into depression by worsening of the physical and mental health, thus increasing the amount of finances for prevention and treatment of the consequences.

#### **Conclusions, proposals, recommendations**

1. The researches carried out in the last 40 years have proved that correlation between the life expectancy and the factors that explain it must be valued as causal relationship in both directions: health of inhabitants is a decisive factor of economic development and vice versa, the economic growth of the country improves health of the inhabitants, the life quality of inhabitants in total.
2. The main indicators that characterize the situation of the inhabitants of a country are life expectancy at birth, healthy life years and by sex and health care expenses from the gross domestic product (GDP).
3. Since gaining independence such indicators as life expectancy at birth, healthy life years and life expectancy at birth of males and females have increased, however, they are comparatively lower than average in the EU-28 countries and one of the lowest among the EU countries.
4. One of the most essential indicators that characterizes the role of the state in the improvement of the health care system is government expenditure for health. After the period of crises gross domestic product has increased practically in all EU countries and there is a close correlation between the gross domestic product and the domestic general government health expenditure per capita, PPP both in 2016 and 2011, i.e., the larger is the GDP, the larger is the domestic general government health expenditure per capita, PPP. However, there exist differences among countries. In Eastern European countries, Latvia included, more rapid positive changes in the state financed health care can be observed that are caused by the necessity to advance the quality of the health care systems closer to those of the developed EU countries. Nevertheless, the domestic general government health expenditure in Latvia both in % and moneywise per capita in 2016 falls behind the indicators of the greater part of the EU as well as the OECD countries.
5. There practically does not exist connection between the changes of the domestic general government health expenditure per capita, PPP (current international \$) and changes of the evaluation of the health care in the EQLS 2016-2011 in the EU countries that can be explained by differences in the inhabitants' subjective estimation and the official statistics. The inhabitants do not evaluate health care in the context of the whole system and base their

opinions on long-term experiences. The five year period is also too short for the state activities to become “visible” for the inhabitants.

6. The subjective health and health care situation of inhabitants in Latvia in comparison with other EU countries is characterized by the European life quality survey (EQLS). In total in the EU countries in 2016 the average estimation of health care services in the 10 point system has increased from 6,07 to 6,18 points, however, the diverse social economic situation in the countries determine different health and health care evaluation. Considerably higher (7 – 8 points) health is evaluated in developed Western European countries, a lower evaluation (4 – 5 points) in Eastern European countries. In each of the groups there are countries in which the evaluation has increased or decreased. The evaluation of the quality of health services in Latvia in 2016 in comparison with the results of 2011 has decreased statistically insignificantly.
7. The estimation of the conscious state of health of Latvia inhabitants correspond to fair (“In general, would you say your health is ...”), while the average of the EU inhabitants consider their conscious state of health as good.
8. During the five years of research the proportion of chronic physical or mental problems or invalidity in the EU on average and in Latvia has not changed.
9. The changes in estimations of the statements that characterize well-being “I have felt cheerful and in good spirits”, “I have felt calm and relaxed”, “I have felt active and vigorous”, “I woke up feeling fresh and rested” and “My daily life has been filled with things that interest me”, in the EU in total show insignificant positive movement. At the same time more noticeable are some South European countries in which the positive emotional state has essentially lowered and it, undeniably is connected with the political situation and events in the Near East and African countries that cause crisis of illegal migration, that in its turn influenced the politics, the economic development and the mood of inhabitants in a number of the EU countries. The evaluation of the subjective positive emotional state of inhabitants in Latvia though showing some positive tendencies essentially has not changed.
10. In the EU countries changes in evaluation the negative emotional state at an average (“I have felt particularly tense, “ I have felt lonely”) are insignificant, but the evaluation of the statement “I have felt downhearted and depressed” reveal statistically significant lowering that can be marked as negative as it points to increase of the negative emotional state. It exists also in Latvia. Such factors as psychological tension, sense of loneliness, gloomy and depressed mood as a psychosomatic factor worsen physical and mental health. It points to the necessity for educational activities to improve physical and mental health of the society, insuring of duly access to psychological help.

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## DEVELOPMENT OF THE COMPETENCE OF PUBLIC ADMINISTRATION EMPLOYEES

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**Abstract.** The development of the skills of employees of the Latvian Public Administration is becoming increasingly attentive. In order to improve the quality of work, develop creative thinking, knowledge, adapt to the developments and demands of the 21 st century, there is a regular need to improve personal and professional competences. Consequently, it is important to understand whether employees are in line with a specialised profession, how to develop and maintain the competences of employees, which, as a result of today's rapid development of technology, have played an imporrole in the process of day-to-day work. The importance of education is becoming increasingly focused, as life has become more dynamic and the expectations and demands of the employer have become greater, so employees must try to adapt to learning. When starting a new job, each person discovers gaps in both his or her skills and knowledge, but these gaps need to be improved in order to successfully fulfil their job responsibilities. Learning difficulties arise for the whole of society, because we now live in an information environment that needs to be adapted to all people. The effects of the development of information technology can be observed for people of different ages, and therefore the attitudes to change and training are different because of their values, resulting in decisions and changes. Therefore, the interests, objectives and values of employees, which lead to attitudes towards capacity building, play an important role in improving competence. If the values of institutions and employees match, the quality of work is improved, employee turnover is reduced and there is a desire for continuous development.

The aim of the study is to develop a model for the interaction of individual values in the development of competence and to assess the impact of the values of employees on development.

The above justify the choice and the spotlight of the subject of the study.

The object of the study shall be employees of the Public Administration.

Subject-matter of the study: the impact of the values employed by the institution in the development of competence.

The methods used by the study are the analysis of scientific documents and the qualitative method.

**Keywords:** *competence, development, values.*

**JEL code:** M59, O15, J17.

### Introduction

The development of the skills of employees of the Latvian Public Administration is becoming increasingly attentive. In order to improve the quality of work, develop creative thinking, knowledge, adapt to the developments and demands of the 21 st century, there is a regular need to improve personal and professional competences. Consequently, it is important to understand that workers are in line with a specialised profession, in order to improve and maintain the competences of employees, which, as a result of today's rapid development of technology, have played an important role in the process of day-to-day work. It is important to find out what competencies become an integral part of the human working process and what the attitudes of employees in improving competence are. Although not directly affected by rapid developments in public administration, in the private sector, where there is a struggle with competitors to introduce new technologies. But this does not mean that public administration employees do not need to develop their competences, such as information technology, language knowledge, communication skills.

One of the educational challenges of the 21 st century is to ensure the sustainable development of society. It will not always be enough with the education that has been acquired to perform and take office. The importance of education is becoming increasingly focused, as life has become more dynamic and the expectations and demands of the employer have become greater, so employees must try to adapt to learning. Similarly, non-continuous education will be useful for work, as experience is needed and new knowledge is learned when working. When starting a new job, each person discovers gaps in both his or her skills and knowledge, but these gaps need to be improved in order

to successfully fulfil their job responsibilities. Learning difficulties arise for the whole of society, because we now live in an information environment that needs to be adapted to all people. The effects of the development of information technology can be observed for people of different ages, and therefore the attitudes to change and training are different because of their values, which lead to change or resistance. These changes are likely to affect all employees, and therefore increasing attention is paid to the skills, skills, experience, education and self-motivation of employees at regular intervals. Identifying what competencies are and will be needed for each specialist in the future, how they will be developed and evaluated. Therefore, the interests, objectives and values of employees, which lead to attitudes towards capacity building, play an important role in improving competence. If the values of institutions and employees match, the quality of work is improved, employee turnover is reduced and there is a desire for continuous development.

### **Formation and development of competence at work**

In order to work in the professional field, to develop knowledge, to assume responsibility, to plan and to pursue development, there must be a competence (Perrenoud, 2004). It is therefore very important to determine the competences that will be most demanding in the future. The competence of people can be said to be safe and successful when a person is able to meet the situation. If you have the knowledge and skills to deal with the challenges, then you can plan your actions in different situations. Competencies are the result of learning where competencies are associated with capabilities based on acquired knowledge. When a person likes what he is doing, then the productivity of work improves, the person tends to constantly learn something new, develop knowledge, and to gain satisfaction from the work he has done. Competence can only be gained in action by learning or working (Melton, 1997).

Scientist F.Orthey (Orthey, 2002) sees the concept of competence as a capacity to deliver better, better quality work and to achieve personal objectives. Given that the work of public administration involves people – team work, customers and colleagues – there needs to be good communication and cooperation skills. A person needs to be open, the ability to adapt to the other person, to listen and listen to other opinions, and to express his or her thoughts. Building a relationship and tackling conflict is a social competence where a man is focused on creating and strengthening social interaction (Barblett & Maloney, 2011). Competencies include capacity, knowledge, opportunities and talent (Skorkova, 2016). The Spencer Competencies were defined as the basic characterization of the individual associated with the highest achievement in the working situation (Spencer, Spencer, 1993). Competences are long-term (Lau, Chan, 2002). Competencies are highly focused on evaluating performance, where the need for capacity building in recruitment is identified. The competences of the public administration are defined in the OECD and are based on an example of Armstrong's capacity structure, illustrating examples of both positive and negative behaviour (see page Table 1).

Table 1

#### **Example of competence structures**

Competence	Description
Result Orientation/Achievements	The desire to make good work, the ability to set bold goals, the pursuit of excellence and the constant quest to improve their performance on a regular basis.
Business awareness	The ability to always assess and take advantage of the business, to see the potential of your business and to constantly look for ways to ensure its practical functioning.
Communication	The ability to express itself clearly and convincingly in both words and articles.
Customer orientation	Continued concern to be fully satisfied, or even to beat the expectations, needs and expectations of internal and external customers.
Create growth for other employees	The desire and capacity to promote the growth of its collective members by providing feedback, support, encouragement and training for information.

Flexibility	The ability to adapt to the collective and to work effectively as best as possible in order to achieve the desired results and, in general, to maintain the beneficial relationship between individuals and the collective.
Leadership	The ability to inspire people to work as best as possible to achieve the desired results and to maintain a favourable relationship with individuals and with the collective as a whole.
Planning	The ability to decide what jobs are to be done, making sure that all necessary resources will be available and planning the time-limits needed to achieve the result.
Problem solving	The ability to analyse the situation, identify the problem, its main causes, establish and evaluate an alternative action plan, reach a logical and acceptable solution.
Team job	The ability to cooperate flexibly with other members of the collective, fully understanding their role in the collective.

Source: Armstrongs, 2008, 25

The development of competence can not only be determined after assessment of the performance of each employee's work, but can be determined by each member of staff to improve the quality of the work which he or she needs to develop for himself or herself the professional or personal skills. To do this, each person must be critical to himself, be familiar with his weaknesses and strengths, and develop what interferes with the work process. In order to develop the necessary competences, it must be self-motivated to work with yourself and inspire regular improvements in knowledge. Being aware of their lack and working with themselves is a very difficult job, because not everyone can do, especially not seeing their lack. For someone to achieve something in career growth and improve the work process, he needs to start working first with himself. Then it will also be easier to force yourself to learn something new and to regularly develop competencies. Each person has its own values that can somehow influence the planned processes, so it is important to understand the impact of personnel values on the development of competence. In order to improve the professional and personal development of staff and to improve the quality of work, the values of the employee must be in line with the values of the institution, both sides will be satisfied.

#### **Impact of core values on staff development**

The institution must match the personnel values in order to achieve the objectives and tasks pursued. Values in the workplace reflect individual personal priorities and values at work: careers, continuing education, management, recognition, income (money), intellectual incentive, security, assistance to others, the working environment. The values and priorities of personal life are equally important: achievements, success, family, leisure, friends, integrity, money and material status, the desire to help (serve) others, the god.

People have three perspectives: a desire to work; the ability to create something unique; the ability to add value to their work. But someone at work will only be willing to invest if his value coincides with the values of the institution. Therefore, there are often shifts of employees in the institutions, because the employee's values and interests differ, then the employee goes in search of a new workplace. It is the individual behaviour and attitudes of each person to work, assessing their priorities. Value is influenced by social status, personal achievements, professional activity and the fear of innovation. Man has:

- material and mental values;
- personal and social values;
- personal and professional values.

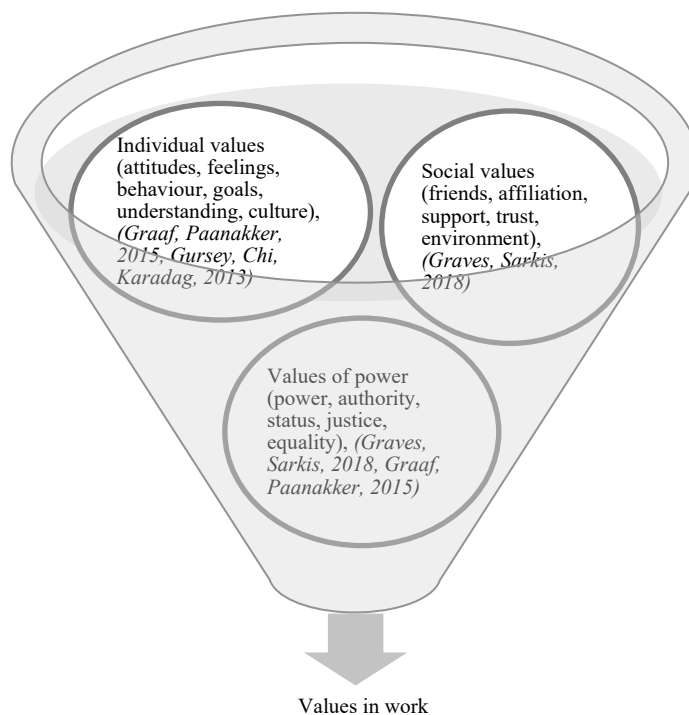
Someone will have important professional growth, but somebody's mental values. Value is the meaning of every single person he chooses and is significant in his or her life. Because value results in a person feeling and deciding a decision that is more important to them. The impact of these values appears in the quality of the work of the staff of the institution and in the process of development. A person shows his or her attitude in action and in the process of work and learning new knowledge. Therefore, the manager should be informed of the values of the institution at an



initial stage and should find out what the values, expectations and interests of the employees are. Today, public administrations are interested in learning something new and expanding knowledge and skills. Employees' attitudes to learning visits, acquiring knowledge and using at work are equally important. If a person goes to courses with great interest, then there is a probability that an employee will be actively involved in the training process and will want to get something out of it. The public administration is interested in investing financial resources to achieve good job results by regularly improving the skills of employees. If a worker visits training visits as an obligation to obtain a certificate only, attending such training shall be at a disadvantage to the institution. No control system has been established in public administrations to clarify the effectiveness of the training visit. But in partnership with the authorities providing training, it would be necessary to complete the test before the certificate is issued, such a solution would justify whether an institution employee's attitude to training had been appropriate.

At work, someone wants to feel welcome, satisfied, happy, find common language with colleagues and manager, it's important for someone to communicate and feel safe in their workplace. A person spends most of his or her life at work, so this emotional feeling is important to work with a sense of responsibility and to improve the quality of work. The attitudes and values of the employee can be changed by the manager, because the driver must be focused on the employee's competence and "happiness" (Kuroda, Yamamoto, 2018), the employee wants to be motivated (Graves, Sarkis, 2018), needs the authority, and that his goals and interests be respected. The manager needs to get the employees to trust him, have to be orientam to improving, keeping, the manager has to work on employee development (Anton, Shikov, 2018) to boost productivity and wellbeing (Kuroda, Yamamoto, 2018). A man needs to be in harmony with himself, so that public conflicts don't disrupt a person's personality and achievement of goals at work (Graaf, Paanakker, 2015). The attitude of the staff of the institution towards development and improvement of the quality of work may be influenced by the driver. If the manager is interested in improving employment relationships with his employees, using different motivational systems, creating pleasant interpersonal interaction and communication, and not equal treatment for employees, staff will also be more positive about the Authority's objectives. The evaluation of scientific articles has led to the creation of basic value factors at work (see page fig. 1). It is difficult to separate and determine what values are most important for a person at work, and which are not so important because it is influenced by both human age, gender, status, knowledge of life that has been acquired and developed over time. But the articles repeatedly highlighted a good relationship with a manager who would be interested in making employees feel satisfied and motivated to work (Graves, Sarkis, 2018) with full returns. This means that it is important for employees that the microclimate of the institution is in line with their expectations and needs, and that their wishes are on a single "wave" with the wishes of the institution.





Source: autor

Fig. 1. Core value factors at work

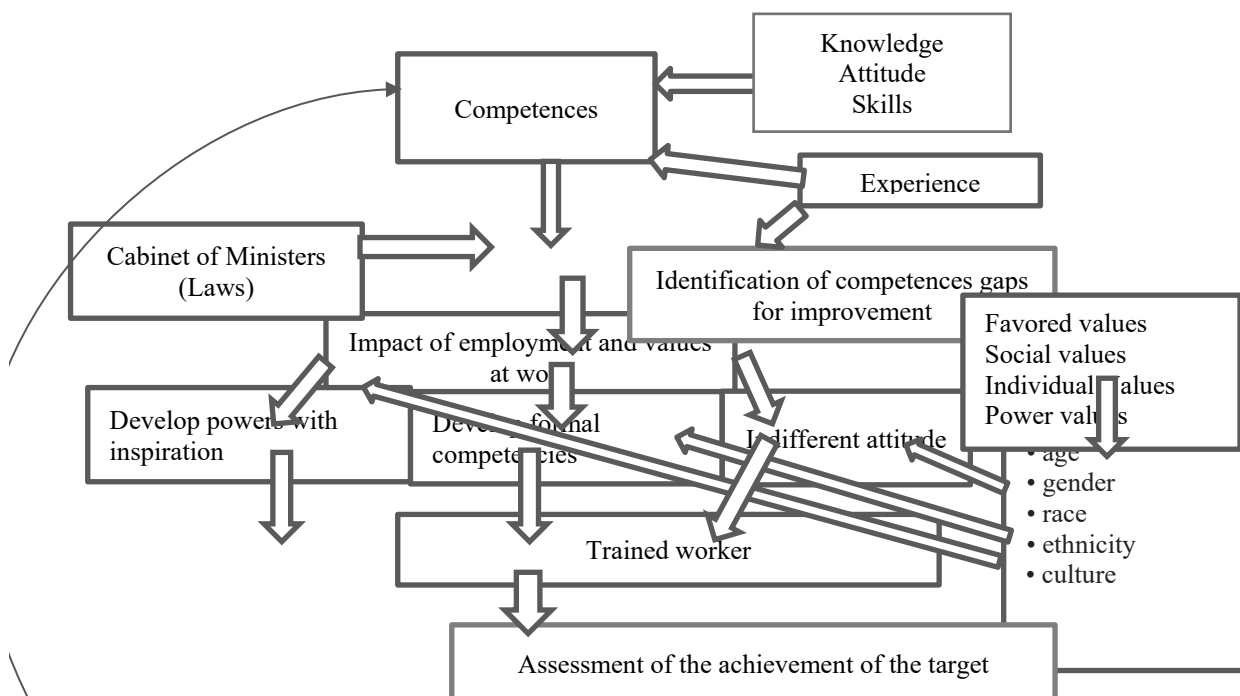
Acquiring new knowledge and improving skills is one of the tools for creating a strong specialist. The majority of employees acquire knowledge and skills development, virtually when working, the rest of the information is obtained from customers, colleagues, providing continuous feedback. But there's something you haven't been able to find out about in the school. Of course, in the course of the training process, you have the opportunity to meet new acquaintances, from whom you can again obtain useful information and tips that would be useful at work. For each person, the competence forms in the environment in which he resides, lives, works, communicates. A person is a flexible person who has his or her own values and at which stops can be mine over time, but it depends, above all, on each person individually. This means that human values cannot be forced to change until a person wants to do it, but they can be worked on. Consequently, it is not possible to force a person to do and accept what will not be regarded as important, including the development of competence. In view of the fact that the development of competence depends mainly on the expectations of the employees, since training cannot be imposed, but it is desirable for the employee to take the initiative to develop a model for the development of competence (see page fig. 2).

Scientific articles mention the importance of finding the right approach and understanding the meaning of values on a case-by-case basis in the work process for the driver. The authors D.Gorsoy, C.Geng-Oing Chi and E. Karadag (2013) stressed that the meaning of values is different from human age, such as it is important for young people to find a balance between their personal life and working life, they have their own goals and ambitions that they want to achieve. Young people, however, have no problem working with the new technology, because they are born and growing up in this technology era, unlike the elderly. But the positive plus of older workers is, the ability to train young people quickly and comprehensively with critical thinking skills and skills, thereby exchanging and transferring their skills to the next generation.

Authors L.M.Graves and J.Sarkis (2018) point out that employees have significant environmental values that motivate the employee, and as a result, he makes the relevant decisions and attitudes toward the job and the driver. There is also an important relationship between the manager and the employee, which would motivate work and jointly

build the intended goal. Human values are driven by attitudes, feelings and behaviors that result in a person expressing his or her attitude and behaviour that has occurred around him. The authors believe that values are influenced by internal and external motivation, if motivated, then the employee's environmental values will be more positive. But authors A.Kuroda and I.Yamamoto believe that a driver must be a competent person who doesn't create tension for his employees, because in the longer term, the attitudes negatively created can have a bad impact on human health and the quality of work. Communication between the employee and the employer improves the outcome of the work and does not show any resistance to the development of competence. The main cause of the problems at work is the manager who has to work with himself, with the development of his or her skills, in order to subsequently request it from employees.

G.Graaf and H.Paanakker talk about the values of public administration, where governance inevitably limits the pursuit of other values, it is equality, honesty, efficiency, openness. It is difficult to hold the staff of the institution if funds are reduced and it is not possible to invest in their development. The public administration should show the positive image and take care of the development and motivation of the staff of the institution.



Source: autor

Fig. 2. Competence development model

The impact of the values of the staff of the Authority on the development of competence is an integral part of which good performance can be achieved. It is not possible to force a person to develop if he does not want it and does not consider it necessary because of the backlash and frustration. It is therefore necessary to find a solution, one of which is by identifying the employee's values. Table 4 reflects the development of the capacity of the staff of the institution and the impact of values on the choice and attitudes of employees in the development of competences.

In the 21 st century, it is important that a person is in continuous development, learning new technology opportunities that facilitate the process of work, such as digital skills, which is an assistant to each employee's major responsibilities, and which is one of the most demanding knowledge of the 21 st century. The development of new skills must not only focus on what will be more important at the moment, but it will be valuable to maintain those competences that have already been acquired to be able to think creatively and successfully to address problems and issues without technology capabilities. It is therefore important to both restore and improve the competences so that

they do not disappear, but it depends on the values and objectives of the institution and each employee of the institution.

### Conclusions, proposals

On the basis of the literature analysis, we conclude:

1. In order for a person to achieve career growth and improve the work process, he must start working first with himself, both for the manager and for the employee. Then it will be easier, forcing yourself to learn something new and regularly develop competencies. But the driver needs to create motivation and offer regular improvements in skills.
2. A person is a flexible person who has his or her own values and where he or she stops. It may be changed over time, but it depends, above all, on each person individually. This means that human values cannot be forced to change until a person wants to do it, but they can be worked on.
3. The meaning of values is different from the human age, for example, it is important for young people to find a balance between their personal life and working life, they have their own goals and ambitions that they want to fulfill.

The following proposals were put forward:

1. The national regulatory authorities, in cooperation with educational institutions, should establish a control system to assess the knowledge of employees following a training visit (seminars, courses), for example, the verification work is completed before the certificate is received.
2. The importance of values depends on different generations of employees in order to improve the quality of work, and all employees are motivated to work and regularly develop, the driver needs to understand the different values of generations.
3. In order to successfully conduct the management process, the driver must first begin to develop his or her competences, paying particular attention to the competencies that create problems with people.

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## APPLICATION OF THE INSTAGRAM SOCIAL NETWORK PLATFORM IN THE MARKETING COMMUNICATION: FOOD INDUSTRY CASE STUDY IN LATVIA

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**Abstract.** The main elements of the modern integrated marketing communication are online media and social media communication content. It is therefore especially important to understand how to use each platform for brand goals from companies perspective. Therefore, a purpose of the study is to determine the use of the Instagram as social media platform in the marketing communication by identifying approaches used by the companies. In order to establish the use of the Instagram social media platform in the context of the company's marketing communication - the multiple criteria assessment method was chosen to evaluate the complexity of the factors that impact communication results for brands on social media. These assessment methods combine qualitative (content) and quantitative approach (statistical data from posts). The analysis was carried out for 10 food manufacturing company Instagram accounts for a period of 2 years from 01.10.2017 to 30.09.2019.

Results of the study allow establish the use of Instagram in the marketing communication for Food industry companies in Latvia, comparing the strategies of the studied objects, concluding that a high-quality generated content has a greater importance in communication and reach than its regularity, and also that a type of the content and engagement from followers has a direct impact with the brands results.

**Keywords:** *social media communication, digital, social media, marketing communication, Instagram.*

**JEL code:** M31

### Introduction

In the time when the Internet environment and modern technologies form an integral part of our lives, companies must become up-to-date and follow the latest trends to be able to communicate with their consumers and find the most effective communication channels. Marketing activities of the companies in the social media are not limited to the paid ads only; the companies create their profiles in the social media platforms, where the companies or brands are being represented as a personality with its own branding, values, opinions and actions, which result in forming relationships with consumers or the potential customers. An opportunity to develop their own brand or the company as a personality strengthens their brand image shows their difference from other brands and shows their humanity. Thus, in social media, just like in any form of communication, it is necessary to understand that people visit websites and company profiles for their content. Authors of the paper emphasise that due to rapid development of social media and an opportunity to access content from various devices at any time and place, the way people form relations with brands has changed. Many different changes in the social media environment have taken place during the last ten years. New tools for various media forms have appeared, new social media forms have formed, as well as habits and scope of their use have also changed quite a bit. Thus, it is important to understand the role of each communication channel - what are the possible strategies in these digital channels. Due to this reason, the authors of the paper are conducting a study on the use of the Instagram marketing communication strategy, as this is also one of the social platforms, which have grown most rapidly during the recent years.

**The goal of the study** is to determine the Instagram implementation in the companies marketing communication strategy, compare the strategies of the food manufacturing brands and analyse the Instagram business account indicators (KPIS) to establish advantages and deficiencies of the strategies.

In order to limit the area to be studied, the food manufacturers of Latvia with the brands such as Dobeles Dzirnāvnieks, Milzu!, Ādažu čipši, Laimas saldumi, Smiltēnes piens, Spilva, Balticovo, Muesli Graci, Baltais piens, and Putnu fabrika „Ķekava” have been selected. Another significant aspect of this choice is the existence of the

Instagram business accounts with at least two years of history available. The structured content analysis was used during the study, establishing the use of the Instagram social media platform in the implementation of the company marketing communication.

To reach the study goal, several **objectives** were set: 1) to manually collect data on the Instagram business account based on KPI's of 10 selected brands for a period of 2 years; 2) to analyse the use of the Instagram platform in the context of the companies marketing communication; 3) to analyse the obtained data in order to identify communication strategies, establish the best practice for Instagram in the context and determine engagement and efficiency of selected KPI's; 4) draw conclusions and make proposals for communication on Instagram in the context of the marketing communication.

Based on conducted research, the results shows, the best use of tools on Instagram and compare selected indicators performance level for selected companies in Latvia. **The results of the study allow concluding** that the Instagram platform allows the followers to interact, thus transferring to others the information published by the company, therefore it can also provide more extensive information on the brand, its content, company, products or services to other followers and potential consumers. This platform allows companies to create stronger relationships with their followers, involving them and giving a feeling that the brand is present. The reached audience is ensured by the involvement, and it also pointed out at the followers' interest in the communication created by the brand.

### Literature Review

The marketing specialists nowadays must carefully select the media for the creation of communication and delivery of the message (Fill, 2009). The current marketing philosophy is based on the fact that integration is absolutely necessary for all marketing communication levels and tools to achieve success. It should not be denied that the Internet, technologies and social media have changed the type of marketing communication. The new marketing system requires not to create the mass of messages for the target audience, but rather a niche marketing communication which is deeply suitable for each specific consumer, where each person can find the necessary information (Scott, 2007).

Social media are activities, behaviour among people on the Internet who share information, knowledge and opinions, at the same time distinguishing social network and virtual social network separately, indicating that social network is a group of people, which has come together to share thoughts, ideas, information and other type of content with a purpose to create trust within the group, which is one of the most important factors for the use of social networks in the creation of business communication (Grizane, Jurgelane, 2017). It should be noted that social media means much more than Internet technologies, and their provided possibilities are very broad - social media allow the users to express themselves by publishing, criticising, rating and otherwise getting involved in the creation of the virtual content and communication with other users (Larsson, 2017). **The following qualities of social media may be distinguished:**

- opportunities to form communication with people and companies on any type and form of content;
- new possibilities in searching for information;
- expanded opportunities in researching the market and consumer habits;
- new communication form and content, a possibility to communicate with society in real-time;
- transformed model of influence, expanding a range of traditional market experts, opinion leaders and innovators, who themselves create platforms for publishing the content and viewing thereof;
- two-sided form of communication and inclusion of consumers (Solis, Kutcher, 2010).

A marketing direction - social media marketing has formed as a result of an increase in the use of social media. **Social media marketing** is a form of Internet marketing, including various social media to reach the marketing communication and brand recognition goals (Lewis, 2017). Social media - facilitate loyalty, recognition and sales.

Recognition includes the values such as visitation of websites, viewing the websites and mentioning in social networks, while loyalty - repeated visitation, recommendations, feedback; and the sales - time spent on the website, bought products, how many people have left the website by seeing the product (Evans, 2008).

Thus, taking into account all benefits that the social media can give to companies, it is necessary to form communication suitable for them, the basic goal of which is to create a need for the consumer to satisfy it with the product. But it should not be forgotten what the social media are in their roots and what they are meant for - they are not intended for advertising but rather for creation of relationships, which in event of skillfully crafted relationships lead to the increase of sales volumes (Raudeliuniene, Davidaviciene, Tvaronaviciene, Jonuska, 2018). Several authors emphasise that the main objective of the companies in social media is to gain trust and become a member of the consumer trust group, which will facilitate sales (Mersin, Ibrahimoglu, Kilic, Kahraman, 2019; Evans, 2008). People do not need a monologue but rather a dialogue with business, a conversation filled with symbols, metaphors, meanings and experience that can be found in each good story, as the brands nowadays are not the objects separated from our lives (Belanche, Cenfor, Pérez-Rueda, 2019).

Many different changes in the social media environment have taken place during the last ten years. Currently, the most popular or the most visited social media websites are Facebook, YouTube, Instagram and Twitter. In addition, Instagram currently is a platform undergoing the most rapid changes and attracting new users (Kallas, 2017). The Instagram platform is a relatively new social media platform, which appeared only in 2010 (Facebook - 2004, Twitter - 2006, Pinterest - 2010), and was purchased by Facebook in 2012. Instagram is a mobile application (it is impossible to publish content from the computer) and a social network with a visual content serving as its basis (images, video) (Green, 2017). The uniqueness of the Instagram platform is in its simplicity, as there are no additional functions that could turn attention away from the content. The platform allows people to share their daily lives in a visual form (McGilvrey, 2017). In Latvia, the Instagram platform is used by 450 thousand people, according to the Hootsuite data from the global study on the use of digital media, or almost half of all social media users in the country. 58% of users are women (We are social, 2018). Most experts(58%) indicated that the average advertising campaign on social network lasts for more than 30 days, 22%—from 15 to 30 days, 12%—from eight to 14 days and 8%—up to 7 days. Recent study from Lithuania showed that an advertising campaign on social media networks usually lasts for more than 30 days (Raudeliuniene, Davidaviciene, Tvaronaviciene, Jonuska, 2018).

Several types of published content are available on the Instagram platform:

1. **In the newsfeed:** Image or gallery (up to 10 images) or 1.2. video;
2. **In the stories:**
  - 2.1. Live video;
  - 2.2. A story that is available only for 24 hours if not highlighted and stored (Lee, 2019). The stories immediately taking to the website via a Swipe Up function (function is available if the profile has at least 5,000 followers). Based on data of the influencer campaigns in Latvia, the stories reach a greater audience than the posts.
3. **Profile description (bio)** - on the Instagram platform, active links in the text may not be placed without ads, so the only option to place an active link is in the profile section.
4. **IGTV** - a function still seldom used in Latvia but it is rapidly developing worldwide. Videos longer than allowed by the Instagram story and constantly available usually require higher costs and may be uploaded from the computer (Sehl, 2019).

You may not only place text in the posts but also tag other profiles (people, brands), places, add/tag products and their prices, as well as links to buys showed products, hashtags, and whether the partnership is paid and who this partnership is with. Majority of the influencers in Latvia use an option to place hashtag ad (*#ad*) or cooperation at the

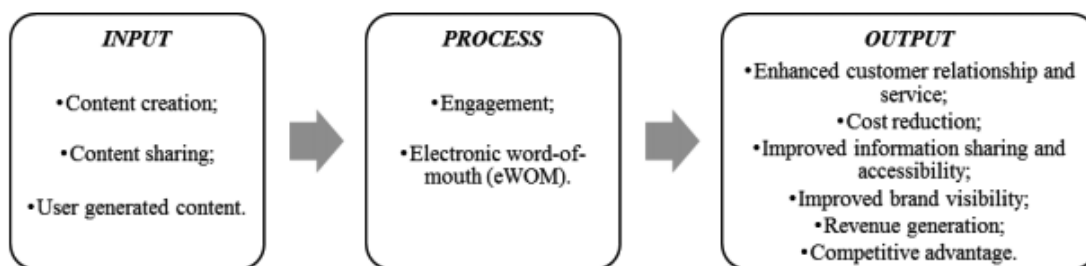


end of the post. Thus, Instagram has currently become more popular not only among the users and has allowed the majority of them to become influencers due to a large number of followers, but also among the companies for the implementation of communication of their brands and facilitation of sales. Social media platform Hootsuite found out that 60% use Instagram to find out about new products on the platform (Beaulac, 2018).

People use the platform for various purposes, which in general allow to impact consumer behaviour during the entire purchase process. One of the most extensively mentioned stages of the purchase process in social media is research. In addition, the Instagram users not only interact with the content, do research and build awareness of the brand, but are active buyers on the Internet. Based on the study of the later social network publishing platform, 72% of the platform users have made a purchase after being influenced by the seen content. The purchases are most often done in the categories such as clothes, make-up, footwear and jewellery. In turn, Facebook has published a study where it shows that the Instagram platform gives much more than just brand awareness for the brand - 46% have made a purchase immediately or soon after they have seen goods or service on the platform (Facebook, 2019).

When communicating in social media, brands need to keep in mind that the content needs to fit the medium. Brands are like any other user on social media, meaning that they do not have a special or authoritative standing among other users. Instagram allows brands to show a more personal side of themselves and post behind-the-scenes images that may not directly showcase their product or service but nevertheless say something about the brand, its values and sense of humour. In doing so, brands allow for a broader brand story to be told, which personalises the brand in the eyes of the user making it more personable and approachable and making communications between user and brand easier. Messages, whether conversational or advertorial in nature, are displayed in a similar manner as all other posts and updates, and whether the message gets noticed depends purely on the content of the post (Hellberg, 2015). Brands need to understand what content users are engaging with in order to stay relevant in their minds and build relationships with them, which will have positive effects in terms of word-of-mouth, brand advocacy and attitudes towards brands. The content of the brand communication becomes crucial in this aspect and needs to contain some hook to incite further action in terms of content engagement (Solis, 2011; Walter, Gioglio 2014) - liking, commenting, sharing or following a brand and its posts. These aforementioned actions are measurable and often the only metrics looked at when measuring the success of brands' social media activities (Hellberg, 2015).

To attract new followers D. Jankauskaite and A. Urboniene suggests to use 3 step approach: 1. Input covers content for social media creation and sharing as well as user generated content. 2. The process is the social media engagement and electronic word-of-mouth (eWOM) communication in the social media. 3. The output covers various positive outcomes that the organization would experience by managing its reputation in the social media (Jankauskaite, Urboniene, 2016).



Source: (Jankauskaite, D., Urboniene, A., 2016)

Fig. 1. Scheme of Organization’s Reputation Management in the Social Media

From content perspective different authors suggests different tactics for companies to use:



1. **Hashtags:** the broadest opportunities to gain new followers or the content to become noticed, is achieved by using various hashtags, based on which people are seeking content, follow the specific hashtag, or they appear in the discovery section (created interaction) (Whitney, 2019).
2. **Call to Action:** for the algorithm to show posts more, a greater engagement is needed on the post, which may be achieved by indicating the specific action that we expect from the user, for example, leaving a comment (Whatman, 2019). Currently, comments are forming only 1.9% of all the activity on the platform, thus leaving the comment is considered as very topical for the content users (96 Instagram Statistics for Social Media Marketing Gurus, 2018).
3. **Use of emoji:** Individual studies show that use of emoji increases involvement in the content (Weiß, Gutzeit, Rodrigues, Mussel, Hewig, 2019).
4. **Contests:** Even though they are forbidden according to the terms, the contests allow improving the profile engagement and to be shown more frequently on the users' newsfeed (Yu, Sun, 2019). The algorithm is able to recognise specific words and will not allow advertising them, thus the synonyms for the word "contest" must currently be selected.

Several factors constantly being changed affect displaying the content in the newsfeed:

1. **The user interest:** The algorithm determines the degree of possibility that the user will get involved in the content, based on the previous activities in similar content, displaying similar content to that where the user was involved.
2. **Time:** The platform first displays the most recent posts (not displaying the entire latest content).
3. **Relationship:** The algorithm displays the content you are involved in (comment, 'love', mark a friend) or have been marked by the friends.
4. **Frequency:** The platform tries to show the most recent content first to the users who use it on a daily basis, in order to show as much of the latest content as possible.
5. **Following:** If the user uses the platform less frequently, it will display more content which the user follows. The more frequently it is used, the more platform modifies it to display the latest content, not the one followed by user.

Taking into consideration the known variables regarding the algorithm, the brands and inspirers may use it for their own benefit. Like any other platform, it wishes to gain profit, so the paid content displayed therein is being displayed more and seen more frequently in the newsfeed, as well as gets more involvement than the content, which doesn't involve ads. Ads may be created in the platform itself with very limited options or by means of the Facebook advertising messenger with the broader audience selection options. There are currently only two possibilities to place ads on the Instagram platform - the newsfeed or a story (Tahir, 2016).

### **Research results and discussion**

The point is that it is not enough to know the types and possibilities of various social networks, the understanding of peculiarities and consumer perception of each is necessary as well (Davidaviciene, Pabedinskaite, Davidavicius, 2017). In order to establish the best use of the Instagram social media platform in the context of the company's marketing communication - the multiple criteria assessment method was chosen to evaluate the complexity of the factors that impact communication results for brands on social media. Based on the study conducted by the authors in November and December 2017 by surveying 318 social network users the information seen on Instagram has made 44.1% to consider a possibility to buy the relevant product or 45.8% to carry out further research on the product (Sperlina, Legzdina, 2018). Thus, in general, it is clear that Instagram is able to facilitate interest, research, purchase of the product and transfer of its experience. Applying multiple criteria assessment method gives the opportunity to evaluate the subject of the research and formulate suggestions for companies. Using the multiple criteria method

allows us to quantitatively evaluate any complicated phenomenon expressed by most indicators. These assessment methods combine qualitative (content) and quantitative approach (statistical data from posts).

The Study object is to determine the best use of the Instagram media platform in the marketing communication and study subject is a role of the Instagram social media platform in the implementation of marketing communication and affecting consumer behaviour with the available communication tools.

After reviewing the Instagram accounts of more than 50 food manufacturing companies in Latvia, it was established that a majority of the companies in Latvia started using Instagram as the communication platform only in 2018 or later when this platform became very popular in Latvia – so a lot of them have accounts very recently and cannot be used for study. As the history data for 2 years was not available for the Instagram accounts of the majority of the food manufacturing companies, thus it was a significant restriction. After first research in food manufactures profiles, 10 food manufacturing sector brands with the Instagram account were selected with the history data available starting 01.10.2017. The following brands were established based on these parameters - Dobeles Dzirnavniesks, Milzu!, Ādažu čipši, Laimas saldumi, Smiltēnes piens, Spilva, Balticovo, Muesli Graci, Baltais piens, Putnu fabrika „Ķekava”. The content analysis was carried out for 10 food manufacturing company Instagram accounts for a period of 2 years from 01.10.2017 to 30.09.2019.

Using the multiple criteria method, a list of primary assessment factors was compiled from the scientific literature resources. Unfortunately, limiting aspects exist for the review of the company's Instagram accounts not directly working with them (ability to log in and see data). Access to data is limited, therefore it is impossible to research several significant KPI's, for example, live videos or the stories if they are not saved in highlights, as well as it is impossible to determine such demographic indicators as breakdown of the follower sex and age or even post each as all data is collected manually (number of followers, number of comments, number of likes, number of posts and other indicators) and all of data can be accessed from everyone.

The data gathered in Table 1 shows a number of followers for each brand viewed from the Instagram business profile, as well as how frequently posts were published. Based on considerations inspected in the theoretical justification, it may be concluded that a number of the followers is one of the indicators determining how interesting this account is, accordingly, it directly interacts with quality of the published content and degree of its ability to intrigue. A number of followers also create a degree of trust to the company, so the greater the number of followers is, the more trustworthy the relevant brand is from the follower perspective. Thus, by viewing the available data, it may be seen that only one brand (Ādažu čipši) has more than 5000 followers, which means that this brand is the only one from the reviewed 10 with the ability to use the stories immediately taking to the website through the Swipe Up (available only if number of followers exceeding 5000) function. By viewing the frequency of posts, it can be seen that the strategic approaches of the companies are diverse, starting from 2 posts per month and up to 27 posts, but we can conclude that quantity does not always mean quality. For example, the strategy of Ādažu čipsi is based on less frequent communication but higher quality, which means that the average number of posts between 01.10.2017 and 30.09.2018 were 2 posts per months but next year there were already 5 posts per month, and we can see that this brand has the greatest number of followers. Thus, by viewing and analysing the content, we can conclude that the followers care more for the quality and attractiveness of the posts rather than how frequently and regularly posts are published. The next brand after Ādažu čipsi with the largest number of followers is Balticovo (4299 followers) with the average number of 27 posts per month for the period 01.10.17 to 30.09.18 and 22 posts in the next year. This precisely marks the difference of the communication strategy, where one of the brands has chosen a less frequent but more thought-over communication with the higher level of engagement from followers, and the second brand has opted to use more frequent posts informing on a broader spectrum of the company's operation, thus basing communication more on the

fragmentation principle - a bit from each category (posts of informative and educating content, recipes, industry news, etc.). Thus, one of the brands invests fewer resources but is using them in a thought-over manner, and the second brand invests more resources ensuring a diversity of news to its followers.

Table 1

**Analysis of the number of posts of the Instagram business accounts**

	Number of followers 30.09.2019	Average number of posts per month 01.10.2017-30.09.2018	Average number of posts per month 01.10.2018-30.09.2019	Number of posts per year 01.10.2017-30.09.2018	Number of posts per year 01.10.2018 - 30.09.2019	Average number of posts per campaign 01.10.2017-30.09.2018	Average number of posts per campaign 01.10.2018 - 30.09.2019
Dobeles dzirnavnieks	2513	11	10	137	115	15	13
Milzu cereal	1841	16	15	186	176	20	16
Ādažu čipsi	5612	2	5	29	64	7	9
Laimas saldumi	3901	4	6	48	70	10	9
Smiltenes piens	2205	13	11	158	132	15	14
spilvalv	1049	9	6	104	72	10	7
muesligraci	2892	18	10	213	116	22	16
balticovo	4399	27	22	327	260	36	26
baltaispiens	2300	16	8	190	101	22	14
kekavalv	1346	9	7	104	80	12	9

Source: author's table based on the Instagram business account analysis 01.10.2017 to 30.09.2019

Table 2 assessed the average number of 'likes' for the posts, as well as the average number of 'likes' for the contests, which usually have the highest involvement and attraction of followers and new followers. As we can see, the Ādažu čipsi Instagram account has the most successful strategy, where one post in average receives 396 'likes' during the period of 01.10.17 to 30.09.18 and 713 'likes' during the period of 01.10.18 to 30.09.19. It related to the aforementioned Table 3, where it can be seen that the account of Ādaži čipsi has a thought-over content focused on the quality and not quantity, resulting in great engagement from followers. By viewing the company accounts and inspecting behaviour of the followers, the companies which have decided to use Instagram as its communication channel must take into account that nowadays by pressing 'like' followers often does it not because they was really interested in the content but there is also a portion of followers who hit 'like' because they thereby indicate that "information is received" or "I saw it". It means that the companies may use this feature for their benefit by getting greater involvement. First of all, Instagram algorithm depicts the content in which you have got involved or become involved (comment, 'love', mark a friend) or you have been marked by friends. These are the relationships forming between the follower and the brand. The more often the followers gets engaged with content, the more they see the content. Of course, there is another option to create a paid content, which means that the paid content will be shown more frequently. This strategy is used by the brand Spilva during the second year of the reviewed time period. The average number of "likes" for one post in respect of the brand in the first year was 24, but it already has 692 'likes' in the second year, which is 29 times more than during the first year. By carrying out an in-depth research of the company's account, it may be concluded that during the second year the company has opted to pay/advertise for each post published, thus getting a greater involvement even though it has not resulted in a great number of new followers.

The authors conclude that the chosen strategy is not completely successful, even though the results may initially seem to be very successful. Unfortunately, it must be noted that we may not find out how big were the investments made by the company to increase the number of ‘likes’ for the posts, but as it was mentioned before, in this context it must be concluded that the followers care for the published content. The authors also wish to emphasise on the fact that when reviewing “engagement rate” a bit further in the study, Spilva Instagram business account results must be noted as successful, while in reality by viewing the advantages and deficiencies of the chosen strategy it should be attributed not only to a greater paid involvement, but also the published content and natural involvement, which results in avoiding sponsoring each post in the future.

Table 2

**Analysis of the number of likes of the Instagram business accounts**

	Average number of likes per one post 01.10.2017 - 30.09.2018.	Average number of likes per one post 01.10.2018 - 30.09.2019.	Number of likes per year for the posts 01.10.2017 - 30.09.2018	Number of likes per year for the posts 01.10.2018 - 30.09.2019	Average number of likes per one contest 01.10.2018 - 30.09.2019.
Dobeles dzirnavnieks	84	113	11,514	16,116	367
Milzu cereal	40	41	7,748	7,156	202
Ādažu čipsi	396	713	14,635	45,601	1,070
Laimas saldumi	155	182	6,208	11,663	833
Smiltenes piens	67	116	9,300	11,160	398
spilvalv	24	692	2,192	43,617	379
muesligraci	65	59	13,740	6,870	119
balticovo	51	63	16,677	16,380	182
baltaispiens	56	68	9,784	5,132	0
kekavalv	69	85	8,855	5,875	202

Source: author's table based on the Instagram business account analysis 01.10.2017 to 30.09.2019

Table 2 also shows the average number of ‘likes’ for one contest. It must be noted that this KPI has been reviewed only for the recent year due to the fact that previously during the period between 01.10.2017 and 30.09.2018 the contests in the Instagram environment were almost not used by the Latvian food manufacturing companies. Previously, the strategy of going to the facebook.com account of the relevant brand and participating in the contest there was used by the Instagram followers. The authors of the paper conclude that it most likely happened because in 2017, the bravest food manufacturing companies have just started to use Instagram accounts, thus they have not yet gained a sufficient number of followers, as well as a recognition in the Instagram environment to be involved in order for the invested resources to pay off. As we can see, Ādažu čipsi is one of the most successful brands in terms of contests, but of course it also must be understood that by superficially looking at the followers who participate in the contests we can conclude that this is one of the most grateful audiences, as the target audience of Ādažu čipsi is formed by young people who use social media and the Internet the most, as previously noted in the CSB data. Therefore, another important aspect arising from the conducted study is related to the target audience of the company's offered products - accordingly, before choosing a step to be taken and starting an Instagram business account, one must understand whether it will be possible to reach the desired target audience and gain and address the potential buyers in this environment.

Table 3

**Analysis of the number of comments to posts of the Instagram business accounts**

	Number of comments per year for the	Number of comments per year for the	Average number of comments per month for	Average number of comments per month for	Average number of comments per contest

	posts 01.10.2017 - 30.09.2018	posts 01.10.2018 - 30.09.2019	the posts 01.10.2017 - 30.09.2018.	the posts 01.10.2018 - 30.09.2019.	01.10.2018 - 30.09.2019.
Dobeles dzirnavnieks	62	105	0.4	1	502
Milzu cereal	56	107	0.3	0.6	286
Ādažu čipsi	92	818	3	16	193
Laimas saldumi	60	204	4	3	88
Smiltenes piens	125	112	1	1	616
spilvalv	26	171	0.3	3	166
muesligraci	227	273	1	2	471
balticovo	260	378	1	2	268
baltaispiens	173	139	1	1	0
kekavalv	117	16	1	0.2	132

Source: author's table based on the Instagram business account analysis 01.10. 2017 to 30.09.2019

Comments, as well as the “likes”, shows the extent to which the followers get involved and react to the posts. The comment section for the companies is also one of the ways to get feedback on the subjects interesting to oneself. Table 3 shows how involved are the followers in terms of comments. Contests usually get higher involvement as comments than regular posts, as the followers see an opportunity to get a direct benefit. This is one significant aspect, which the companies should remember when creating their marketing communication strategy: a follower or a potential consumer will always wish to see what potential benefit may be gained from it. Thus, there must be a motivation to do something. For example, by buying a food product, the buyer hopes to satisfy his/her hunger; by fulfilling conditions of the contest, the follower hopes to win a gift; by commenting on any product, the follower wishes to be heard. It means that the consumer will always act based on any deeper impulse. It is confirmed by the data obtained in Table 3. For example, the average responsiveness of the followers for the daily posts of Dobeles Dzirnavnieks is 1 comment, while for the contest, the average number of comments is 502. The authors also emphasise that by conducting a study, a number of comments for the contests depend on what the contest itself is and how complex its terms are. The strategy must be taken into account here: the easier and more successful it is and the more valuable the prize is, the greater the engagement is. For example, the contests where a photo has to be taken with a favourite product or a recipe never get such great response as those where you need to tag your friend and you may win a prize. In addition, such types of contests are the most successful, because by tagging the friend, the friend also gets notification of the contest – thus bigger reach. By consolidating the acquired data and considerations, it may be concluded that the section of comments provides an opportunity to interact with other Instagram followers, provide them with broader information on the brand, its content, company, products or services and create stronger relations with followers by involving them and creating a feeling that the brand is present.

Table 4

#### Analysis of the content of the Instagram business accounts

	Contests 01.10.2018 - 30.09.2019	Call to action 01.10.2018 - 30.09.2019	Informative or product post 01.10.2018 - 30.09.2019	Video 01.10.2018 - 30.09.2019	IG TV video 01.10.2018 - 30.09.2019
Dobeles dzirnavnieks	2	36	69	8	
Milzu cereal	4	39	102	15	
Ādažu čipsi	16	29	16	3	
Laimas saldumi	4	34	22	3	
Smiltenes piens	4	31	97	0	
spilvalv	3	23	38	8	
muesligraci	5	43	67	1	
balticovo	8	41	169	8	2
baltaispiens	0	14	78	9	

kekavalv	8	16	55	1
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Source: author's table based on the Instagram business account analysis 01.10.2017 to 30.09.2019

As can be seen in Table 4, the number of posts differs based on their content for the period 01.10.2018 - 30.09.2019. The posts of informative nature are most frequently being used in the food manufacturing industry, including the product or the methods of its cooking. Only one of the inspected Instagram accounts (Balticovo) has started using IG TV, which points at the ability of this company to follow the modern trends and use them. Just as important is to use the offered Instagram opportunities to create a feeling with the followers that the company is modern and integrates into the state-of-art technology environment. Authors of the study have observed that after the contests the next most viewed posts are the ones followed by posts directed with clear call to action for followers. When reviewing accounts of all food manufacturing companies, we can see some deficiencies, for example, the brand Baltais has beautiful and high-quality images, but unfortunately, image descriptions are only used for some of them, so the followers are provided with an image only and sometimes lack of description prevents understanding its meaning. Thus, the authors conclude that it is important to think over each communication step in the Instagram environment to avoid the situation when the invested resources do not pay off. The authors believe that by adding appropriate descriptions to the images, especially the calling to actions, the Instagram account of the brand Baltais Piens could operate with better results, increasing a number of followers and engagement level of the followers.

Table 5

#### Analysis of the involvement level of Instagram business account followers

	Average engagement rate for a post		Average engagement rate for the contest post	Average Like follower ratio for the post		Average Like follower ratio for the contest	Average Comment follower ratio for the post		Average comment follower ratio for the contest
	2017 - 2018	2018 - 2019	2018 - 2019	2017 - 2018	2018 - 2019	2018 - 2020	2017 - 2018	2018 - 2019	2018 - 2019
Dzirnavnieks	3.4%	4.6%	34.6%	3.3%	4.5%	14.6%	0.0%	0.0%	20.0%
Milzu cereal	2.2%	2.2%	26.5%	2.2%	2.2%	11.0%	0.0%	0.0%	15.5%
Ādažu čipsi	7.1%	13.0%	22.5%	7.0%	12.7%	19.1%	0.1%	0.3%	3.4%
Laimas saldumi	4.1%	4.8%	23.6%	4.0%	4.7%	21.3%	0.1%	0.1%	2.3%
Smiltenes piens	3.1%	5.3%	46.0%	3.1%	5.3%	18.1%	0.0%	0.0%	27.9%
spilvalv	2.3%	66.2%	52.0%	2.2%	66.0%	36.1%	0.0%	0.2%	15.8%
muesligraci	2.3%	2.1%	20.4%	2.2%	2.0%	4.1%	0.0%	0.1%	16.3%
balticovo	1.2%	1.5%	10.2%	1.2%	1.4%	4.1%	0.0%	0.0%	6.1%
baltaispiens	2.5%	3.0%	0.0%	2.4%	3.0%	0.0%	0.0%	0.1%	0.0%
kekavalv	5.2%	6.3%	24.8%	5.1%	6.3%	15.0%	0.1%	0.0%	9.8%

Source: author's table based on the Instagram business account analysis 01.10.2017 to 30.09.2019

Another Instagram analysis assessment indicator is an Average Engagement Rate, which, as previously described in the Theoretical part, was calculated by viewing the number of Likes and Comments compared to the total number of followers. Thus, Table 5 shows the end result of the calculated analysis where less than 1% means low engagement rate, 1% to 3.5% - average/good engagement rate, 3.5% to 6% - high engagement rate and finally above 6% - very high engagement rate. Thus, it can be seen that the Balticovo brand has the lowest engagement rate, which has grown from 1.2% to only 1.5% in 2018-2019, while the greatest changes in the context of the engagement rate are experienced by the brand Spilva, where the brand has managed to increase its engagement rate from 2.3% at the beginning of the period to 66.2%. It means that the implementation of the company marketing strategy in the context of the Instagram results has brought success, but there is still a question of what the results would be should only regular accessible data were reviewed and not combined with the paid ones. For this reason, it is a clear example that a high level of



engagement may be achieved by investing the budget, but it is more important for the companies to create long-term relationships with their followers to also increase the regular content results.

### **Conclusions and proposals**

The study results show some significant aspects in the Instagram communication of the Food industry companies in Latvia to define a successful and unsuccessful communication strategy approach in daily (regular) communication and facilitate further studies in the context of the brands of other industries.

1. The Instagram social media platform is directed at the use of visual content in communication both by the users and the brands and companies, so when the content is created based on the theoretical guidelines, Instagram algorithm and various studies it must be able to build engagement to consider the implemented communication successful. Nowadays, the consumers have become more demanding and wish for the content to be personalised, especially for the relevant brand (it is important for 50% of respondents and very important for 16% of respondents).
2. An image or video serves as the base of the content, and it must be created in a professional manner, processed (using the options offered by the platform or professional photographs and designers), and be able to attract attention. Visual content must be supplemented by a short, catchy and clear text, which includes hashtags and the desired action by the users.
3. The number of followers is one of the indicators establishing the attractiveness of the brand and trust in it and its created content on the platform. In order to attract more followers and increase the level of involvement, the companies must create thought-over contests in their Instagram accounts. The leading food brands regularly organise contests, but a number of contests significantly differs among Ādažu čipsi, Dobeles Dzirnavnieks and Laimas saldumi, so it may be concluded that a number of contests are of no importance. The contest mechanism and the prizes are of the importance - the simpler is the contest mechanism and the greater is the prize, the better is the involvement and the cheaper is the advertising, resulting in a greater increase in the number of followers.
4. Based on the study, the frequency of the content posting is of no importance, as the greater role is played by the content and its quality, as well as the advertising investments allowing reaching a greater size of the audience.
5. Based on the study performed, Ādažu čipsi, Dobeles Dzirnavnieks and Laimas saldumi are the most efficient (from the selected food manufacturing companies of Latvia) in implementation of the Instagram communication strategies and work on the diverse content regarding their products on the daily basis, so are able to facilitate involvement both in terms of 'likes' and comments, often not being afraid to post a joke or two.

Based on the study results, the authors define the following steps for the implementation of successful and effective communication on the Instagram platform for Food industry companies:

1. When making daily communication, it is not important how frequently posts are, but they must be posted based on some regularity at least several times per month to reach the audience following us naturally, and the entire reached audience should not be ensured by means of ads, which would create higher expenses;
2. The created content must be supported by ads because in a regular course it is impossible to reach a big audience due to competition and Instagram algorithm;
3. The content must create a range of subjects including your products and services, but it must be supported by the current events and trends as well as the entertaining content constantly ensuring diversity and allowing people to follow the brand's website for a long time;
4. The content must be directed at involvement facilitated by the visual content and text of the post;
5. Hashtags must be mandatorily used to reach a greater audience by using the local and English hashtags;
6. Daily content must be supplemented with contests to attract followers; the contests are advertised, they have simple



and clearly understandable involvement mechanism and attractive prizes for the campaigns and ambassadors.

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## SIMPLIFIED TAXES TO SUPPORT SMALL BUSINESS

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**Abstract.** The research authors highlight the aspects related with the appropriate tax treatment for small businesses to reduce the complexity of tax calculations. The micro-enterprise tax (MET) regime introduced in Latvia has promoted the development of small businesses; though, it has negative aspects at the same time: distortion of competition in business and inadequate social security for micro business employees. The research aim is to draw proposals for improving the micro-enterprise tax calculation to ensure the sustainability of the MET regime. The research employs the monographic method, the method of analysis and logical construction as well as the graphical method. The research concludes that the reduction of negative effects and maintenance of positive aspects related to the MET regime would require the supplementation of the MET object in Latvia and calculation of the MET also from the income in addition to the turnover; thus, calculating the MET at 5% of turnover and 20% of income. In Latvia, an even more marginal solution would be the introduction of provision to include payments for services made to the MET payers in the taxable object of the corporate income tax (CIT) to bring the costs of such services closer to the labour costs and reduce the incentive for entrepreneurs to cut labour costs. Such a provision is already introduced in Estonia and Georgia.

**Keywords:** *small business, micro enterprise, taxes, social insurance.*

**JEL code:** H21, H25, J30

### Introduction

A special tax for micro-enterprises (ME) has been introduced in Latvia to support small business. The main benefits of the MET are the reduced administrative burden on micro businesses, lower labour costs and, in many cases, a lower tax burden compared with the general tax regime. However, the negative aspects of the MET shall be acknowledged alongside its positive aspects; the most important of which are: distortion of competition in business and inadequate social security for micro business employees. Therefore, the research aim is to draw proposals for improving the micro-enterprise tax calculation to ensure the sustainability of the MET regime. Subsequently the research tasks are as follows: 1) to study the latest scientific publications on the necessity for simplified taxation for micro businesses; 2) to analyse the positive and negative aspects of the MET regime in Latvia; 3) to analyse the experience of Estonia and Georgia in the field of small enterprise tax regulation; and 4) to draw proposals for the improvement of the MET regime. The advanced hypothesis – it is necessary and possible to establish a tax regime that is simple and understandable for small entrepreneurs and has no negative impact on the business environment and social security of employees. The paper employs a monographic method to study other scientists' findings on the necessity for a simpler tax regime for small businesses and a comparative method to study the differences among Latvian, Estonian and Georgian legal and regulatory enactments on small business tax regulation. The analysis and a logically constructive method is applied to identify and to analyse the main problematic aspects, and to draw proposals for the problem solution. The graphical method is applied to show the ratio of current and recommended MET payments to the business turnover, labour costs and social insurance of employees.

### Literature review

Major changes in small businesses are driven by digital innovation, which creates completely new types of business, forming a new generation of micro-entrepreneurs who are gradually entering the sharing economy. One of the most topical challenges facing tax administrations is tax compliance for these individuals (Bornman, Wessels, 2019). Taxes collected from companies operating in the digital economy are increasing worldwide, including in the

EU. This creates additional problems for tax administrations on how to tax the profits of such companies, since their business models are no longer consistent with traditional tax models. Changing business models highlight the necessity for new principles for imposing taxes on such companies to achieve fair taxation (Juruss, Ragucka-Ragovska, Sandore, 2019).

In recent years, several authors have studied the ability of small businesses to manage taxes as well as new challenges for tax administrations to collect taxes from these businesses in a rapidly changing business environment. Moreover, many small entrepreneurs are still in the grey area (Kukk, Paulus, Staehr, 2019). The authors conclude in their study that there are considerable differences between European countries. Unreported income ranges from 10% to more than 40% of the income of self-employed households, and this proportion is not related with the development level of a country. However, surprisingly little attention is still paid to the tax behaviour of small businesses (Battisti, Deakins, 2018). The authors conclude that the perception of the owners and managers of small businesses on taxes as well as changes in the economic and regulatory environment determine the compliance with tax obligations.

One has to agree with Bergner and Heckemeyer (2017) that the possibility to choose simplified tax accounting methods is a significant consideration in decisions on the legal form of small businesses. Most European countries ensure simplified tax accounting provisions for small businesses, which considerably differ from the general tax accounting provisions. Therefore, efforts are made to protect the sector of small businesses from the disproportionately high burden arisen due to the compliance of provisions. In addition, small businesses are really taking advantage of the possibility to choose simplified tax accounting.

Engelschalk and Loeprick (2016) have analysed the design of simplified tax regimes for small businesses in Eastern Europe and Central Asia as well as the impact of such regimes on tax compliance for small businesses. Nevertheless, there are many opportunities for tax simplification, the main trend is to offer small businesses the ability to calculate taxes based on their turnover rather than profit. The authors point out that sometimes these preferential tax regimes are not well targeted and do not take into account equity considerations as well as they do not promote business growth and the transition to the general tax regime. Although tax revenue collection in the state budget is not the primary goal of such regimes, the basic cause for concern are the extremely low revenue ratios and the risk of misuse of the reduced tax system by larger companies. Hence, greater emphasis should be placed on improving the design of simplified regimes and monitoring their application. Carter (2013) also recognises that many countries struggle between simplifying the tax system for small businesses and fairness compared with other taxpayers.

Tax incentives for small and medium-sized enterprises are the most common measure used by European policymakers; though, the majority of regimes only slightly reduce tax obligations for these businesses. Large reductions are mainly related with special tax rates. The disproportionate tax compliance costs for small businesses are the most important argument for applying a special tax regime. Administrative incentives is the best tool to address these compliance costs. In contrast, special tax rates, tax breaks and benefits are not effective in this respect. They could even create additional distortions and unnecessary complexity instead of improving the neutrality of the general tax system. In general, the focus of policy-makers should shift from providing discriminatory incentives to creating a generally neutral and simple tax system that is beneficiary for both small and large companies (Bergner, Bräutigam, Ever, Spengel, 2017).

There are especially many studies on small business tax simplification in Eastern European countries. Several authors have indicated on the necessity to reduce the vulnerability level of small and medium-sized enterprises, which arises due to the overly complex tax and accounting regulatory framework. Measures to modernise the tax system are needed to improve tax collection. The tax system shall be designed to ensure the predictability of any business and the entire economy. In addition, simple compliance with tax obligations would increase their voluntary compliance

(Mikhail, 2015, Romania). Kolupaieva (2016) has studied the role of a simplified tax system in Ukraine to support small business. The author has concluded that the simplified tax system still demonstrates its important role not only as a fiscal instrument but also as a means of maintaining social stability and stimulating business development despite the identified problems.

The Russian Federation also provides the possibility to small businesses to pay a simplified tax in order to reduce the tax burden and facilitate tax accounting and accounting in general. The authors Salmina, Tufetulov and Nugayev (2018) have identified problems arising from the application of this simplified tax system and suggest ways of solving them. Designing of an efficient tax regime for small business is still a topical issue in Russia. The fiscal stimulus function of tax system has low efficiency in the Russian Federation and this requires the introduction of innovative tax incentives (Grinkevich, Grinkevich, Belomytseva, 2018). The authors propose a small business tax model with an integrated automatic regulator to determine the tax burden on specific small businesses, taking into account their socio-economic impact and innovation. The authors Necheukhina and Popov (2015) focus on the study of legal and regulatory enactments of Russia and Poland regarding the legal status of small business entities, accounting features and taxes. In addition, they analyse accounting information and tax burden principles in small businesses, address accounting automation issues, identify development problems and propose solutions.

Several authors have studied the impact of tax burden on the development of small business, indicating on the necessity to reduce the tax burden (Xu, Li, Liang, Rahman, 2019). High tax burden hinders the growth of small and micro businesses and it is necessary to reduce the tax burden imposed on small and micro businesses to promote their growth (Hou, Lei, 2017).

Other issues such as the ability of small businesses to raise capital have also been researched in scientific publications. Companies using simplified accounting may provide less information to lenders; thus, hindering risk analysis. However, this does not create a barrier for the access to external sources of finance (Waniak-Michalak, 2017).

Nagy (2017) emphasises in her publication that there is no close correlation between competitiveness of the tax system and capital inflows in the European context. One shall agree with the author, who believes that, above all, the regulatory framework needs to be simplified to improve the investment environment. The competitiveness of companies is less burdened by the scope of tax burden compared with the complexity of taxes and the time-consuming nature of tax-related administrative tasks. In many countries, simplified tax accounting methods are regarded as an important step to reduce the complexity of taxes; and thus create an appropriate burden of administrative costs for small businesses. However, the use of simplified accounting does not reduce the demand for professional tax advice (Blaufus, Hoffmann, 2019).

In Latvia, the problems are very similar – the complexity and time-consuming nature of tax calculations for small businesses are growing and it is increasingly difficult for small businesses to make their own tax calculations, especially after the 2018 tax reform. Therefore, the necessity to improve the already existing preferential tax regimes for small businesses is becoming more topical. There are two options in Latvia: 1) to pay a fixed amount of tax (50 or 100 EUR per month) as a patent fee, or 2) to pay 15% of turnover or revenue as the MET. The first option may be used by a very limited number of natural entities – self-employed and only for the performance of activities determined by the law, for example, handicraftsmen and persons providing various services to the population (hairdressers, photographers etc.). Positively that the patent fee includes also the MSSIC (90% of the patent fee), so the payers of the patent fee, though, to a small extent, are socially insured for two types of insurance: pension and disability.

The other preferential tax regime for small businesses is the MET, which was introduced in 2010 but is still being improved within the tax framework to reduce its use for unfair tax competition. The authors Juruss, Kuma and Neimane (2017) indicate that the existing micro-enterprise tax regime has a negative impact on the development of

business environment in Latvia as it has not sufficiently stimulated employment, it creates social security problems for micro business employees and tax optimisation. As a result of the study, the authors conclude that optimum taxation of small businesses can be achieved by separating the state social insurance contributions from the micro-enterprise tax by linking it to the income.

Accepting that the MET regime has had several negative aspects: it has contributed to unfair tax competition and the social insurance of the ME employees is insufficient; the positive aspects of the MET regime shall be taken into account. The MET regime shall be maintained as it provides a significant reduction of administrative burden, is predictable, simple and understandable for small businesses. However, it is recommended to reduce the payment, which is being calculated based on the company turnover and to introduce an additional payment for each employee from his/her actual income in order to ensure the sustainability of the MET regime, to expand its applicability to small businesses in various sectors and to improve the social insurance of ME employees (Leibus, 2019).

### **Research results and discussion**

#### **1. Assessment of positive and negative aspects related to the MET**

Since the introduction of the MET in 2010, it is calculated on the basis of only one criterion – turnover of the company. The rate has been increased from the initially set 9% to 15% of turnover, while additional payments shall be made if any of the three restrictive criteria set for a micro-enterprise taxpayer are exceeded: turnover – EUR 40 000, five employees and an income of EUR 720 per month. However, even in that case, the taxable amount is the turnover. Only if the income criterion is exceeded, the additional tax is calculated on the income above the threshold of EUR 720. In any case, however, the tax calculation is very simple but it has several negative aspects that have already been mentioned in previous publications (Leibus, 2012, 2014, 2019).

It is very important to maintain the positive aspects of the present tax regime when improving the MET regulation:

- 1) the MET is a voluntary choice, not a compulsory payment, so an entrepreneur may in any case choose to pay taxes under the general tax regime;
- 2) the MET reduces labour efforts by diminishing the number of taxes to be calculated, tax returns and tax payments. The MET replaces several taxes (labour and income taxes) or a single tax replaces two up to four taxes and duties (corporate income tax, personal income tax, mandatory state social insurance contributions (MSSIC) and risk duty). One tax return replaces up to six individual tax returns. One MET payment per quarter may replace even up to 13 tax and duty payments, which would have to be made under the general tax regime. The number of taxes to be replaced depends on the legal status of an entrepreneur – Ltd company or a self-employed person; whether the company has paid employees or an owner works alone;
- 3) the MET reduces operating costs for small entrepreneurs, as it is simple to calculate it and does not require specific knowledge in accounting, so the owner itself can make calculations without employing an accountant, especially, if the owner decides to do business as a self-employed person;
- 4) the tax calculation is suitable for the application of contemporary technologies, the tax may be calculated using the information available in the bank account statement, there is no need for additional calculations; thus, it allows involving credit institutions in the tax deduction and transfer to the budget;
- 5) the tax is easy to predict, since it depends on only one indicator – turnover or revenue;
- 6) in any case, it ensures at least minimum tax payments to the state budget; hence, encouraging small entrepreneurs to pay taxes and reducing willingness to evade them;
- 7) the redistribution of the MET payments for the social insurance (MSSIC constitute 80% of the MET) of employees shall be assessed very positively; thereby, ensuring the social insurance of small entrepreneurs themselves and



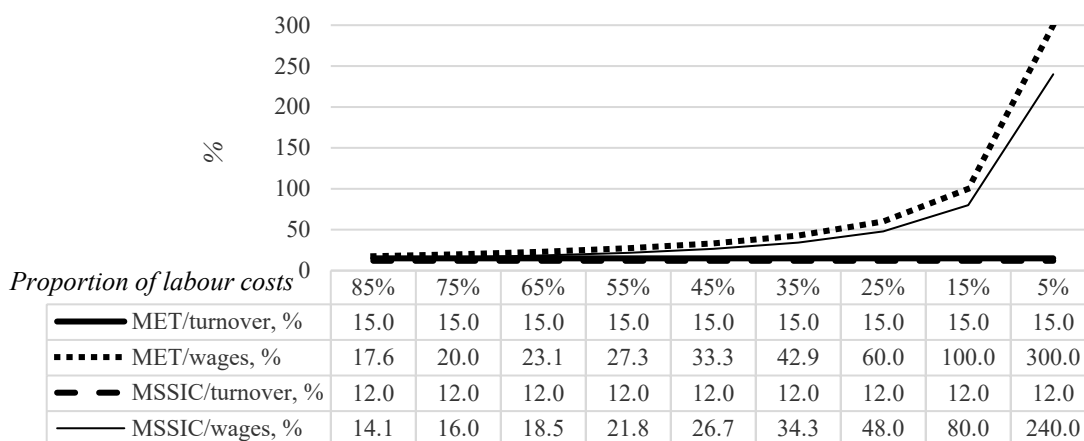
their employees (for pensions, unemployment, disability, cases of maternity and sickness, occupational diseases, parental insurance);

- 8) the possibility for employees to make voluntary MSSIC for themselves shall be assessed equally positively; however, this is relatively little used in Latvia;
- 9) the MET reduces administrative burden also on the tax administration, as it is easy to control.

The negative aspects that shall be addressed and averted when improving the MET regulation:

- 1) the MET is very favourable for businesses whose main or even only costs are the labour costs; though, it is not favourable for businesses that have higher material than labour costs (Figure 1). As the MET is 15% of turnover, the maximum amount that may be used for wages is the remaining 85% of revenue. If, on the contrary, expenses other than wages increase, then the potential amount of wages decrease accordingly. Following such calculation of the MET, the amount of social contributions of employees depends only on the company turnover calculated per employee. Figure 1 shows that if the MET is 15% of turnover, then regardless of the amount of income, the MSSIC of employees are 12% of turnover, as 80% of the MET are redistributed to the MSSIC. For example, at the maximum annual turnover of EUR 40 000, the MET payment would be EUR 6 000. The amount of MET would not change whether 85%, i.e. EUR 34 000 or 5%, i.e. EUR 2 000 are spent on wages. In contrast, the MET to income ratio rockets, i.e. it is 17.6% in the first case, while it is already 300% in the other case or the MET amount exceeds the amount paid in wages three times;
- 2) frequently businesses paying the MET provide inadequate social security for their employees. This is especially the case for businesses whose turnover is planned to cover only labour costs. Since the income ceiling set for this regime is EUR 720 per month, the turnover of such businesses often does not exceed EUR 850 per employee. The MET is 15% of turnover or EUR 127.50 (850 x 15%), while the remaining amount is paid in wages. In this case, the social insurance of one employee is relatively insignificant, as the MSSIC object is approximately EUR 290 per month. In addition, the MSSIC object decreases if the turnover of a micro business per employee is even lower. In order to avoid a reduction in the social security cover of the MET employees, the law prescribes a possibility for employees to make additional voluntary social insurance contributions. This option reduces business costs on social insurance of the employees transferring responsibility for their own social security to the employees themselves. In Latvia, this provision was not actually used, as only a few MET employees insured themselves, basically shortly before receiving social security, i.e. before retirement or maternity leave.
- 3) unfair tax competition between the businesses operating under the MET and general tax regime, which is particularly pronounced in the service sector. If the income in a MET paying enterprise does not exceed the statutory ceiling of EUR 720 per month, the calculation of the tax solely on turnover leads to the regularity – the higher the proportion of labour costs, the lower the tax burden on labour costs. In addition, it is significantly lower than for the companies paying taxes under the general tax regime, which pay labour taxes of around EUR 529 for the net income of EUR 720 or it is more than 74% of the net income. This would correspond to tax payments made by a MET payer if less than 25% of the business turnover were paid in wages. However, as described above, the proportion of labour costs is significantly higher in most businesses paying the MET.





Source: authors' calculations

Fig. 1. The ratio of the MET costs and the MSSIC to the turnover and wages depending on the proportion of labour costs, if the MET is 15% of turnover

In addition, if the MET object is solely the turnover, then businesses with higher material rather than labour costs cannot compete with the companies operating under the general tax regime (Figure 1). For example, if labour costs constitute 25% of turnover, then the MET is 60% of employees' income, but if labour costs are 15% of turnover, the MET is equal to the amount paid in wages (100%). It is positive that the MSSIC of employees are in any case 80% of the MET amount; thus, in such cases the social security of the micro business employees increase significantly.

## 2. Experience of other countries in the application of simplified tax regimes

Several countries have introduced simplified taxation for small businesses, mostly as a percentage of operating revenue. The present research is based on the comparison of two countries: Estonia (from 2000) and Georgina (from 2017), which have chosen to change the corporate income tax (CIT) system before this was done in Latvia. The legal enactments of these countries prescribe taxing only distributed profit instead of all profit. The tax calculation in all three countries was simplified with the change of the CIT subject, as there is no longer any need to adjust the profit to determine taxable income. As the CIT payers are only legal entities, it is also worth comparing what is being done in these countries to simplify the tax calculations for small businesses – natural entities.

Estonia has introduced a very simple solution with the adoption of the Simplified Business Income Taxation Act, which is in force from 2018. Pursuant to the Act, a natural entity may open a special business account on the amounts received from the operating activities but a credit institution reserves the amount corresponding to the tax liability: 20% for income up to EUR 25 000 per calendar year and 40% for income exceeding EUR 25 000 per year. There is no limit to the maximum amount of revenue but given the rapid progressive tax rate, the tax rate approaches 40% of revenue for higher revenue. The amount of tax thus collected is divided for the payments of the taxpayer's income tax and social insurance contributions as follows: 1) the rate of the income tax part is 20/55 (36.4%); 2) the rate of the social tax part is 33/55 (60%); and 3) the rate of the statutory funded pension tax is 2/55 (3.6%) (Simplified Business Income ..., 2017).

The tax rate in Estonia is higher and it is progressive compared with Latvia. If the income is EUR 40 000 per year, which corresponds to the maximum allowed income of the MET payers in Latvia, then the tax in Estonia is 27.5%, while it is only 15% in Latvia. In addition, this simple solution is not allowed in Estonia for businesses being the VAT payers and employing paid labour force. Common to both countries – the tax calculation is very simple and predictable, it also includes social insurance. However, in Estonia, simplified business income tax payments are often higher than tax payments made under the general tax regime, so the main benefit is tax simplicity rather than lower payments. In

addition, in Estonia, a person who earns income only through this simplified tax regime may receive health insurance only if the monthly income of a simplified business income taxpayer is at least EUR 1375 and corresponding monthly tax payment of 20% is at least EUR 275 (in 2019). In Latvia, there is no such provision for receiving health insurance. In addition, in Estonia legal entities paying for a service received from a simplified business income taxpayer additionally calculate the CIT from the amount of the service, for example, if EUR 1000 have been transferred to a natural entity, the company additionally pays the CIT at the rate of 20/80 or EUR 250, which equates the costs of this service with the labour costs, and thus, discourages entrepreneurs to reduce labour costs, which is also so topical in Latvia. On the contrary, additional tax is not being imposed on the payments for goods (Entrepreneur Account for ..., 2019).

In Georgia, pursuant to the Tax Code of Georgia, natural entities may choose one of three special tax treatments: a) natural entities having the status of a micro business; b) natural entities having the status of a small business; c) persons having the status of a fixed taxpayer. Usually tax payments are small – up to 3% of income. These payments do not include social insurance of entities; however, it should be considered that social insurance in Georgia is organised according to other principles and social security is not dependent on payments made. In Georgia, similarly to Estonia, an additional CIT of 15% is imposed on the CIT payments for services made by the CIT payers. Moreover, in Georgia, an additional CIT of 15% is imposed on goods purchased from natural entities who have the status of a micro business or who pay a fixed income tax.

Therefore, in the other two countries, where, like Latvia, the CIT is calculated on distributed profits, the CIT payers are forced to pay an additional tax on payments to taxpayers benefiting from a preferential tax regime. It is prescribed to reduce unfair impairment of labour costs by replacing employment relationships with outsourced services provided by a natural entity or, in the case of Latvia, by a micro limited liability company. Such a situation has greatly distorted the business environment in Latvia.

### **3. Assessment for the improvement possibilities of the MET**

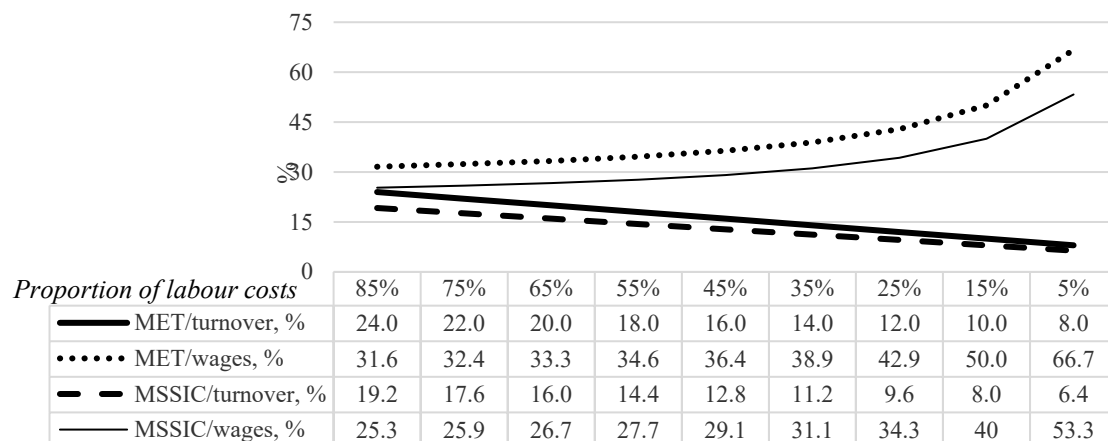
Previous studies (Leibus, 2019) show that it is possible to mitigate the negative aspects of MET by introducing an additional object for the MET calculation. Moreover, it is important that all three of the above-mentioned negative aspects may be averted without complicating business accounting and tax calculations of micro businesses.

Initially, an additional MET payment was offered as a simple solution, similar to the one imposed on the self-employed persons in Latvia – 5% for the pension insurance and 1% for health insurance of employees. The MET payment could be calculated from an employee's income and paid by the employer (Leibus, 2019). The administrative burden would increase neither for the taxpayer nor the tax administration in such a situation. In contrast, the tax burden on the micro business would grow by approximately 2% to 5%, calculated on the turnover of the micro business. The increase in the tax burden would depend on the proportion of wages, it would be 4.8% if the proportion of wages was 80% of the turnover or 2.4% if the proportion of wages was 40% of the turnover.

Raising of the income criterion was recommended as an additional measure to offset the tax increase. The income criterion has not been changed since 2010 despite the significant increase of the average wage in the country. Moreover, a positive aspect of such a tax increase would be the decline of the “tax shock” for companies switching from the MET regime to the general tax regime, since the tax rates may grow even 2-3 times with the change of the status of a taxpayer (Leibus, 2019). The proposed changes would reduce the difference in the tax burden between the two tax regimes, thus, mitigating the effects of unequal tax competition.

Further studies comprise the analysis of different MET scenarios; though, each of the scenarios emphasises the most important criterion – simplicity of the tax calculation by maintaining the present positive aspects. Therefore, it is necessary to determine the indicators already included into the MET return: quarterly turnover, employees and

monthly income of every employee as taxable objects. The maintenance of turnover as a taxable object by significantly reducing its proportion in the tax amount (not 15% but only 5%) and introducing an additional object – income (20%) were considered the most appropriate solution.



Source: authors' calculations

Fig. 2. The ratio of the MET costs and the MSSIC to the turnover and wages depending on the proportion of labour costs, if the MET is 5% of turnover and 20% of income

The possibility that the micro businesses might not disclose full income in order to reduce the amount of tax on income shall be considered as a potential risk when changing the MET object. However, this trend could be minimal as the tax burden on income would still remain lower (from 31.6% to 66.7% depending on the proportion of labour costs) than under the general tax regime (74% for income of EUR 720).

The introduction of the MET calculation proposed by the authors (5% on turnover + 20% on income) would maintain all the present positive aspects of MET, including simplicity and predictability. In this case, the use of Estonian experience could also be appropriate – tax calculations and tax collection could be entrusted to credit institutions by establishing a special business account for entrepreneurs who use non-cash payments. The tax burden would increase for those micro businesses whose labour costs exceed 40% of turnover. The maximum MET amount would be 24% of turnover of the micro business, and it would be for businesses with labour cost of 85% of turnover. Businesses with a lower proportion of labour costs would also have a lower ratio of the MET to turnover. The negative tax competition between companies operating under the general tax regime and the MET regime would be reduced with the increase of the tax burden on micro businesses with a higher proportion of labour costs.

The current provision determining the minimum annual MET of EUR 50 ensures that all micro businesses pay at least a minimum amount of taxes. In order not to promote further unfair tax competition, it is also recommended to introduce a provision that the total annual MET payments are at least 15% of annual turnover; thus, corresponding to the present MET rate in force. According to the authors, this provision would apply to the micro businesses with labour costs below 40% of turnover.

Latvia has already introduced a number of measures, such as an increased MET rate, a prohibition for one and the same individual to be enrolled in more than one micro business, to reduce the establishment of false micro businesses specifically for the purpose of diminishing the tax burden. As a result, the proportion of MET payers in total number of taxpayers has started to decline since 2017. However, an even more radical solution applied in Estonia and Georgia would be to include payments for services made to the MET payers in the taxable object of the CIT. This would bring the costs of this service closer to the labour costs and reduce the incentive for entrepreneurs to cut labour costs through the MET regime.

### Conclusions, proposals, recommendations

1. It is necessary to reduce the complexity of tax calculations to facilitate the development of small businesses by making tax calculations simpler and more understandable for entrepreneurs themselves simultaneously avoiding distortions in the business environment due to excessively low tax burden.
2. The comparison of three countries (Latvia, Estonia and Georgia) that have chosen to change the corporate income tax system leads to the conclusion that the solutions for small businesses not being the CIT payers are very different; though, all countries have introduced simplified tax regimes.
3. Estonia and Georgia have introduced additional CIT payments for legal entities making payments to small businesses operating under these regimes to discourage entrepreneurs from reducing their labour costs through preferential tax regimes. Latvia has not introduced such a provision despite this widespread negative trend.
4. It is recommended to supplement the MET object in Latvia and to calculate the MET from income in addition to the turnover by calculating the MET at 5% of turnover and 20% of income to reduce the negative effects of MET and to maintain all positive ones.
5. An even more marginal solution would be to introduce in Latvia a provision similar to Estonia and Georgia to include payments for services made to the MET payers in the taxable object of the CIT to bring the costs of the service provided by a micro business closer to the labour costs and reduce the incentive for entrepreneurs to cut labour costs through the MET regime.

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## FOSTERING DIGITAL DEMOCRACY IN LATVIA: OPPORTUNITIES AND LIMITATIONS

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**Abstract.** In a democracy, a citizen has various opportunities for participation in the decision-making process. However, in Latvia rates of citizen participation are comparatively low and there is a need for solutions to foster citizen engagement in the decision-making process. The research is considering citizen participation as an interdisciplinary topic combining knowledge from public administration, politics and communication science. With the purpose to analyse opportunities of digital democracy that could help to tackle factors affecting citizen motivation and ability to participate, the research question is – can digital solutions be used in Latvia to foster citizen engagement in the decision-making process? In the research, current situation and future perspectives of digital democracy in Latvia are analysed. Methods of the research are: a survey to representatives of Latvian public administration and a survey to Latvian citizens, as well as an analysis of academic literature and statistical data about civic and political participation, digital democracy and decision-making process in the public administration. Results of the research suggest that both citizens and representatives of the institutions are looking positively towards digital solutions that could be used to foster citizen engagement in the decision-making process, nevertheless, there are limitations that must be very carefully considered and tackled, especially digital skills of citizens and representatives of public administration, as well as low level of trust in public administration and comprehension about democracy in general.

**Keywords:** *citizen engagement, digital democracy, public administration, social media.*

**JEL code:** I28, L86, O31

### Introduction

Democracy is providing various opportunities for citizens to participate in the decision-making process of public administration. Although participation is recognised as citizens' rights and sometimes even as citizens' duty, that is still a decision of citizens themselves if they want to engage in the processes and how much time they are spending for the participation. Citizens can delegate their power by voting in elections and until the next election time do nothing or they can search for more frequent participation opportunities if they want to have a bigger impact on decisions made by public administration. Citizen motivation to participate can be affected by several factors, for example, their knowledge of participation opportunities and access to them, comprehension about democracy and value of participation, and trust in public administration and government. In Latvia, rates of citizen participation are comparatively low and there is a need for solutions to foster citizens engagement in the decision-making process. To solve this problem, at first citizens' knowledge of democracy and decision-making process must be strengthened, also, trust in public administration should be improved. Nowadays that can be achieved by using digital solutions that allow public administration to communicate with citizens directly, provide information and engage citizens in the dialogue that could lead to citizens participation in the decision-making process.

The research is considering citizen participation as an interdisciplinary topic combining knowledge from public administration, politics and communication science. With the purpose to analyse opportunities of digital democracy that could help to tackle factors affecting citizens motivation and ability to participate, the research question is – can digital solutions be used in Latvia to foster citizen engagement in the decision-making process? In the research is analysed the current situation and future perspectives of digital democracy in Latvia by conducting a survey to representatives of Latvian public administration and a survey to Latvian citizens, also academic literature and statistical data about civic and political participation, digital democracy and decision-making process in the public administration is analysed. Survey to representatives of the Latvian public administration was carried out in April and May 2019 using online research survey software *QuestionPro*. Personal invitation to answer the survey was sent to those representatives of Latvian public administration who are responsible for citizen engagement and communication



with society. In total, 55 fully or partially filled surveys were recorded, respondents were from Latvian ministries, Latvian Parliament, Cross-Sectoral Coordination Centre, local governments and several other Latvian public institutions. In the survey, each representative was asked to provide in-depth information on how his/her institution is using social media, smartphone applications and other digital solutions to communicate with citizens and to engage them in the decision-making process. Citizen survey was implemented in September 2019 - January 2020, using online research survey software *QuestionPro*. In total, 238 fully or partially filled surveys were recorded representing citizens from Riga and other regions of Latvia. Invitation to complete the survey was published on social network *Facebook.com* in a specific Facebook page that was made for the purpose of the study – this information was promoted to Facebook users in Latvia. Information was also published on social media accounts on *Facebook.com* and *Twitter.com* by University of Latvia Faculty of Business, Management and Economics and by *LVPortals* which is maintained by *Latvijas Vēstnesis / Latvian Herald*, the official publisher of the Republic of Latvia. Later, these social media posts were shared by several institutions, organisations and individual persons. Invitation to complete the survey was sent out by e-mail to organisations that are engaged in the decision-making process, participating in the advisory bodies: members of the Latvian Civic Alliance; members of the Latvian Youth Council; and members of The Council for Implementation of the Memorandum of Co-operation between Non-governmental Organisations and the Cabinet. The questionnaire is identifying citizen attitude towards public administrations online communication and digital activities; their willingness to participate in the decision-making process in the digital environment – using participation portals, social media and smartphone applications. Respondents were also asked to mention public institutions that they are following or have recognised in the digital environment.

The research has some limitations as citizen survey does not measure their digital skills and comprehension of democracy that can also affect citizen motivation and ability to participate in the decision-making process. Therefore, the analysis of the research results is providing insight into citizen opinion on the current level of digital democracy in Latvia and their suggestions for future development. Similarly, in the survey to representatives of the Latvian public administration, their skills to communicate with citizens online and technical readiness of the institutions to implement digital solutions are not analysed, rather their attitude and current habits. Considering that the digital environment is comparatively well developed in Latvia and the population is relatively small, citizens and public administrations' attitude towards the digital environment has an essential effect on the future development of digital democracy in Latvia. However, in the discussion of digital democracy, it is important to consider other main factors that can influence future development by facilitating or hindering it. In the literature review, the main factors are discussed with particular attention to the specific Latvian situation.

### **Literature Review**

In many aspects, Latvia has good preconditions for the development of digital democracy. Most citizens have access to the internet and it is comparatively fast both in computers and smartphones, thus, citizens are using it regularly, and also public institutions are accessible online for information and digital communication. Another positive precondition is the relatively small population - less than two million people, which makes it easier for public institutions to reach a larger part of population, implement rapid changes faster and learn know-how experience not only from foreign countries but also from those cities whose population are larger than entire Latvian nation. Nevertheless, there are several factors that should be emphasized when discussing future development of digital democracy in Latvia – digital skills and media literacy of citizens and representatives of public administration; current level of civic and political participation and comprehension about democracy; access to participation opportunities and the will and actions of public administration towards the digital development. A successful development of digital



democracy in Latvia can be reached if there is comprehension about the current national situation and foreign experience is recognised and properly implemented.

In the European Union, digital competitiveness of the member states and their digital performance is measured with the Digital Economy and Society Index. In the combination of all relevant indicators, Latvia is in the 17<sup>th</sup> place in the EU with score 50, close to the EU average (European Commission, 2019A). When looking more carefully to each indicator, results of Latvia are heterogeneous: integration of digital technology is evaluated with a score 24.5 - 24<sup>th</sup> place in the EU, but digital public services and e-governance is evaluated with a score 73.7 - 7<sup>th</sup> place in the EU (European Commission, 2019B). Latvian citizens are active online - 84 percent of all Latvian citizens in 2019 regularly used the internet and 65 percent of citizens used social media. For the youth segment, participation on social media was even higher – 96 percent (Central Statistical Bureau of Latvia, 2019). Although citizen activity online is comparatively high, when compared to other Baltic States, digital skills of Latvian citizens are lagging behind. 48 percent of Latvian citizens in 2017 had basic or above basic overall digital skills, with the 55 percent benchmark for Lithuanians and 60 percent benchmark for Estonians for the same year. This result is also below European Union average – 57 percent (Eurostat, 2019). Habits of citizens is a factor that has a significant impact on citizen digital participation. According to a study by OECD, although most of youth are online, their online habits differ depending on their socio-economic conditions. Youth from disadvantaged groups are spending more time online, but time is not used qualitatively as they are not aware of opportunities that digital environment can offer them (OECD, 2016), therefore, additional learning is needed to ensure that citizens are able to use digital tools. In 2019, Latvia was ranked in the 14<sup>th</sup> place in the European Union according to the Index of readiness for digital lifelong learning, and it was concluded that for Latvia the main weakness is the lack of availability of digital learning tools. One of the main shortcomings is “the lack of teachers’ digital skills as well as the inability to synthesize traditional teaching methods with digital learning opportunities” (CEPS, 2019). According to the Index of readiness for digital lifelong learning, Estonia was rated in the first place, Lithuania in the 11<sup>th</sup> place, and Germany received the last – 27<sup>th</sup> place. Hence, these results demonstrate that digital development does not depend on wealth, geographic or historical conditions. Significant changes can also be achieved by making thoughtful decisions and being open to innovative approaches.

Emiliana De Blasio and Donatella Selva have compared the changes that public governance has gone through in the recent decades, from the concept of Bureaucratic State in the middle of 20<sup>th</sup> Century until the latest development of Open Government nowadays (De Blasio, Selva, 2016). There is a noticeable increase in the openness of the government decision-making process, as well as the role of citizens is growing as they are now becoming a significant part of the decision-making process. Similarly, John Clayton Thomas referred to the three main roles that should be considered (Thomas, 2013): public as citizens in context with the New Public Administration approach; public as a consumer in context with the New Public Management approach; and public as a partner in context with the Governance and Coproduction approach. Brett L. M. Levy and Thomas Akiva have mentioned political efficacy and political interest as the most reliable predictors of political participation. They described political efficacy as “the extent to which individuals believe that their actions can influence the government”(Levy, Akiva, 2019), and analysed it from two perspectives - internal political efficacy, which is person’s individual sense of competence for understanding and acting in the political sphere, and external political efficacy – person’s belief that their engagement will be noticed by the government or society. In the European Union, the support to citizen engagement and need for renewal of democracy is a topic discussed for more than a decade, also in the context of digital solutions. Council of the European Union in the latest, October 2019, Council Conclusions on Democracy has stated that: “Across the world, people continue to demonstrate the strength and power of their desire for a stronger voice and inclusion in decision-making processes”, at the same time pointing out challenges to democracy that has emerged in the 21<sup>st</sup> Century, such

as: undermining of democratic processes and institutions; low levels of trust in institutions and politicians; a shrinking democratic space for civil society; increased violations of human rights and fundamental freedoms; and manipulation using online technologies. As a solution to those challenges, the Council of the European Union suggests several activities that could “promote positive trends and counter negative ones”, such as: support participation and representation of women and youth and their interests; strengthen civil society; support and protect free and independent traditional and online media; support and promote civic education and online media literacy; promote the use of online technologies in strengthening democratic participation, accountability and access to information; as well as, “strengthen promotion and public communication on the value of democracy as a global and universal public good” (Council of the European Union, 2019). Bertot and his colleagues advocated (Bertot et al., 2012) that the use of social media in openness and anti-corruption efforts can potentially promote democratic participation and engagement, facilitate co-production of materials between governments and members of the public and help crowdsourcing solutions and innovations. In the analysis on e-participation in the European Union, it is concluded that digital participation should be fostered in the European Union because: “E-participation tools can represent an alternative form of engagement for citizens who are tired of ‘traditional politics’ and help promote more grassroots support for EU policy. The democratic deficit should be grasped as an opportunity for the EU to show that it cares about its citizens by giving them the possibility to participate in the decision-making process in a more collaborative manner” (Lironi, 2016). European Parliament’s report on e-democracy in the European Union was adopted in 2017, emphasizing that “the purpose of e-democracy is to promote a democratic culture that enriches and reinforces democratic practices, by providing additional means to increase transparency and citizens’ participation, but not to establish an alternative democratic system to detriment of representative democracy” (European Parliament, 2017). Accordingly, in the European Union level, there is noticeable support to foster democracy and find new ways how to encourage citizen participation. Still, the national governments and public institutions have the biggest responsibility for concrete actions and initiatives that would lead the intentions to tangible results.

Latvian public administration’s attitude towards digital participation is highlighted in the Information Society Development Guidelines for 2014 -2020: “It is important to draw a special attention to the development and use of ICT options, which help to organise a dialogue with the public through the social network platforms and common forms of electronic communication; thus, making the communications with the public more modern and accessible. ICT solutions allow reaching the population better since mutual communication is performed through ICT platforms, which people use or more convenient and more rapidly could use on a daily basis” (VARAM, 2013). Since 2011, Latvia is participating in Open Government Partnership together with 78 other countries. To join Open Government Partnership, countries have to endorse the Open Government Declaration and commit to “foster a global culture of open government that empowers and delivers for citizens and advances the ideals of open and participatory 21st-century government” (Open Government Partnership, 2019). Latvia’s activities in the framework of Open Government Partnership are consolidating steps that are leading to more citizen-friendly governance and could also foster the development of digital democracy in Latvia by supporting aspects that have a positive impact on citizens ability to participate in the decision-making process, for example, access to open data. One of the main institutions responsible for digital development in Latvia is the Ministry of Environmental Protection and Regional Development. From April 2018 until June 2020, they are implementing the project *My Latvija.lv. Do it digitally! / Mana Latvija.lv. Dari digitāli!* to promote the use of digital solutions that are provided by Latvian public institutions and organisations (VARAM, 2018). In their review of current digital opportunities, online portals *manabals.lv* and *Latvija.lv* are mentioned for supporting citizen-led legislative initiatives, and several smart-phone applications that are designed for citizen involvement are highlighted - *Environment SOS / Vides SOS* for environmental issues, *Language friend /*

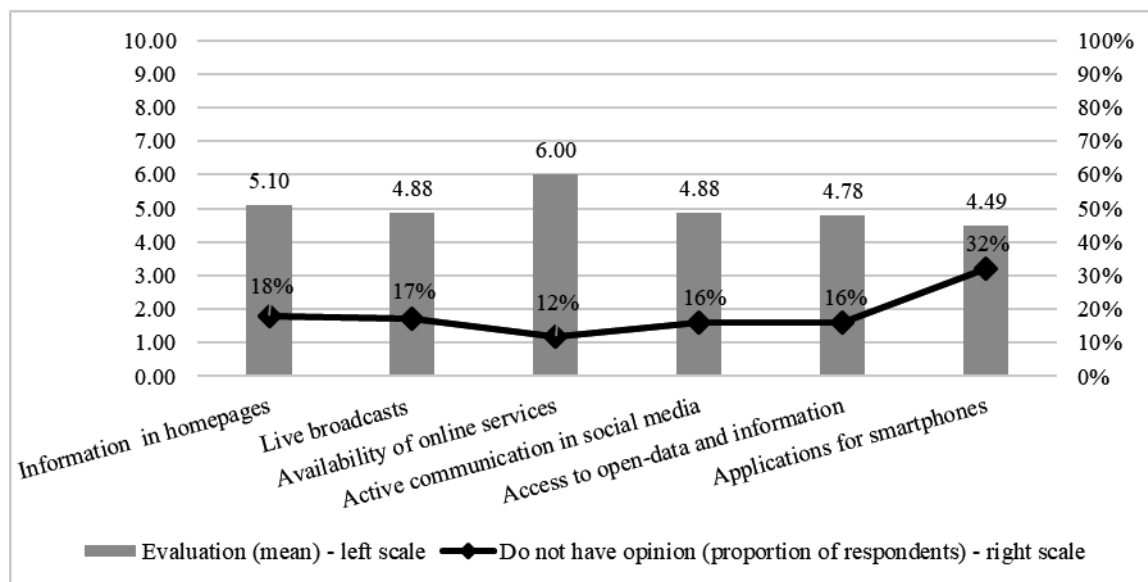
*Valodas draugs* for reporting violations or good examples of Latvian language usage, and *Football / Futbols* for helping to improve the quality of the services provided by the public institutions (VARAM, 2019). According to the eGovernment Benchmark 2019 report, Latvia is characterised by a high level of digitisation and medium-high level penetration, concluding that “Latvia is in the cluster of Fruitful eGov scenario, a scenario that includes the best-in-class countries, which perform at a Digitisation and Penetration level above average” (European Commission, 2019 C). Hence, there are several initiatives in Latvia that are leading to digital participation, but the effect of those activities will be measurable only after some time. Nevertheless, that must not be a reason for waiting – as the digital environment is still developing and rules of it are constantly changing, for the public administration, it is better to be a part of those who are shaping this future. In the study on digital government in Australia and the United Kingdom, Maria Katsonis and Andrew Botros emphasized that “as the pace of information and communication technology change continues, the challenges for the public sector will extend beyond the technical (..) it will require addressing leadership, capability, governance, and cultural issues coupled with a relentless focus on putting the citizen first” (Katsonis, Botros, 2015), thus, if public administration would like to engage citizens in the decision-making process, they have to develop a system where citizens have more important role than it has been so far.

### Research results and discussion

The purpose of the research is to analyse opportunities of digital democracy that could help to tackle factors affecting citizen motivation and ability to participate. Results from the survey to representatives of Latvian public administration and the survey to Latvian citizens are demonstrating current situation and contemporary habits of citizens and institutions, as well as possible directions for future development.

#### Current situation

In Latvia, public institutions are gradually developing their presence in the digital environment. Citizens have access to online services in the state service portal *Latvija.lv*, they can vote for new legislative initiatives in *manabalss.lv* and, after receiving 10 thousand votes, the initiative must be considered by Latvian Parliament (Sabiedrības Līdzdalības Fonds, 2019). In the framework of Open Government Partnership, with the third national action plan, Latvia has started the work to open-data portal, and citizens in the address *data.gov.lv* now have access to first datasets (Valsts Reģionālās attīstības aģentūra, 2019). Since 2018, there must be citizen engagement subsections in home pages of public administration institutions – this requirement is regulated by Cabinet of Ministers of Republic of Latvia regulation nr. 611 (Ministru kabinets, 2018). Latvian public administration is also active on social media communicating with citizens in the digital environment. Most commonly used social media platforms are *Facebook.com* and *Twitter.com*, many institutions are also using *Youtube.com*, some of them are active in *Instagram.com* and *Draugiem.lv*. The total amount of social media followers for all Latvian ministries, Latvian Parliament and Government of Latvia, according to author’s calculations, in October 2019 was 52 823 followers in *Facebook.com*, 6213 followers in *Instagram.com*, 120 872 followers in *Twitter.com*, 2444 followers in *Youtube.com* and 51 145 followers in *Draugiem.lv*. Analysis of the number of followers for each institution demonstrates that situation is very diverse and heterogeneous, suggesting that it would be useful for public administration institutions to learn from experience of their colleagues. For example, Ministry of Finance has a large number of followers on *Draugiem.lv* and a comparatively large number of followers on *Facebook.com* and *Twitter.com*, thus, it could be useful to other public institutions to understand what campaigns, communication styles or other activities ensured this situation.



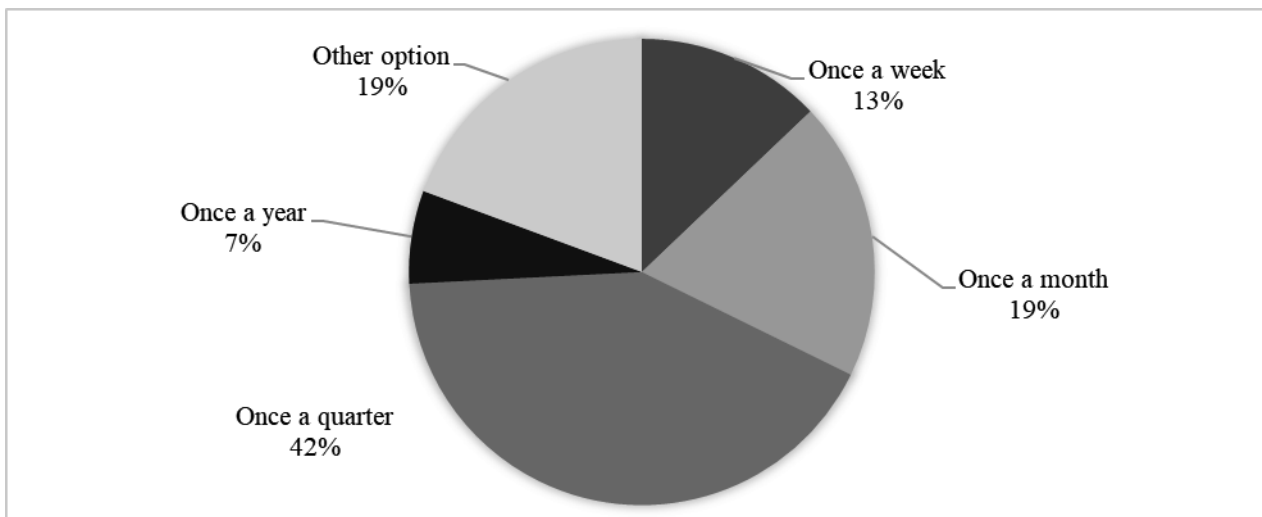
Source: Author's construction based on the author's conducted survey to Latvian citizens in 2019-2020, n=238

Fig. 1. Citizens evaluation of current digital activities of Latvian public institutions

To evaluate citizen attitude towards the current situation, in the survey, they were asked to give a rating to the digital activities of public administration institutions in the scale from 1 (insufficient activity) to 10 (very good level of activity). For each of six criteria, citizens also had a possibility not to provide their evaluation but instead indicate that they do not have opinion of the current subject. As seen in Figure 1, the highest evaluation 6.00 on average has received availability of online services, but the lowest assessment 4.49 is given to participation applications for smartphones. Slightly above 5 on average is evaluated access to information in institutions' homepage about participation opportunities. For each category, there were from 12 to 18 percent of respondents who did not have an opinion on the current subject – they have not heard about this opportunity or had other reasons to consider that they are not able to evaluate it. According to this assessment, the most unknown participation opportunity for citizens is smartphone applications – 32 percent of respondents were not ready to provide evaluation on this subject. One of the reasons for that could be the small number of such applications in Latvia or insufficient promotion of those applications that are already available.

#### Learning from others

The digital environment is developing and changing very fast; thus, it is advisable to learn from others who have mastered digital capabilities earlier or are better in implementing and testing digital innovations. It is possible to follow international experience, but also national level exchange of knowledge can lead to better results. Use of social media by Latvian public administration institutions is very various, both by the level of activity and by the communication style and methods. In the survey to representatives of the Latvian public administration, respondents were asked to identify how frequently they are exchanging experience with their colleagues from other institutions. As seen in Figure 2, most often the exchange of information happens once a quarter. One-third of respondents indicated that the exchange of information happens even more often – 19 percent said once a month and 13 percent recognised that their institution is exchanging information about social media communication on a weekly basis. Respondents who choose to mark other option mentioned that their institution is not exchanging experience with others or is doing that very irregularly or seldom – less than once a year.



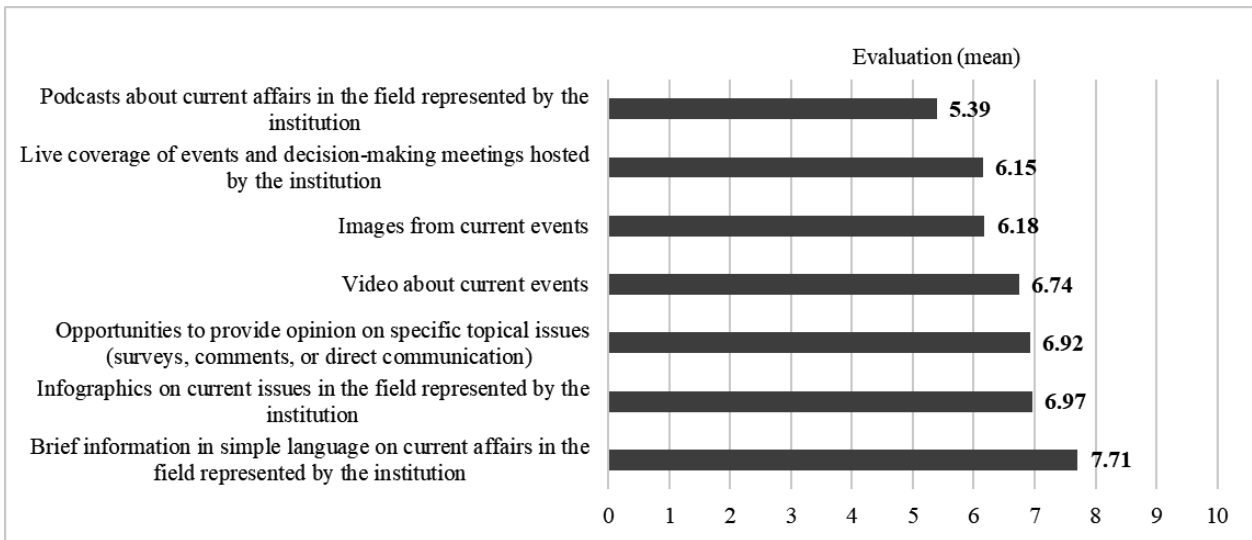
Source: Author's construction based on the author's conducted survey to representatives of the Latvian public administration in 2019, n=31

Fig. 2. **Frequency of exchange of experience between representatives of the Latvian public administration**

In addition to exchanging knowledge directly, it is also possible to make an observation of the social media activities that other institutions are doing. In the survey to representatives of the Latvian public administration respondents were asked to mention which Latvian public administration institutions other than their own they can recognise as a good example for social media communication. Representatives of the Latvian public administration most often pointed out activities of the State Chancellery and Government of Latvia, several times State police, Ministry of Finance and State Revenue Service was mentioned, as well as respondents emphasized that there are several municipalities whose social media activity could be recognised as a good example of digital communication. A similar question was asked to citizens – to mention Latvian public administration institutions whose social media activity they have noticed and would suggest as a good example how institutions should communicate with citizens. Most often mentioned examples were the State Chancellery and Government of Latvia, and Latvian Parliament, as well as citizens recognised activities of Ministry of Finance and Ministry of Environmental Protection and Regional Development. In the citizen survey, one third of respondents pointed out that they cannot mention any good examples or they do not have opinion, which might indicate that current activities of Latvian public administration institutions are not reaching enough attention of citizens or are not sticking out between other content creators on social media, such as mass media, celebrities, entertainment pages, non-governmental organisations and individual persons.

#### Future development

In the future development of digital democracy in Latvia, not only international and national experience from other institutions should be considered, but also the opinion of citizens and their preferences on how they would like to be engaged in the decision-making process. In the context of social media, citizens in the survey were asked to evaluate which content would increase their interest to follow a social media page of Latvian public institution. Respondents had to evaluate seven options of social media content in the scale from 1 (does not encourage desire to follow) to 10 (very stimulates the desire to follow), results of their assessment is seen in the Figure 3, reorganised from the lowest-rated option at the top to the most stimulating option at the bottom.

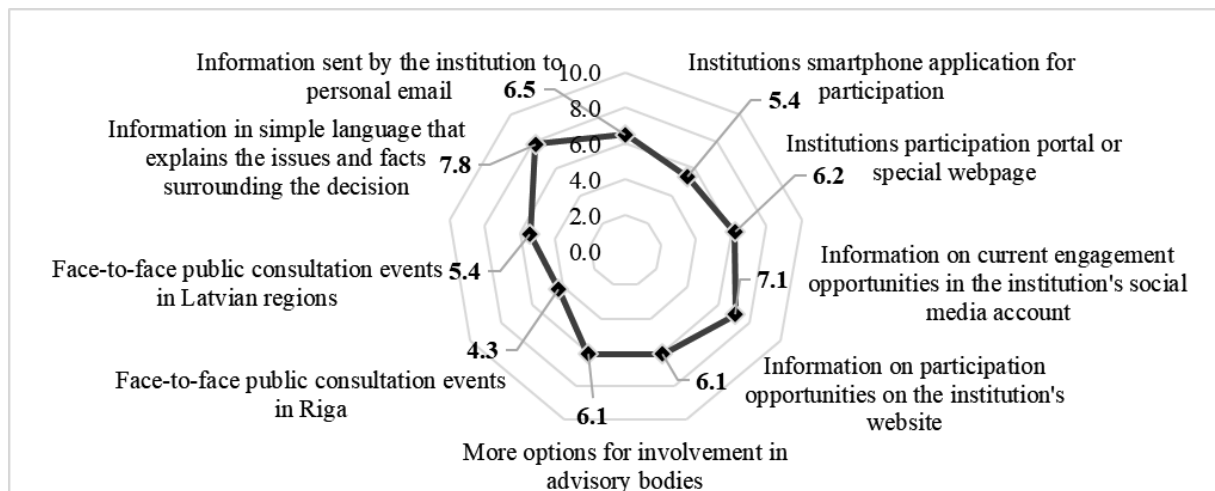


Source: Author's construction based on the author's conducted survey to Latvian citizens in 2019-2020, n=213

**Fig. 3. Citizens evaluation of content options that would increase their interest to follow social media page of Latvian public institution**

The lowest average (mean) evaluation has gained podcasts on current affairs, live coverage of events and images from current events. If podcasts, for now, are being published only by a few Latvian institutions, then images from current events are one of the most often used content in the social media pages of Latvian public institutions, thus, it should be advised to consider what information is delivered together with the picture – if it is only reporting from an event or there is also some new and useful information for followers that could strengthen their knowledge about the institution and its scope of responsibilities. With a close evaluation, slightly below 7, citizens have recognized the use of video materials and infographics, as well as opportunities to provide their opinion in surveys, commentary sections or by direct communication. The highest result, 7.71, is for brief information in a simple language on current affairs, suggesting that the language which is used by public institutions on social media not always is seen as easy to understand by citizens.

Although digital participation is faster, easier and financially less expensive from the citizen perspective, it must not become the only channel for the citizen participation in the decision-making process – there should also be face-to-face opportunities and other options according to citizen habits and specific national situation.



Source: Author's construction based on the author's conducted survey to Latvian citizens in 2019-2020, n=198

**Fig. 4. Citizen evaluation of activities that would foster their engagement in the decision-making process**

To analyse the preferences of Latvian citizens, they were asked in the survey to evaluate activities that would foster their engagement in the decision-making process. Respondents evaluated nine different participation activities in the



scale from 1(doesn't help to get involved) to 10(is very helpful in getting involved), activities were listed in alphabetical order, and the list consisted both online and offline participation opportunities. As seen in Figure 4., the highest assessment 7.8 received the option that was also provided in the question about social media improvements - information in a simple language that explains the issues and facts surrounding the decision. The lowest assessment was given to face-to-face meetings, 5.4 for events in Latvia's regions and 4.3 for events in Riga. From the offline participation opportunities, the highest assessment was given to participation in advisory bodies, with condition that they are made open to individual participation for those who are not members of non-governmental organizations or representatives of lobby groups. From the online participation opportunities, the lowest assessment was given to use of smartphone applications, at the same time, information on current engagement opportunities in the institution's social media account was valued much higher, although there is a growing tendency that social media is consumed in smartphones, not in desktop version. Probably additional research is needed on citizens attitude towards smartphone applications that are designed by public institutions – is the interest to use those applications connected with trust in public institutions in general or previous experience/lack of experience with such applications.

### Conclusions

1. In Latvia there are several good preconditions for the future development of digital democracy, therefore suggesting that this digital activity could be not only successful, but also that Latvia can become as an example to other countries. At the same time, there are limitations that must be very carefully considered and tackled, especially digital skills of citizens and representatives of public administration, as well as low level of trust in public administration and comprehension about democracy in general.
2. Latvia is gradually moving towards the open government, however, the processes already underway are done largely because of country's commitments that are made in context of international organisations. For more active development process larger support in national level would be needed.
3. Results of the research suggest that both citizens and representatives of the institutions are looking positively towards digital solutions that could be used to foster citizen engagement in the decision-making process. Considering the comparatively small population and the size of public administration institutions, there is potential for exchange of good practices and development of common communication and participation strategy.

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## DESIGN OF QUESTIONNAIRE AND MEASUREMENT OF ORGANIZATIONAL INNOVATION IN HIGH TECH AND DEEP TECH ENTERPRISES

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**Abstract.** Implementation of organizational innovation is considered highly important to prevent falling behind in competitive advantage and to raise level of efficiency as organizational innovation is considered to be driving force and success factor of implementation of other innovation types (product, process, marketing innovation). To date, studies on organizational innovation in deep tech and high tech companies are relatively rare, organizational innovation is difficult to measure and traditional surveys which focuses mainly on products and process innovation fail to capture the diversity and intricacy of innovation processes emerging in deep tech and high tech enterprises. Author has used such research method as literature review and previously made research to make a survey for the further study. The objectives of the paper were to identify and analyze different component of organizational innovation, main weak points of organizational innovation survey questioners and design questioner for the organizational innovation survey in high tech and deep tech enterprises. Author presents the survey instrument that divides organizational innovation into three main groups and division in the components developed to conduct the case studies. The organizational innovation scale was measured with Likert's seven-point scale in an attempt to determine whether the organizations in high-tech and deep tech industry have innovative performance. This instrument can be applied, with minor modifications to reflect research objectives, to a wide variety of innovations and adaptations of innovations in the high and deep tech enterprises.

**Keywords:** *organizational innovation, measurement of organizational innovation, high tech company, deep tech company, survey.*

**JEL code:** 030

### Introduction

Organizational innovation is important factor for successful implementation of process, product and marketing innovation which is necessary to implement not only for dealing with competitiveness in the market but for the surviving at all. Organizational innovation is encouraging of the employees of the company to look at problems in different ways and integrate knowledge, technology, and creativity to develop new products, materials, processes, or services. The organizational innovation proposed by Damanpour was used as the measurement dimensions (Lin, Chuang, Chang & Yeh, 2012). In high-tech and deep-tech enterprises Likert scale has been proved as the most effective to measure organizational innovation where typical questionnaires fail to receive validated response due to misunderstand of the questions, objections and missing context by the respondents.

In this paper author focuses on three issues directly related to creating of questionnaire survey and measuring organizational innovation. First, the lack of organizational innovation survey with the explanation of the questions, it is necessary to improve the understanding of the organizational innovation as managers and employees do not always understand which activities are counted as organizational innovation. Second, the difficulty in identifying the factors determining the tendency and ability of organizations to produce innovations, key for diagnostic purposes (Eynde, Cañamares & Muñoz 2015). Third, the excessive focus on deep tech and high tech organization needs, which often neglecting the relevance of social factors and individuals because of their focusing on technology.

The purpose and aim of this paper is to provide author and managers of companies with an organizational innovation metrics and questionnaire survey suitable for the high and deep tech industry bridging the identified knowledge gap detected in research concerning organizational innovation to use in their companies to understand present situation of organizational innovation as was mentioned above influences and drives process, product and marketing innovation processes.

This is done by creating a survey by which managers can evaluate their employees' perception and attitude towards innovation, explore the extent to which their organization is nominally innovative or whether or not innovation is embedded throughout their organization, and identify areas for improvement (Adams et al., 2006; Johansson & Smith, 2015). The high-tech and deep tech companies were chosen because of the actual topic and fundamental development of this types of enterprises.

### **Literature Review**

The increase of importance of high and deep-tech industries and development of high and deep-tech companies has been observed for several years. Such companies, while effectively using knowledge, invest in the research (Zakrzewska-Bielawska, 2010) and create value by creating and developing new solutions, they are the source of inventions and innovation and as the face the advance development frontier they face unique challenges. The expenses for research and development activities in the high and deep tech sector, their results in the form of technologically advanced products and their application in production of traditional goods determine performance of the whole economy. These sectors are difficult to define due to the fact that the majority of new technologies cross borders of traditionally divided industries. (Tour, 2015.) OECD methodology is applied for the EU countries statistics of economic sectors, based on sectoral approach by economic sectors (OECD, 2015). The main factor deciding whether a given sector or product is perceived as a high or deep technology one is assessment of R&D expenses intensity. High and deep technology is a relative category in such an approach. It encompasses sectors or products, which fulfil certain quantitative criteria in a given period, contrary to such sectors or products, which do not fulfil such criteria (Zakrzewska-Bielawska, 2010). In this case author looks at high and deep tech companies as those which are using the knowledge for creating and developing new solutions which acquire complicated technology and disruptive solutions to build around unique, protected or hard-to-reproduce technological or scientific advances that are the most important during the last decade.

Innovation implementation is thought as being essential for creating a competitive advantage (Monge, Cozzens, & Contractor, 1992). Given the accelerating rate of change in particular, innovation has a significant role to play for the survival of organizations (Hage, 1999), although innovation is an activity that requires financial and human resources but at the same time may be extremely risky (Urban & Hauser, 1993; Hage, 1999). Keeping it in mind managers need to ensure increasing of profitability, efficiency or effectiveness of the way how company is using its' resources by introducing innovation, that are supposed to be continuing activity. In order to reduce risk, managers need to have information regarding investing in the innovation processes.

Synchronization of innovation capacity development, strategy options, processes and innovation models not only considerably contribute to the risk reduction of investing in innovation, but it also leads to achieving company's business excellence (Mihic, Umihanic & Fazlović, 2015). Which is highly important for high and deep tech companies to get the first place in the competitive race and face challenges such as lengthy time-to-market, high capital intensity, technology risk and complexity, and yet-to-be-developed commercial applications. That can be overcome by using organizational innovation.

Innovation have been divided into four main groups: product, process, management and organizational innovation (OECD, 2010). Scholars have proved that the construct of firm effectiveness is central to the organizational sciences and all organizational theories rely on some conception of differences between effective and ineffective performance (Hage, 1999; Fischman, 2001; Fey & Denison, 2003). Since organizations must respond to technological changes, amongst others, they work towards fostering innovation as an essential part of the work environment. Presently, the effectiveness of an organization depends upon its proficiency to innovate and organizational innovation is driving

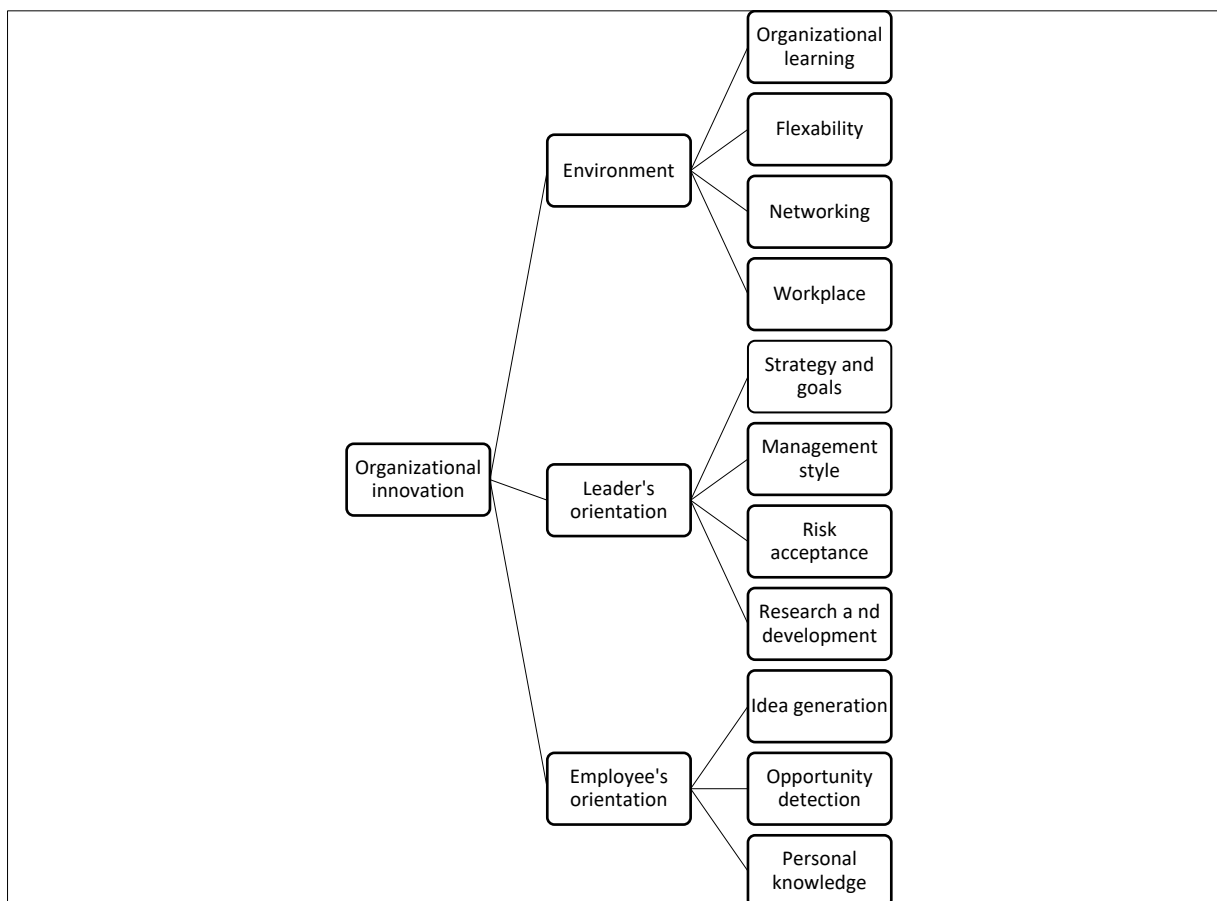
force for succeeding in other innovation groups (Martins & Terblanche, 2003). And this is the main challenge to understand and measure during the implementation of organizational innovation, if it gives the right output.

Studies have investigated the impact of several organizational innovation factors on firm effectiveness because it provides a definite competitive advantage, is the means to motivate, and is critical for organizational survival. (Georgakellos & Pekka-Economou, 2007). Presently, scholars (Fischman, 2001; Hage, 1999; Martins & Terblanche, 2003; Monge et al., 1992) draw attention to organizational innovation. Indicators of organizational innovation are multi-faceted, research identified various management factors for organizational innovation (Martins & Terblanche, 2003). This points out that the innovation process must commence with a strategic intent to provide for a sense of direction for employees (Ashraf & Khan, 2013). But in the survey it is the most difficult point to understand and to validate responses in the way organization innovation dimensions avoiding subjective opinion, misunderstanding of the question and other points of failing, so organizational dimensions may help to avoid getting into trap of typical survey.

### **Research results and discussion**

To create an organizational innovation survey for deep and high tech enterprises author looks into organizational innovation dimensions it is seen that there are three broad domains: environment for the innovation, wish of the company's leaders to innovate, employee orientation to innovate (Johansson & Smith, 2015). Speaking about organizational innovation it is usage of new managerial and working concepts that rise efficiency of the work performed in the workplace, but it is not limited to the rules and beliefs of the company itself, it is environment in which company operates, how it makes networking with its' partners and other institutions.

Scholars state that organizational innovation in the level of the environment is a new or significantly improved knowledge management system implemented to better use or exchange information, knowledge and skills within the firm; a major change to the organization of work within the firm, such as change in management structure or the integration of different departments or activities; new or significant change in the firm's relationship with other firms (OECD, 2015; Mihić, Umihanić & Fazlović, 2015). In this case author has created the division in three dimensions with indicators. Author has divided organization environment in four main indicators: (1) Organizational learning, how learning happens in the organization, is it learning orientated; (2) flexibility, how fast it is possible to change the course of the company, how decision making is happening, how fast information if going bottom up and opposite; (3) networking – how organization is dealing with partners and other institutions; (4) workplace- how it is improved and made more officiant. Leader's orientation to the innovation is also divided into four main indicators: (1) strategies and goals- are his/her strategies tended to be innovative or new, different from traditional; (2) management style- what new ideas comes into the companies, how employees are informed about that; (3) risk acceptance – is leader ready to take the risk, how he/she react in the risk up taking situations; (4) R&D – how these processes are organized and financed, are there additional division of R&D department, is it effective, are new ideas generated there or out of the company; The last, but not the least is Employee's orientation, that is divided into three indicators: (1) idea generation – how often employee is creative, how about his/her experience; (2) opportunity detection – does he/she have opportunity to be innovative, are his/her ideas implemented in the organization; (3) personal knowledge – his potential to innovate and to implement new ideas. It is seen on the figure 1, below.



Source: author's construction based on Johansson & Smith, 2015

Fig.1. **Organizational innovation dimensions and indicators**

Keeping in mind everything mentioned above, author proves the importance of the organizational innovation, but the measurement of the organizational innovation has been limited by the difficulties in reaching consensus on a number of different issues.

The survey includes two formats of a six point Likert scale to obtain the responses of participants. Likert scale was chosen because of its liability and validation. It is an ordinal psychometric measurement of attitudes, beliefs and opinions. In each question, a statement is presented in which a respondent must indicate a degree of agreement or disagreement in a multiple choice type format. The advantage of the Likert Scale is that they are easily understood. The responses are easily quantifiable and used for the analysis. Scale gives possibility not to choose strong answer yes or no, but to be more flexible. Also, the responses presented accommodate neutral or undecided feelings of participants. These responses are very easy to code when accumulating data since a single number represents the participant's response. Likert surveys are also quick, efficient and inexpensive methods for data collection. They have high versatility and can be sent out through mail, over the internet, or given in person. However, the Likert Scale only gives 5-7 options of choice, and the space between each choice cannot possibly be equidistant. Therefore, it fails to measure the true attitudes of respondents. Also, it is not unlikely that peoples' answers will be influences by previous questions, or will heavily concentrate on one response side (agree/disagree). Frequently, people avoid choosing the "extremes" options on the scale, because of the negative implications involved with "extremists", even if an extreme choice would be the most accurate (Likert, 1932).

In this survey author's scales do not include a "neither agree nor disagree" option. Although this option supposedly reduces uninformed response, it has found that including it does not improve the quality of responses. In fact, it diminishes the valid answers as a result of a satisficing strategy. The questionnaire includes the one format of the

Likert scale with the aim of reducing satisficing. In one format, the most negative response option (totally disagree) corresponds to 1, and the most positive option (fully agree), to 6 (Eynde, Cañamares & Muñoz 2015). Author has added response of ‘I don’t know’, but first it will be checked in the sample, and if it will lower data validation possibility it will be changed with the other answer or deleted. Now questionnaire is made in a way to increase liability of the responses and make it clear for the respondents in the high and deep tech enterprises, where liability and validation of the survey shows lower results because most of the surveys do not take into account specialization of this industries.

Most of the questionnaires used in innovation surveys are based on the Oslo or Bogota manuals (OECD/Eurostat, 2005; Jaramillo et al. 2000). Respondents in deep tech and high tech enterprises may have different understanding of what is considered as innovation and it the problem with which a lot of surveys and interviews deal with, particularly when respondents are asked whether the firm has introduced a “new or significantly improved” management style (Cirera & Muzi, 2016). To reduce this nuances, author has added definitions and explanations to the questions and to avoid failing in validation of the answers.

The aim of the survey is to assess the condition and the activities undertaken in the company in order to innovate and evaluate the perception of innovation at the enterprise level. The survey estimates innovation at the employee level and company’s innovation in the broader sense of the term, and partly reviews the data related to the implementation of R&D activities. (Mihić, Umihanić & Fazlović, 2015). The questionnaire is an essential tool of this research and it consists of 49 questions divided into three dimensions as it was mentioned above and basing on the indicators that were proved to be the most important drivers of the organizational innovation in the high and deep tech companies.

As this survey is oriented into division of the companies by size to look deeper how organization innovation occurs in small, medium and large high and deep tech enterprises. As there are thought that for small enterprises it is easier to implement innovation rather than for medium and large, that are trying to reduce the time of innovation implementation.

Comparability of the data is one of the key factors which is necessary to keep in mind as well as reliability of the data collected. Measuring innovation is costly and difficult, and identifying the best instrument to collect innovation data is key from a cost-benefit perspective. It is proved that short questionnaires where are no definitions are less reliable than those which have comments and definitions to improve the comprehension of the innovation questions. So it is not recommended to use short questioners with only a few questions in firm and employee level questioners for organization innovation measurement as they do not provide detailed verification questions.

It must be understood that many standardized questions by which innovation is measured in current surveys are not appropriately designed to measure innovation and it makes available innovation data are hardly comparable (Cirera & Muzi, 2016). Differences in methodology, sampling, scales, different understanding of the questions and special industry way of work make comparison and benchmarking of innovation indicators across countries extremely challenging.

Company invests in transformation of knowledge or organizational innovation inputs into organizational innovation outputs such as marketing or organizational changes. One challenge in measuring organizational innovation outcomes is the subjective nature of many of the questions used in the surveys.

Most organizational innovation surveys use Oslo manual definition “the implementation of a new or significantly improved a new organizational method in business practices, workplace organization or external relations” to identify innovations, by directly asking firm managers and owners or employees whether they have implemented any “new” organizational practices or “significant” improvements in existing ones in the last three years. But for the respondent

it is really a problematic question as first of all not always they understand what is counted as organizational practices and evidence shows that certain characteristics of the survey such as how the questions are structured in the survey, the ordering and the wording used all significantly influence the outcome of survey responses (Cirera & Muzi, 2016). Closed and opened response formats or rating scale can also change the understanding of the response (Schwarz, 1999). CIS-type of surveys is the great subjectivity of what constitutes an innovation that is minimized by follow up control questions that can provide some details to guide the veracity and accuracy of the answers. Additional methodological issues, like respondents' reactions to combined questionnaires vis-à-vis to single topic questionnaires, should be considered when choosing the most appropriate instrument for innovation surveys. Subjective data have strong limitations as measures of actual outcomes. (Cirera & Muzi, 2016). But evidence shows that structure of the survey, choice of the words influences the quality and verification of the response, even positive or negative way of the question may influence results of the survey. To avoid subjectivity in the answers it is better to include the context, as well as to use words that do not have cultural or social desirability.

### **Conclusions, proposals, recommendations**

#### **Conclusions**

- High and deep tech companies recently have shown the most of the growth in the economy as they are the most innovative companies using huge data sets, new technology and it was proved that organizational innovation is one of the driving forces of the other types of innovation (product, process and marketing), it was important to understand which factors influence success for these industries.
- The purpose and aim of this paper was to provide author and managers of companies with an organizational innovation metrics and questionnaire survey suitable for the high and deep tech industry bridging the identified knowledge gap detected in research concerning organizational innovation. The finalized suggested questionnaire (Appendix 1) is based upon theory and should be tested in empirical and statistical way that is now next step of the research. Purpose of this paper has been accomplished, the gap in the research of organizational innovation in deep tech and high tech enterprises is looked into and thus a contribution to innovation research has been made.
- Three dimensions were identified (A) organization environment with four main indicators: (1) organizational learning; (2) flexibility; (3) networking; (4) workplace. (B) Leader's orientation to the innovation was also divided into four main indicators: (1) strategies and goals; (2) management style; (3) risk acceptance; (4) R&D; (C) employee's orientation, that is divided into three indicators: (1) idea generation; (2) opportunity detection; (3) personal knowledge. Using these three dimensions and eleven indicators, questionnaire was formed with 49 questions.
- The questionnaire (Appendix 1) answer questions about factors enabling or hampering organizational innovation in a high tech or deep tech company, it also serves as a management tool for measuring innovation in the mentioned context and thus this study gives a managerial contribution as well.

#### **Recommendations**

- Future research is directed to make a sample, after empirically and statistically test the questionnaire in deep and high tech businesses to prove the validity and reliability of the suggested survey and thus further validate the measurements of authors research. After the sample test it is suggested to add or delete some questions to make survey even better, more reliable and extensive.
- The generic character of this study calls for further research in this research topic and in specific empirical domains. This research could investigate the practical implementation of survey and generate more specific recommends of the results in case which of the indicators are proved to be more effective in case of organizational innovation.



- To have more responses and less possible mistakes and misunderstanding, it is recommended to translate the questionnaire into Latvian.

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Appendix I

### Organizational innovation questionnaire

What do we mean by "innovation"? Innovation is both the creating and bringing into profitable use of new management styles and new ways of operating. Implementation is generally the bottleneck that limits the rate of innovation.

Please circle one choice for each of the following statements.

(1 = strongly disagree, 2 = disagree, 3 = more disagree, 4 = more agree, 5 = agree, 6 = strongly agree; X = do not know)

<b>Environment</b>	
<b>Organizational learning</b>	
In our organization we often organize internal training of our employees.	1 2 3 4 5 6 X
We frequently send our employees to various seminars, workshops, conferences with intention to acquire information.	1 2 3 4 5 6 X
Learning ability and adaptability of employees is low	1 2 3 4 5 6 X
<b>Flexibility</b>	
In our organization we have individuals that work in more than one team or project groups together with individuals from other organizational units.	1 2 3 4 5 6 X
We have formal mechanisms and systems that ensure transfer of best practices among various areas of work (e.g. reward systems based on group performance).	1 2 3 4 5 6 X
New business practices for organizing procedures (i.e. supply chain management, business reengineering, knowledge management, lean production, quality management, etc.) company has introduced during last 3 years (2019-2017)	1 2 3 4 5 6 X
Project teams in our organization have considerable freedom to make decisions and act on them without needing to ask for permission.	1 2 3 4 5 6 X
We have some effective teams, but most so-called "teams" are really a bunch of individuals with rather different visions of where the project is going.	1 2 3 4 5 6 X
<b>Networking</b>	
Relations with suppliers are very poor and unstable.	1 2 3 4 5 6 X
We consider our relations with suppliers to be excellent because we maintain genuine partnerships with them.	1 2 3 4 5 6 X
We have long-term partner relationships with our partners	1 2 3 4 5 6 X
Personal communication between top managers and employees is fast and efficient	1 2 3 4 5 6 X
New methods of organizing external relations with other firms or public institutions (i.e. first use of alliances, partnerships, outsourcing or sub-contracting, etc.) company has introduced during last 3 years (2019-2017)	1 2 3 4 5 6 X
<b>Workplace</b>	
We constantly emphasize and introduce managerial innovations (e.g. computer-based administrative innovations, new employee reward/training schemes, new departments or project teams, etc.).	1 2 3 4 5 6 X
We frequently hold meetings with the purpose to inform employees about everything that happens in the company.	1 2 3 4 5 6 X
Seminars, conferences, workshops occur often.	1 2 3 4 5 6 X
Efficiency of information systems within the company is high.	1 2 3 4 5 6 X
<b>Leader's orientation to the innovation</b>	
<b>Strategies and goals</b>	
Our organizational vision and strategies are clear to me.	1 2 3 4 5 6 X
Company's strategic orientation is clear to me.	1 2 3 4 5 6 X
I am aware of major problems in the company.	1 2 3 4 5 6 X
Strategies are changed so often that no one at my level pays much attention to them.	1 2 3 4 5 6 X
My boss has created a reasonably clear vision and strategy for our area.	1 2 3 4 5 6 X
<b>Management style</b>	
Previous decisions are a very useful source of information for current decisions.	1 2 3 4 5 6 X
Top managers in any important decision seek information or advice from the board of directors or owners (in general).	1 2 3 4 5 6 X
Top managers in any important decision seek information or advice from sources outside the company (hiring experts, contacting top managers of other companies, etc).	1 2 3 4 5 6 X
Program/Project managers promote and support innovative ideas, experimentation and creative processes	1 2 3 4 5 6 X
New methods of organizing work responsibilities and decision making (i.e. first use of a new system of employee responsibilities, team work, decentralization, integration or de-integration of departments, education/training systems, etc.)	1 2 3 4 5 6 X
<b>Risk acceptance</b>	

New business methods and services are always worth trying even if they may prove risky	1 2 3 4 5 6 X
Innovation is perceived as too risky and is resisted.	1 2 3 4 5 6 X
Even minor mistakes are punished.	1 2 3 4 5 6 X
Good management of projects involving risk and unpredictability is highly valued, even when things don't turn out according to plan.	1 2 3 4 5 6 X
Key executives of the firm are willing to take risks to seize and explore 'chancy' growth opportunities.	1 2 3 4 5 6 X
<b>R&amp;D</b>	
Reports prepared by external experts are an extremely important source of information	1 2 3 4 5 6 X
Our competitors are an extremely important source for learning new methods and services.	1 2 3 4 5 6 X
Our organization has employees whose job is related to searching for external information.	1 2 3 4 5 6 X
External sources (reports, consultants, newsletters, etc.) are extremely important for the operations of our organization.	1 2 3 4 5 6 X
Management actively responds to the adoption of "new ways of doing things" by main competitors.	1 2 3 4 5 6 X
<b>Employee's orientation to the innovation</b>	
<b>Idea generation</b>	
Innovation proposals are welcome in the organization.	1 2 3 4 5 6 X
People are not penalized for new ideas that do not work	1 2 3 4 5 6 X
In our company, we tolerate individuals who do things in a different way.	1 2 3 4 5 6 X
<b>Opportunity detection</b>	
Most people leading innovation projects are appointed without much concern for whether they are passionate about the idea.	1 2 3 4 5 6 X
We have individuals dedicated to collecting and internal dissemination of improvement propositions from employees.	1 2 3 4 5 6 X
Team members are appointed on the basis of availability, not interest, compatibility, or passion for the idea.	1 2 3 4 5 6 X
We get a lot of support from managers if we want to try new ways of doing things.	1 2 3 4 5 6 X
<b>Personal knowledge</b>	
Employees in our organization are an extremely important source of information.	1 2 3 4 5 6 X
Expertise on the industry, products, and services is an extremely important criterion for hiring a new employee.	1 2 3 4 5 6 X
Joint tasks and mergers contribute a great deal of knowledge about industry and economic environment, new methods and services/products.	1 2 3 4 5 6 X
When we cannot solve a problem using conventional methods, we improvise on new methods.	1 2 3 4 5 6 X

## THE IMPACT OF FINANCIAL OPENNESS ON EU MEMBER STATES PRODUCTIVITY

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**Abstract.** Permanent economic growth is one of the essential goals of every country. Productivity is one of the most important components of economic growth. The economic performance of countries is directly related to productivity. According to economic theory, one of the sources of productivity growth is financial openness which is reflected by foreign direct investment (FDI) stock. However, growing FDI flows do not necessarily lead to productivity growth. Inward and outward FDI flows may affect productivity differently. The effects of FDI on productivity is a widely discussed topic. However, analysis of previous studies that examined the impact of FDI on productivity or/and economic growth reveals heterogeneous results: FDI can have positive, insignificant or even negative impact. FDI effects on productivity may depend on countries' conditions. Based on theoretical insight, we develop a hypothesis that one of condition that may influence FDI effects on productivity is countries productivity level. Moreover, positive significant impact may not occur immediately. The aim of this study is to examine the impact of financial openness on EU member states (MS) productivity taking into account countries achieved productivity level and possible lagged effect. We used fixed-effect and ordinary least square estimators for an examination of the relationship between financial openness variables and productivity. Consequently, EU member states using the cluster analysis were divided into two clusters: relatively high productivity (RHP) cluster and relatively low productivity (RLP) cluster. Assessment results reveal that inward FDI positively affected the productivity of both groups of countries, but the impact is stronger in RLP countries. Outward FDI has a positive impact only in RHP countries while in RLP countries impact is negative. Statistically significant FDI effect on productivity occurs in the first year and lasts for two years.

**Keywords:** *financial openness, direct foreign investment, inward FDI, outward FDI, import, productivity, growth.*

**JEL code:** O11, O47, P45

### Introduction

Productivity is one of the key indicators of countries' economic performance. High productivity level associates with high living standards and the socio-economic well-being of the country. However, significant disparities between countries in terms of productivity level are recorded in the EU. According to the Eurostat data, even 17 out of 28 countries have lower productivity than the EU average in 2017. The productivity of the least productive country (Portugal) was about 2.5 times less than the EU average and even approximately 5.5 lower than in the highest productivity country (Ireland). Therefore, low productivity countries are interested in exploring sources of productivity enhancement. According to economic theory, one of the sources of productivity growth is financial openness which is reflected by foreign direct investment (FDI) stock. The countries aspire to attract more FDI by creating a favourable business environment and providing incentives to foreign investors. But such initiatives may have domestic capital crowding out effect and this can lead to negative effects on countries' economic growth perspectives. If local business integrates into foreign markets and opens branches abroad, it can have a positive impact on the domestic economy. But, completely relocating a business due to more favourable conditions in another country may have a long-term negative effect. Therefore, it is appropriate to analyse the impact of both inward and outward FDI on productivity.

The effects of FDI on productivity is a widely discussed topic. Analysis of previous studies has shown that the impact of FDI on productivity and/or economic growth is ambiguous: both inward and outward FDI can affect productivity positively (Pegkas, 2015; Awolusi et al., 2017; Musah et al., 2018; Raza et al., 2019; etc.); negatively (Jilenga et al. 2016; Arif and Rawat, 2019), or impact can be insignificant (Bitzer and Kerekes, 2008; Adams, 2009;

Roy and Narayanan, 2019). Research results heterogeneity may vary depending on: i) estimation methodology since researchers used different research methods (fixed effect – FE, ordinary least square – OLS, generalized least squares – GLS – estimator, two-stage least square, generalized method of moments – GMM); ii) output variable (value-added per employee, total factor productivity – TFP, gross national product – GDP, gross national product per employee); iii) period of investigation (long-term or short-term).

Studies of the Görg and Hijzen (2004), Ford, Rork and Elmslie (2008) reveal that the relationship between FDI and productivity depends on human capital accumulated in the country. The relationship between financial openness and productivity also may depend on the institutional quality (Raza et al., 2019). The greater impact is in countries with a better institutional environment and a higher level of accumulated human capital. Since more developed countries with a higher level of productivity usually characterized as countries with good institutions and a high level of human capital, we assume that FDI effects on productivity may depend on countries achieved productivity level.

Moreover, we also raised hypothesize that the impact of FDI on productivity may occur after a certain period of time. So, the aim of this study is to examine the impact of financial openness on EU MS productivity taking into account countries achieved productivity level and possible lagged effect. Although the effects of financial openness are widely discussed in previous studies, our research contributes knowledge in this area since determining differences of inward and outward FDI impact and its dependence on the countries productivity level.

This paper is formed as follow: the first part provides theoretical insights on the relationship between financial openness and productivity as well as discusses results of previous investigations; the second part presents hypotheses, describes data and research methodology; the third part present and discuss research results; the last part provides conclusions.

In the conceptual part of the study, we applied standard methods of scientific literature analysis: comparison of approaches, systemization, generalization and conclusion. For empirical estimations, we used two methods of regression analysis: OLS and FE estimators. For dividing countries into clusters, we used clustering analysis.

The impact of financial openness on productivity: theoretical background

Relationship between financial openness and productivity have analysed many authors at both theoretical and empirical level. According to Liu et al. (2001), FDI influences productivity directly and indirectly. Inward FDI is associated with additional capital and new production and management methods that directly affect labour productivity and efficiency. FDI also increases labour productivity indirectly through the dissemination of knowledge. Technological progress, the entry of physical and human capital are key elements of the positive impact of FDI on host countries productivity (Tvaronavičienė and Kalašinskaitė, 2003; Görg and Hijzen, 2004; Busse and Groizard, 2006; Ruplienė and Garšvienė, 2008; Čegyte and Miečinskienė, 2009; Herzer, 2012; etc.).

Nevertheless, Görg and Hijzen (2004) found that domestic firms can take over advanced foreign enterprise technologies only if they are close to each other and have sufficient human capital potential. Ford et al. (2008) also highlighted the importance of accumulated human capital for a positive impact of FDI on productivity. Sannassee et al. (2013) using 1981-2009 period data, 20 countries divided into two groups: i) developed and emerging countries; ii) developing and slow-growing countries. The study revealed that positive and statistically significant effects of FDI on economic growth occur only in developed and emerging countries, and only in the short term. It has also been found that FDI flows in both developed and emerging countries as well as developing and slow economies are influenced by human capital and trade openness. Raza et al. (2019) reveal that FDI impact on growth depends on institutional quality. The main results of the estimated effects of financial openness on productivity in previous studies are presented in Table 1.

Table 1

**The estimated effects of financial openness on productivity: summary of previous studies**

Researcher(s)	Period	Sample and level	Method	FO variable	Output variable	Main results
Liu et al. (2001)	1996, 1997	China, Mezo level/ electronics industry / 41 sub-sector	Cross-section and time-series regression	The ratio of inward DFI to total capital	VA per employee	The significant positive impact of FDI on labour productivity.
Van Pottelsberghe and Lichtenberg (2001)	1971–1990	11 EU countries, USA, Japan	Regression analysis	Outward FDI, Inward FDI	TFP	Outward FDI flows have a positive long-term impact on the productivity of the host countries through the transfers of technological knowledge. The impact of inward FDI is not significant.
Kimura and Kiyota (2006)	1994–2000	Japan, micro level	Panel regressions	FDI	TFP	FDI increases the productivity of investing firms. The productivity growth rate of firms with foreign investment experience (in the form of FDI) is on average 1.8% higher than firms without such experience.
Bitzer and Kerekes (2008)	1973–2000	17 OECD countries / mezo level	Panel regression, FGLS	Ratio of inward and outward FDI capital stock to domestic capital stock	Gross output (production)	The relationship between foreign R&D capital and outward FDI has a negative impact on the productivity of the investing country in the non-G7 group. A positive correlation was found for G7 countries but not statistically significant.
Adams (2009)	1990–2003	Sub-Saharan African countries / macro level	OLS, FE	FDI share in GDP	Real GDP	FDI positively contributes to economic growth, according to OLS estimations. FDI impact on growth is insignificant according to FE estimations.
Driffield et al. (2009)	1978–1994	UK / mezo level	Regression analysis	Outward FDI, Inward FDI	TFP	FDI effects on productivity growth are heterogeneous and depend on the type of FDI. FDI focused on increasing technology supply and efficiency enhances FDI host country productivity.
Wang (2010)	1973–1997	Canada / mezo level	First difference regression	Upstream, downstream, horizontal FDI	TFP	Both upstream and downstream FDI has a positive strong impact on total factors productivity.
Bekaert et al. (2011)	1980–2006	96 countries / macro level	Pooled OLS regressions, decomposition method	Quinn's capital account openness indicator	TFP, capital stock growth	Financial openness has a positive impact on both TFP and capital stock growth, but the greater impact on TFP.
Herzer (2012)	1980–2008	Germany / micro and	Regression analysis	Outward FDI	TFP	Outward FDI positively influenced total factor productivity. There is



		macro level				bidirectional causality between outward FDI and TFP.
Harris and Moffat (2013)	1997–2008	UK / mezo level	GMM, docomposition method	Foreign-owned plants	TFP	Foreign-owned plants have a greater impact on the growth of TFP in comparison with domestic-owned plants.
Huang Chia-Hui et al. (2013)	2000–2005	Taiwan (electronics and non-electronics companies) / micro	GMM of the panel fixed model	Outward FDI, horizontal and vertical FDI	TFP	The impact of outward FDI on productivity in developing countries is positive. The impact of FDI in both electronics and non-electronics companies causes changes in productivity only after one-year time lag.
Cozza et al. (2015)	2003–2011	368 companies of China, micro	OLS with dummy variables, DID	Outward FDI	TFP, sales per employee	Outward FDI increases labour and total factor productivity of multinational enterprises (MNEs)
Newman et al. (2015)	2009–2012	Vietnam, micro level (4000 manufacturing firms)	OLS, GMM	FDI spillovers	Average productivity calculated by authors	Positive FDI spillovers from downstream firms to domestic input suppliers; negative FDI spillovers from upstream FDI firms to downstream domestic producers.
Pegkas (2015)	2002–2012	18 Eurozone countries, macro level	MFOLS, DOLS	The stock of FDI as a percentage of GDP	GDP in a constant process of 2005	FDI positively influenced the economic growth of Eurozone countries.
Jilenga et al. (2016)	1971–2011	Tanzania / macro level	ARDL model, Bounds test approach	FDI inflows	Real GDP	FDI has a negative impact on economic growth
Awolusi et al. (2017)	1980–2014	5 African countries, macro level	OLS, dynamic panel, 2SLS estimation	FDI inflows as a percentage of GDP	GDP	FDI positively influenced the economic growth of African economies, but the strength of impact varies.
Musah et al. (2018)	2006–2015	Ghana, macro level	Panel data regression	FDI inflows, FDI as a percentage of GDP	GDP	FDI has a positive impact on economic growth both in the short run and the long run
Raza et al. (2019)	1996–2013	OECD countries, macro level	FE, GMM estimator	FDI inflows	GDP	FDI has a significant positive impact on GDP, but impact strength depend on institutional quality

Note: \* FGLS - feasible generalized least squares estimator, 2SLS - two-stage least squares, OLS - ordinary list square, GMM - generalized method of moments, FMOLS – fully modified OLS, DOLS – dynamic OLS, ARDL - autoregressive distributed lag model, FE – fixed effect.

Source: author's construction based on analysed literature

Analysis of previous studies revealed that both inward FDI and outward FDI flows usually lead labour and/or total factors productivity as well as gross domestic product growth (Pegkas, 2015; Awolusi et al. 2017; Musah et al. 2018; Raza et al. 2019; etc.) at micro, industry and/or macro level. However, the effect depends on countries' conditions:



human capital (Görg and Hijzen, 2004; Ford et al. 2008), institutional quality (Raza et al. 2019), level of development (Bitzer and Kerekes, 2008; Sannasse, 2013).

Results of impact assessment may also depend on research method (OLS, FE, DID, GMM estimator), sample and level of data, the number of observation and period, on the indicators used for the measure of financial openness and output variables (TFP, VA per employee, sales per employee, GDP). Moreover, outward and inward FDI may have different effects. The effects of outward FDI still remain a subject of debate. Effects of outward FDI may depend on investing firms investing abroad motives: i) market-seeking, ii) strategic asset-seeking, iii) efficiency-seeking, iv) resource-seeking, v) capital reallocation in a more favourable environment. According to Cozza et al. (2015), the growth of marketing-seeking FDI leads increase investing firm's operations scope and results in productivity growth due to the utilization of economies of scale. Moreover, host and parent firms sharing sunk costs, knowledge, information. That also may have a positive effect on productivity but this effect can be not so big. Strategic asset-seeking FDI usually are directed to developed economies and it may result in productivity growth due to acquiring technologies, knowledge, know-how and capabilities of management (Chen et al. 2012; Cozza et al. 2015). Efficiency-seeking FDI usually ensures access for labour and productive resources and in turn guarantees lower production costs and rises of profitability (Sunesen et al. 2010). The main aim of resources-seeking FDI motivation is to access technology and specific knowledge not available in the home country. This kind of FDI may effect cause employment improvement, as well as the growth of productivity and profitability (Sunesen et al. 2010). However, when the business environment is unfavourable (large or unstable taxes, high labour cost, unstable political situation and etc.) firms can reallocate capital to countries with a more favourable business environment. Then the capital crowding effect occurs and this results in negative effects in domestic countries.

#### Research methodology and data

In previous studies (see Table 1), financial openness usually is expressed as flows or stock of inward and/or outward FDI. According to Bussière and Fratzscher (2008) using financial flows data relation between FDI flows and economic indicators may not be reflected, although it actually exists, because impact may depend on the previous period accumulated foreign capital. For this reason, we have used inward FDI stock and outward FDI stock as financial openness indicators. The productivity we have expressed by standard indicator - added value per employee. We have used the 1995-2017 period EU member states panel data from the World Bank database (original or calculated by authors).

In order to evaluate financial openness impact on EU member states' productivity and impact differences according to countries' productivity level, *in the first stage* of research EU countries were divided into two clusters: i) relatively low productivity (RLP) and relatively high productivity (HPP) countries. For clustering, we used SPSS software and followed the clustering stages provides by Everitt et al. (2011).

In the *second research stage*, we aim to examine the impact of financial openness on productivity taking into account possibly lagged effect. We seek to determine when, if any, the effect manifests and for how long it lasts. In this respect, we are testing the first hypothesis: H1 – both inward and outward TUI positively affects productivity, but the effect does not appear in the current year but in a certain period of time. We chose the six-year period to examine the impact of financial openness on productivity, according to initial testing results.

Based on previous research results, we also testing the second hypothesis: H2 – inward FDI have a stronger positive effect on productivity comparing with outward FDI. For the testing hypothesis, to ensure the reliability of the results obtained, we applied two regressive models suitable for panel data - OLS and FE. We can't apply the Random-effects model, which is also suitable for panel data, because the number of objectives was too small in accordance with a number of variables.

Model applying FE method:

$$\ln(VA_{pe_{i,t}}) = \alpha + \delta_8 td_{2002t} + \dots + \delta_{23} td_{2017t} + \beta \ln(outFDI_{tot_{i,t}}) + \beta_1 \ln(outFDI_{tot_{i,t-1}}) + \beta_2 \ln(outFDI_{tot_{i,t-2}}) + \beta_3 \ln(outFDI_{tot_{i,t-3}}) + \beta_4 \ln(outFDI_{tot_{i,t-4}}) + \beta_5 \ln(outFDI_{tot_{i,t-5}}) + \beta_6 \ln(outFDI_{tot_{i,t-6}}) + \lambda \ln(inFDI_{tot_{i,t}}) + \lambda_1 \ln(inFDI_{tot_{i,t-1}}) + \lambda_2 \ln(inFDI_{tot_{i,t-2}}) + \lambda_3 \ln(inFDI_{tot_{i,t-3}}) + \lambda_4 \ln(inFDI_{tot_{i,t-4}}) + \lambda_5 \ln(inFDI_{tot_{i,t-5}}) + \lambda_6 \ln(inFDI_{tot_{i,t-6}}) + v_{i,t} \quad (1)$$

Model applying OLS method:

$$\Delta \ln(VA_{pe_{i,t}}) = \alpha + \delta_9 td_{2003t} + \dots + \delta_{23} td_{2017t} + \beta \Delta \ln(outFDI_{tot_{i,t}}) + \beta_1 \Delta \ln(outFDI_{tot_{i,t-1}}) + \beta_2 \Delta \ln(outFDI_{tot_{i,t-2}}) + \beta_3 \Delta \ln(outFDI_{tot_{i,t-3}}) + \beta_4 \Delta \ln(outFDI_{tot_{i,t-4}}) + \beta_5 \Delta \ln(outFDI_{tot_{i,t-5}}) + \beta_6 \Delta \ln(outFDI_{tot_{i,t-6}}) + \lambda \Delta \ln(inFDI_{tot_{i,t}}) + \lambda_1 \Delta \ln(inFDI_{tot_{i,t-1}}) + \lambda_2 \Delta \ln(inFDI_{tot_{i,t-2}}) + \lambda_3 \Delta \ln(inFDI_{tot_{i,t-3}}) + \lambda_4 \Delta \ln(inFDI_{tot_{i,t-4}}) + \lambda_5 \Delta \ln(inFDI_{tot_{i,t-5}}) + \lambda_6 \Delta \ln(inFDI_{tot_{i,t-6}}) + v_{i,t} \quad (2)$$

where:

- $V_{ape_{i,t}}$  – productivity expressed as value added per employee in the country  $i$  in the period  $t$ ;
- $outFDI_{tot_{i,t}}$  – total outward FDI stock amount (USD) in the country  $i$  in the period  $t$ ;
- $inFDI_{tot_{i,t}}$  – total inward FDI stock amount (USD) in the country  $i$  in the period  $t$ ;
- $\beta$  – the coefficient that reflects outward FDI impact on productivity in current time;
- $\beta_1 \dots \beta_6$  – the coefficients that reflects outward FDI impact on productivity after one to six years;
- $\lambda$  – the coefficients that reflects inward FDI impact influence on productivity in current time;
- $\lambda_1 \dots \lambda_6$  – the coefficients reflect inward FDI impact on productivity after one to six year.

In the *third stage* of the research, we aim to evaluate the effect of financial openness on productivity growth, taking into account the productivity level achieved by the countries. We aim to identify the impact differences, if they are, in RLP and RHP clusters. Based on assumptions that more developed countries with relatively higher productivity is more open, e.g. foreign direct investment flows are more intensive, we are testing a hypothesis: H3 – both inward and outward FDI impact differences in RLP and RHP clusters are statistically significant and impact is stronger in RHP countries group.

To ensure the reliability of the results, we applied two econometric models (FE and OLS) for hypothesis testing. In regression models, we used RLP cluster as the base category that will be the starting point for impact assessments. In this group, the determined impact coefficient will be evaluated directly, and for the RHP cluster, the assessed coefficient will show the impact difference from the base category. We chose a use one period time lag for estimations, taking into account the results achieved in the second stage of the investigation.

Model applying FE method:

$$\ln(VA_{pe_{i,t}}) = \alpha + \delta_3 td_{1997t} + \dots + \delta_{23} td_{2017t} + \beta_{01} \ln(outFDI_{tot_{i,t}}) + \beta_{02} \ln(outFDI_{tot_{i,t}}) \cdot hPRD_{i,t} + \beta_{11} \ln(outFDI_{tot_{i,t-1}}) + \beta_{12} \ln(outFDI_{tot_{i,t-1}}) \cdot hPRD_{i,t} + \lambda_{01} \ln(inFDI_{tot_{i,t}}) + \lambda_{02} \ln(inFDI_{tot_{i,t}}) \cdot hPRD_{i,t} + \lambda_{11} \ln(inFDI_{tot_{i,t-1}}) + \lambda_{12} \ln(inFDI_{tot_{i,t-1}}) \cdot hPRD_{i,t} + v_{i,t} \quad (3)$$

Model applying OLS method:

$$\Delta \ln(VA_{pe_{i,t}}) = \alpha + \delta_9 td_{2003t} + \dots + \delta_{23} td_{2017t} + \beta \Delta \ln(outFDI_{tot_{i,t}}) + \beta_1 \Delta \ln(outFDI_{tot_{i,t-1}}) + \beta_2 \Delta \ln(outFDI_{tot_{i,t-2}}) + \beta_3 \Delta \ln(outFDI_{tot_{i,t-3}}) + \beta_4 \Delta \ln(outFDI_{tot_{i,t-4}}) + \beta_5 \Delta \ln(outFDI_{tot_{i,t-5}}) + \beta_6 \Delta \ln(outFDI_{tot_{i,t-6}}) + \lambda \Delta \ln(inFDI_{tot_{i,t}}) + \lambda_1 \Delta \ln(inFDI_{tot_{i,t-1}}) + \lambda_2 \Delta \ln(inFDI_{tot_{i,t-2}}) + \lambda_3 \Delta \ln(inFDI_{tot_{i,t-3}}) + \lambda_4 \Delta \ln(inFDI_{tot_{i,t-4}}) + \lambda_5 \Delta \ln(inFDI_{tot_{i,t-5}}) + \lambda_6 \Delta \ln(inFDI_{tot_{i,t-6}}) + v_{i,t} \quad (2)$$

where:

- $V_{apei,t}$  – productivity expressed as value added per employee in the country  $i$  in the period  $t$ ;
- $outFDI_{toti,t}$  – total outward FDI stock amount (USD) in the country  $i$  in the period  $t$ ;
- $inFDI_{toti,t}$  – total inward FDI stock amount (USD) in the country  $i$  in the period  $t$ ;
- $\beta$  – the coefficient that reflects outward FDI impact on productivity in current time;
- $\beta_1 \dots \beta_6$  – the coefficients that reflects outward FDI impact on productivity after one to six years;
- $\lambda$  – the coefficients that reflects inward FDI impact influence on productivity in current time;
- $\lambda_1 \dots \lambda_6$  – the coefficients reflect inward FDI impact on productivity after one to six year.

In the third stage of the research, we aim to evaluate the effect of financial openness on productivity growth, taking into account the productivity level achieved by the countries. We aim to identify the impact differences, if they are, in RLP and RHP clusters. Based on assumptions that more developed countries with relatively higher productivity is more open, e.g. foreign direct investment flows are more intensive, we are testing a hypothesis: H3 – both inward and outward FDI impact differences in RLP and RHP clusters are statistically significant and impact is stronger in RHP countries group.

To ensure the reliability of the results, we applied two econometric models (FE and OLS) for hypothesis testing. In regression models, we used RLP cluster as the base category that will be the starting point for impact assessments. In this group, the determined impact coefficient will be evaluated directly, and for the RHP cluster, the assessed coefficient will show the impact difference from the base category. We chose a use one period time lag for estimations, taking into account the results achieved in the second stage of the investigation.

Model applying FE method:

$$\ln(VA_{pe_i,t}) = \alpha + \delta_3 t d_{1997} + \dots + \delta_{23} t d_{2017} + \beta_0 \ln(outFDI_{toti,t}) + \beta_0 2 \ln(outFDI_{toti,t}) \cdot hPR_{Di,t} + \beta_1 \ln(outFDI_{toti,t-1}) + \beta_1 2 \ln(outFDI_{toti,t-1}) \cdot hPR_{Di,t} + \lambda_0 \ln(inFDI_{toti,t}) + \lambda_0 2 \ln(inFDI_{toti,t}) \cdot hPR_{Di,t} + \lambda_1 \ln(inFDI_{toti,t-1}) + \lambda_1 2 \ln(inFDI_{toti,t-1}) \cdot hPR_{Di,t} + v_{i,t} \quad (3)$$

Model applying OLS method:

$$\Delta \ln(VA_{pe_i,t}) = \alpha + \delta_4 t d_{1998} + \dots + \delta_{23} t d_{2017} + \beta_0 \Delta \ln(outFDI_{toti,t}) + \beta_0 2 \Delta \ln(outFDI_{toti,t}) \cdot hPR_{Di,t} + \beta_1 \Delta \ln(outFDI_{toti,t-1}) + \beta_1 2 \Delta \ln(outFDI_{toti,t-1}) \cdot hPR_{Di,t} + \lambda_0 \Delta \ln(inFDI_{toti,t}) + \lambda_0 2 \Delta \ln(inFDI_{toti,t}) \cdot hPR_{Di,t} + \lambda_1 \Delta \ln(inFDI_{toti,t-1}) + \lambda_1 2 \Delta \ln(inFDI_{toti,t-1}) \cdot hPR_{Di,t} + v_{i,t} \quad (4)$$

where:

- $V_{Ape_i,t}$  – productivity expressed as value added per employee in the country  $i$  in the period  $t$ ;
- $outFDI_{toti,t}$  – total outward FDI stock amount (USD) in the country  $i$  in the period  $t$ ;
- $inFDI_{toti,t}$  – total inward FDI stock amount (USD) in the country  $i$  in the period  $t$ ;
- $\beta_0$  – the coefficient that reflects outward FDI impact on productivity in the RLP cluster in the current year;
- $\beta_0 2$  – the coefficient that reflects the difference between the impact of outward FDI on productivity in the RHP cluster comparing to the RLP cluster, in the current year;
- $\beta_1$  – the coefficient that reflects outward FDI impact on productivity in the RLP cluster in the second year;
- $\beta_1 2$  – the coefficient that reflects the difference between the impact of outward FDI on productivity in the RHP cluster comparing to the RLP cluster, in the second year;

- $\lambda_{01}$  – the coefficient that reflects inward FDI impact on productivity in the RLP cluster in the current year;
- $\lambda_{02}$  – the coefficient that reflects the difference between the impact of inward FDI on productivity in the RHP cluster comparing to the RLP cluster, in the current year;
- $\lambda_{11}$  – the coefficient that reflects inward FDI impact on productivity in the RLP cluster in the second year;
- $\lambda_{12}$  – the coefficient that reflects the difference between the impact of inward FDI on productivity in the RHP cluster comparing to the RLPC cluster, in the second year.

Estimation results and discussion

In the *first stage* of study EU member states (except Croatia and Luxembourg) were divided into relatively low productivity (RLP) and relatively high productivity (RHP) clusters according to value-added per employee in 1995-2017.

Table 2

**Clusters of EU member states by productivity**

Name of cluster	Countries that are assigned to a cluster
RLPC	Hungary, Slovenia, Slovakia, Romania, Portugal, Poland, Malta, Lithuania, Latvia, Greece, Estonia, Czech Republic, Cyprus, Bulgaria.
RHPC	United Kingdom, Sweden, Spain, Netherlands, Italy, Ireland, Germany, France, Finland, Denmark, Belgium, Austria

Source: author's compose based on results of clustering analysis with SPSS

SPSS program was used for the clustering of EU member states. Since the volume of the article is limited, we do not provide the dendogram established during the clustering process.

In the *second stage of research* were assessed inward and outward FDI impact on productivity in order to confirm or deny the first and second hypotheses. Estimation results are presented in Table 3 (1 and 2 models).

Table 3

**Summarizing research finding on the impact of financial openness on productivity in EU member states**

Coefficients	1 and 2 estimations		Coefficients	3 and 4 estimations	
	FE	OLS		FE	OLS
$\alpha$	2.033***	0.056***	$\alpha$	5.71***	-0.056***
$\delta_8$	0.075***	-	$\delta_3$	-0.050	-
$\delta_9$	0.201***	0.065***	$\delta_4$	-0.054	0.064***
...	...	...	...	...	...
$\delta_{22}$	0.194***	-0.138***	$\delta_{22}$	0.330	0.094***
$\delta_{23}$	0.221***	-0.027**	$\beta_{01}$	<b>-0.077**</b>	<b>-0.109***</b>
$\beta$	0.038**	0.036***	$\beta_{02}$	0,093**	0.175***
$\beta_1$	0.052	0.033*			
$\beta_2$	0.014	0.015	$\beta_{11}$	<b>-0.036**</b>	<b>-0.031*</b>
$\beta_3$	0.035	0.018*	$\beta_{12}$	0.049**	0.076**
$\beta_4$	0.003	0.011			
$\beta_5$	-0.004	-0.006	$\lambda_{01}$	<b>0.146**</b>	<b>0.141***</b>
$\beta_6$	0.023	-0.015*	$\lambda_{02}$	-0.073**	-0.076**
$\lambda$	0.176**	0.182***			
$\lambda_1$	0.103	0.114***	$\lambda_{11}$	<b>0.099***</b>	<b>0.105**</b>
$\lambda_2$	0.004	-0.004	$\lambda_{12}$	-0.057**	-0.079**
$\lambda_3$	0.012	0.021			
$\lambda_4$	-0.038	0.008			
$\lambda_5$	0.052	0.021			
$\lambda_6$	0.045	0.024			
n	442	416	n	572	546
R <sup>2</sup> <sub>kor.</sub>	0.954	0.827	R <sup>2</sup> <sub>kor.</sub>	0.930	0.773
DW	1.838	1.959	DW	2.092	2.055
Schwarz	-428	-989	Schwarz	-424	-1305

Akaike	-742	-1087	Akaike	-651	-1434
Hannan-Quinn	-669	-1041	Hannan-Quinn	-560	-1378

Note: \* indicates significance at the 10 percent level; \*\* indicates significance at the 5 percent level; \*\*\* indicates significance at the 1 percent level.

Source: author's calculations based on World Bank data

Estimation results, using data of the general sample (26 EU MS), indicate that both inward and outward FDI have a positive significant impact on EU Members States' productivity changes. This positive effect occurs in the current year and remains significant in the second year, e.g. lasts for 2 years in total. The estimations results revealed, that an increase of inward FDI by 1% leads productivity increase on average by 0.04% (according to both FE and OLS estimations) in the current year and additionally by 0.03% in the second year (according to OLS estimator). The increase of inward FDI by 1% leads to an increase of productivity on average 0.18% (according to both FE and OLS estimations) and additionally by 0.11% in the second year (according to OLS estimator).

Thus, can be summarized that inward FDI have a greater impact on productivity as was expected and this confirms H2 hypothesis. However, the results of estimations just partially confirmed H1 hypothesis since we found a positive impact on both inward and outward FDI, but significant impact manifested in the current year contrary to expectation.

In the third stage of the research, we assessed differences in inward and outward FDI effects on productivity in EU MS clusters divided according to productivity level achieved, e.g. in relatively low productivity and relatively high productivity countries clusters. Creating estimation models we took into account the results of estimations in the second stage of research that indicated a significant impact of FDI on productivity last two years in total. Table 3 presents the general results of impact differences estimations (3 and 4 models).

To ensure the reliability of the results of the estimations, we used two regression models (FE and OLS). The results of different estimations are slightly different. Estimation results are more reliable when the value of Schwarz, Hannan-Quinn, Akaike criteria is lower (Konishi and Kitagawa, 2008). Since the values of these criteria are lower using OLS estimator comparing with FE, it can be reasonably stated that the results of OLS estimations have higher reliability. For this reason, the following discussion of the results is based on the impact estimations using OLS model.

The breakdown of EU MS into clusters resulted in different estimations results comparing with results using a full sample of countries. 4 and 5 estimations result reveal the positive impact of inward FDI on productivity in both groups of EU MS, but outward FDI positively influenced only productivity of high productivity countries, but have a negative impact on the productivity of relatively low productivity countries.

Estimations (see model 4) reveal, that the increase of inward FDI stock by 1% leads to the average increase in productivity by 0.07% in the first year, and additionally by 0.03% in the second year (0.1% in total) in relatively high productivity countries. Increase inward FDI by 1% in relatively low productivity countries leads the average increase in productivity by 0.14% in the first year, and additionally by 0.11% in the second year (0.25% in total). Thus, the positive effects of inward FDI on productivity are bigger in low productivity countries. Likely, high productivity countries have already exhausted the potential of productivity growth, since they already achieved high productivity level. But inward FDI remains one of the main sources of productivity growth in low productivity countries.

The increase of outward FDI by 1% leads to the average increase in productivity by 0.07% in the first year, and additionally, in 0.05% (0.12% in total) in high productivity countries. Hence, inward and outward FDI have a similar impact on RHP countries' productivity. However, the increase of outward FDI by 1% leads decrease in productivity by 0.14% during two years in relatively low productivity countries. It can be assumed, that low productivity countries are pushing out capital because of more favourable business conditions in other countries, and this lead negatively influenced value added per employee. In this case, the potential outward FDI effects on productivity due to new skills

and technological innovations do not overweight the damage caused by outgoing capital. Nevertheless, if low-productivity countries were to focus on business internationalization rather than on capital outgoing, outward FDI could have a positive impact. So, internationalization policy in low productivity countries has to be oriented to stimulate strategic, marketing-seeking, resource-seeking outward FDI and to forming a business-friendly environment that ensures attraction inward FDI.

### Conclusions

1. Theoretical analysis reveals that financial openness expressed as FDI stock or flow can contribute productivity growth by several channels but inward and outward FDI may effect productivity changes differently. Inward FDI usually leads to productivity growth due to the accumulation of additional capital and new production as well as innovative management methods that directly affect labour productivity and efficiency. Inward FDI also increases labour productivity indirectly through the dissemination of knowledge. Technological progress, the entry of physical and human capital are key elements of the positive impact of FDI on host countries' productivity. Effects of outward FDI depend on investing abroad motives: i) market-seeking, ii) strategic asset-seeking, iii) efficiency-seeking, iv) resource-seeking, v) capital reallocation in a more favourable environment.
2. Although the positive effects of financial openness on productivity are justified, the results of the previous econometric assessments are heterogeneous. Inward FDI, as well as outward FDI, may influence productivity positively, negatively or impact may be insignificant. The results heterogeneity may depend on research method (OLS, FE, DID, GMM estimator), sample and level of data, the number of observation and period, on the indicators used for measure of financial openness and on output variables (TFP, VA per employee, sales per employee, GDP) or countries conditions: human capital, institutional quality, level of development. Taking into account that in countries characterized as economies with a high level of human capital, good institutions, and a high level of development, productivity level is relatively high, authors assumed that financial openness effects might depend on productivity level achieved by countries.
3. Results of the examination of financial openness impact on productivity, expressed by value-added per employee, using data of all EU MS, reveal significant positive impact which occurs in the first year of investing and additionally last in the second year. Results of the assessment of inward and outward FDI impact on productivity in high productivity countries cluster and impact difference in low productivity countries cluster indicate that inward FDI positively influenced productivity in both groups of countries, but the impact is stronger in low productivity countries group. Outward FDI have a positive significant impact on productivity in high productivity countries group, but negative in low productivity countries group.
4. Investigation results do not allow us to draw a conclusion about the causes of outward FDI negative impact on productivity in low productivity countries. We assume that manifested capital crowding-out effect because unfavourable business environment, but it must be proved or denied in future research.

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## SELF-EMPLOYMENT AS ALTERNATIVE TO LABOUR RELATIONS

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**Abstract.** A rapid development of information technologies has significantly impacted the employment processes. The sharing economy not only reduces costs but also creates new employment opportunities. Increasingly, entrepreneurs prefer contractual relations to attract people to a specific project or work. A remote work perspective allows saving on travel expenses and engaging in multiple projects at the same time and operating in the international market. The research aim is to identify the factors encouraging individuals to choose self-employment as a form of employment. The research applies the monographic method, statistical analysis, scientific induction and deduction. The research results lead to the conclusion that individuals prefer self-employment as it allows them to combine several activities and create a flexible schedule of working time. In addition, people with disabilities and mothers having small children may engage in self-employment and earn additional income.

**Keywords:** *self-employment, labour relations, motivation to be self-employed.*

**JEL code:** J21, J23

### Introduction

Regulation of self-employment as employment relations is a topical issue in several EU Member States. New types of employment relations are emerging with the development of technologies, besides these relations significantly differ from traditional employment relations due to the introduction of applications – global labour exchanges of employees and employers. Such platforms both deal with unemployment problems and promote tax evasion.

The research aim is to identify the factors influencing individuals to choose self-employment as a form of employment and encouraging employers to cooperate with the self-employed persons. Therefore, the research tasks are as follows: to study the definition of self-employment; to clarify scientists' opinions on the factors contributing to self-employment; to study statistics; to define the positive and negative aspects of self-employment and to draw conclusions. The research results lead to the conclusion that individuals prefer self-employment as it allows them to combine several activities and create a flexible schedule of working time. In addition, people with disabilities and mothers having small children may engage in self-employment and earn additional income for household. The following methods are used in the research: monographic method, statistical analysis, scientific induction and deduction.

The self-employed persons are a hard-to-follow target group in Latvia. First, part of the self-employed persons do not record their income or register only part of it; thus, reducing their tax payments and their level of social security in the future. Second, there is no single definition of a self-employed person in Latvia; hence, the statistics of different state institutions (State Revenue Service, Central Statistical Bureau (CSB)) differ. The first research section analyses differences in the definition of self-employed and factors encouraging self-employment, while the second section analyses self-employment in Latvia and evaluates the possibilities of using self-employment as an alternative for employment relations. In addition, the research deals with the analysis of the data provided by the Central Statistical Bureau and the statistical collection Eurostat prepared by the European Commission in the field of self-employment for the years 2010-2019. The research limitations – self-employed persons without employees are analysed due to the use of the CSB database information for the analysis.

### 1. Literature review

#### 1.1. Diversity of the definition of self-employment

Often, self-employed persons are referred to as own-account workers. Mangan (2000) defines self-employment as a traditional form of non-typical employment due to the increasing volume and prevalence of contract work. The authors

from the Netherlands (Schoukens, Barrio, Montebovi, 2018) agree with him introducing the term “platform workers”. The term originates from platforms and applications used by people when engaging in a variety of non-typical jobs (portfolio jobs, non-schedule work, unpaid work, service barter). The authors emphasise the need for regulation and a social protection strategy for the new type of employment relations.

Parker (2004) emphasises that self-employed persons are often defined as people who do not earn a salary but earn income from their own professional occupation or business and are aware of their risks.

Russian authors (Grabova, Suglobov, 2017) define self-employed persons as people who are independently employed in the labour market, most often provide services, and systematically receive remuneration. Self-employed persons are not registered as sole proprietors and have no employees.

VandenHeuval and Wooden (1995) propose the following classification of self-employed persons:

- employees engaged in providing services to other companies and institutions;
- persons who classify themselves as employees not paying income tax or paying it on as-you-earn basis;
- employers who employ only their family members and who provide services to other organisations;
- persons who classify themselves as employees but actually work in their own company with no other employees or their family members being the employees.

Gindling and Newhouse (2014) indicate that own-account workers and agricultural workers have low educational outcomes but self-employment is more common for older people. This characteristic is based on the research data obtained studying 100 countries worldwide. The authors affirm that the trend in the gender of self-employed persons differs by countries.

It should be noted that there are studies where self-employment is equated with entrepreneurship. This is related with the impact of entrepreneurship on the economic development. Acs, Audretsch, Evans (1994) in their research have used the level of self-employment as a measure for business assessment. Though, Thurik, Carree, van Stel et al. (2008) have expressed exactly opposite opinion arguing that the development of self-employment does not promote business and economic growth. The authors believe that the development of large businesses is more effective in promoting national competitiveness and reducing unemployment than involving population in small and micro businesses. It should be added that the authors have analysed the world major economies: Portugal, Italy, Great Britain, Austria and Canada. The situation in the Baltic States is different due to the slight proportion of large companies here.

There are several definitions of self-employed persons in the regulatory enactments of the Republic of Latvia. The law “On State Social Insurance” (1997) treats a self-employed person as a person earning income or revenue by performing an individual work, who receives a royalty and whose permanent place of residence is the Republic of Latvia, or who is a sworn notary, advocate, bailiff, auditor, a doctor in practice, or an owner of a farm or fishing undertaking as well as individual merchant. Pursuant to the law “On the Regulated Professions and the Recognition of Professional Qualifications” (2001), a self-employed person is a person who earns employment income independently, without entering into contractual employment relations with an employer, and does not occupy a position that gives the right to remuneration. For the purposes of the law “On Personal Income Tax”, a performer of economic activity is a person registered in the State Revenue Service and who performs economic activity. An individual economic activity is an activity that focuses on the production of products, the provision of services, the retail trade and contract works (Par iedzīvotāju ienākuma ..., 1993). For the purposes of the Central Statistical Bureau of Latvia, a self-employed person is a person who works for his/her own business and does not employ any other person. Hence, if a self-employed person employs at least one employee, it is included in the statistics of employers. This indicates that the CSB data do not correspond to any of the definitions of self-employed persons prescribed by the legal enactments of the Republic of Latvia. Similar problems exist also in other Member States. The problem of

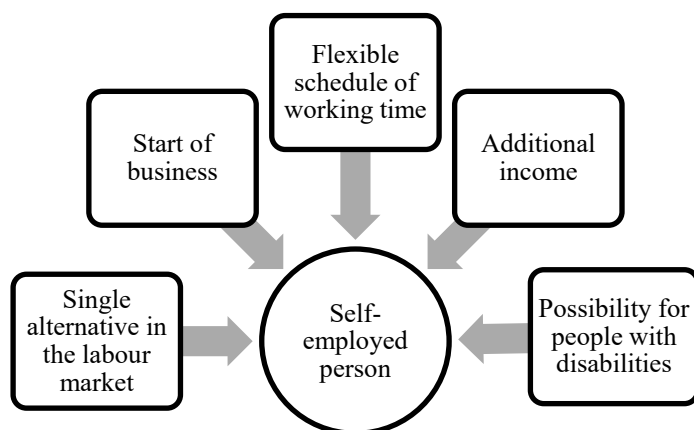
the definition of self-employment hinders international research (Bjuggren, Johansson, Stenkula 2012), which leads to incorrect conclusions and decisions at the policy level. Therefore, the result is the development of inappropriate strategies and the avoidance of addressing the existing problems.

### 1.2. Factors encouraging self-employment

One of the factors that influence a person's life satisfaction is his/her work and its existence. It is important for a person as a social being to be involved in the society. Studies have shown that unemployment has a negative impact on a person's emotional health, and consequently on his/her quality of life (Clark, Oswald, 1994, Winkelmann, Winkelmann, 1998). In general, as it is shown, self-employed persons are more satisfied with their lives compared with paid employees (Hessel, Arampatzi, van der Zwan, et al., 2018). On the contrary, it should be considered that an increased focus on work can negatively affect other areas of life (less time is spent on leisure and family), which reduces the level of satisfaction.

Summarising the opinions expressed in previous studies on the factors encouraging self-employment, this research divided them into five categories for further discussion (Figure 1):

- 1) self-employment as a possibility to work under a flexible schedule of working time. Self-employed persons themselves determine the amount and time of work;
- 2) self-employment as a safe way to start business. In this case, it is not necessary to establish a company, to pay the equity capital. One may try its hand at business without leaving the core economic activity by trying to sell the product on the market;
- 3) self-employment as an opportunity of an additional job or project. A person can officially engage in multiple projects at the same time; thereby, increasing income;
- 4) self-employment as the only alternative in the labour market, when a person chooses self-employment without seeing other options in the labour market;
- 5) self-employment as a possibility for people with disabilities to integrate into the labour market. The availability of remote working both promotes the inclusion of disabled people in companies as employees and increases the chances of independent work on an individual basis.



Source: authors' construction

Fig. 1. Factors encouraging a person to choose self-employment as a type of employment

There is an opinion that young parents, especially mothers with children up to the age of three, choose self-employment (Joona, 2017). This correlation is interpreted as a search for a balance between career and family. In contrast, a Swedish study shows that women do not choose self-employment with a target to combine work and family, because young parents have favourable conditions in the Swedish labour market: they can work part time until their

child reaches the age of eight. Lombard (2001), in turn, reveals that having children increases the likelihood of self-employment. This is justified by the necessity to adapt their working hours to the needs of the children.

There is widespread debate in the scientific community about the high level of satisfaction of self-employed persons with job performance. Self-employed persons have greater autonomy and flexibility in working time compared with employees. This characteristic feature could also influence the level of satisfaction (Bjuggen, Johansson, Stenkula, 2012). However, the assessment of the situation from another aspect reveals that the self-employed persons have a high level of responsibility for their activities. On the contrary, the level of responsibility of employees is determined by the position they hold.

A group of researchers including Sewdas, Tamming, Boot et al. (2018) found a positive link between self-employment and work ability. The authors have stated that the independent work contributes to work efficiency and productivity. Self-employed persons are more independent in decision-making and in the work process in general, since they are not subjected to a constant control (Prottas and Thompson, 2006; Benz, Frey, 2008, Hamilton, 2000; Hundley, 2001). There is also an opinion that self-employment favourably impacts long-term life satisfaction within five years after leaving a paid employment (Hessels, van der Zwan, Rietveld, et al., 2017).

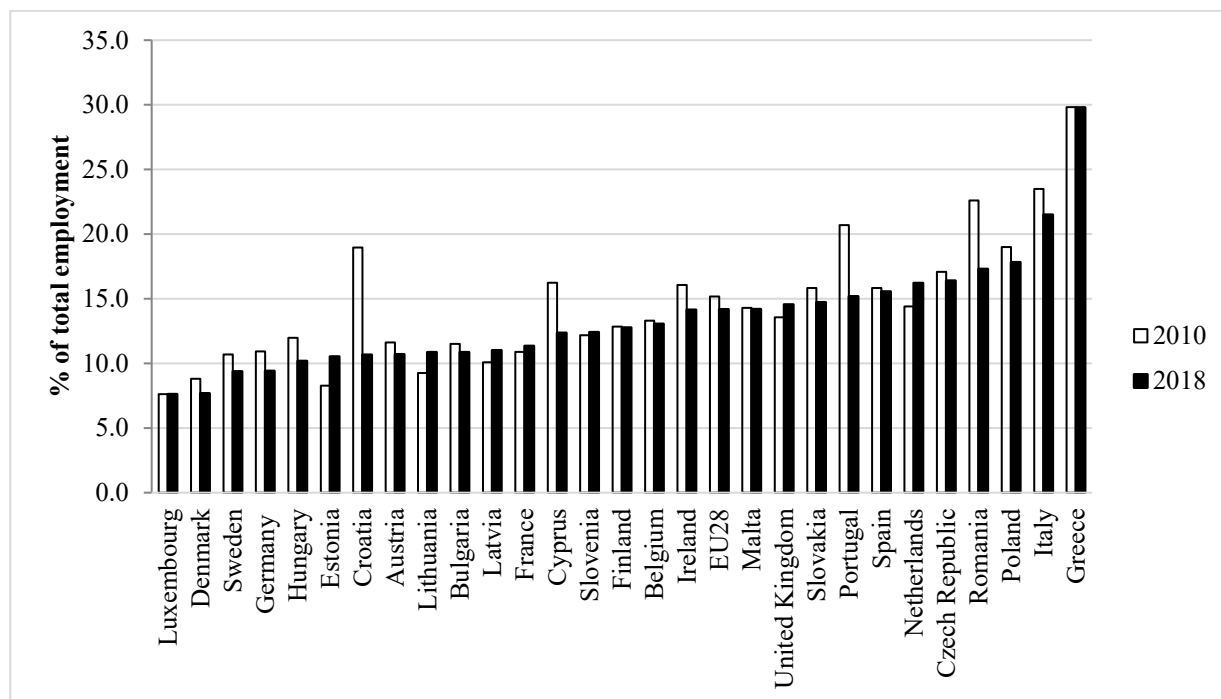
A high level of responsibility often transforms into non-standard working hours and stress can expose self-employed persons to health problems, particularly heart diseases (Schonfeld, Mazzola, 2015; Dahl, Nielsen, Mojtabai, 2010; Yoon, Bernell, 2013; van der Hulst, 2003).

Self-employment offers a real opportunity for people with disabilities to integrate into the labour market, which is important not only in terms of economics but also as a socialisation aspect (Eichhorst, Kendzia, Knudsen, et al., 2010). Pagán (2009) has made a research on self-employment among people with severe disabilities. The study analysed 13 European countries and their self-employment rates. The study allowed Pagán to conclude that people with severe disabilities are more likely to choose individual employment and self-employment is one of the options. It enables people with disabilities not only to achieve material goals but also to integrate into the society.

As mentioned above, the study of literature on self-employment leads to the conclusion that self-employment and small entrepreneurship are analysed as one form of employment. In the Baltic States, in turn, they are different types of occupation. Self-employed persons are natural entities, they do not have to be registered in the Register of Enterprises or the Commercial Register, they have no equity capital and they are responsible for their activities and credit liabilities with all their personal property. It should be marked that self-employed persons are eligible for state guaranteed credit for start-up and development of business as well as for participation in grant programmes. The authors of the present research believe that in-depth research is needed on self-employment by evaluating self-employment as an opportunity to start business.

## 2. Research results and discussion

In the EU Member States, the average proportion of self-employed persons in the working population aged 15 to 74 in 2018 decreased from 15.17% to 14.18% or by 0.99 percentage points compared with 2010 (Figure 2). In 2018, Greece (29.8%), Italy (21.5%), Poland (17.8%) are the leaders in terms of self-employed persons. Self-employment is widespread in these countries, though, in Italy, Portugal and Romania, the number of self-employed persons has decreased in 2018 compared with 2010. In contrast, it has increased in Latvia as well as in some other Member States (Spain, Malta, Bulgaria, Austria, and others) (Eurostat, 2019).



Source: authors' construction based on the Eurostat data

**Fig. 2. Self-employed persons aged 15 to 74 in the EU Member States in 2010 and 2018, % of total employment**

Analysing the situation in the Baltic States, it should be concluded that the proportion of self-employed persons has increased in 2018 compared with 2010. In 2018, Latvia has the highest rate – 11%, Lithuania – 10.9% and Estonia – 10.5%. However, the average value of the European Union is exceeded in none of the Baltic States.

In Latvia, self-employment is more often chosen by men than women (Table 1), the trend is constant throughout the analysed period; however, the proportion of men is decreasing. Self-employment is less common among people of retirement age and young people. The highest proportion of self-employed persons is in the age group of 45 to 54 years – 31.5% in 2017 and 29.1% in 2018. In 2013, the proportion of the population aged 25 to 34 has increased (19.1% of total number of self-employed persons), while the indicator has gradually decreased reaching 16.1% by 2018. The proportion of self-employed persons among people of pre-retirement age (55-64 years) has increased in 2016 (19.0%) and in 2018 (20.3%), while self-employed persons in the retirement age constitute 4-5% on average of total number of self-employed persons in the analysed period.

In Latvia, self-employment is not widespread among people with low level of education. The statistics point to exactly the opposite situation. In 2018, 36.4% of all self-employed persons were people with higher education, and this trend is increasing every year (26.4% in 2010 and 36.4% in 2018). In 2018, self-employed persons with the vocational and basic education constituted 31.2% and 7.1% respectively. It is important to note that the situation was different in 2010, i.e. 41.1% of self-employed persons had vocational education and 10.5% had basic education.

In 2018, most or 31.5% of self-employed persons are managers, 19.9% operate in agriculture, fisheries or forestry and 11.3% are sales professionals. The smallest proportion is observed in the specific fields – machinery and equipment operators and fitters (1.9%) and simple professions (6.3%).

Table 1

**The characteristics of self-employed persons in Latvia by demographic criteria and level of education in 2010-2018, % of total**

Assessment criteria	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>By gender</b>									

Male	58.1	59.8	59.9	57.1	60.2	54.8	52.9	51.5	54.8
Female	41.9	40.2	40.1	42.9	39.8	45.2	47.1	48.5	45.2
<b>By age</b>									
25-34	16.4	18.7	18.2	19.4	17.8	18.6	16.6	18.6	16.1
35-44	26.0	27.3	26.5	27.0	26.5	25.9	26.5	24.8	26.0
45-54	30.3	30.2	29.8	27.8	29.0	27.5	29.2	31.5	29.1
55-64	17.7	16.0	17.4	16.2	16.9	18.7	19.0	18.0	20.3
65-74	5.5	4.3	5.4	5.7	5.0	4.9	5.4	4.5	4.6
<b>By education</b>									
Higher education	26.4	26.7	30.5	34.1	31.9	30.4	32.1	35.1	36.4
Vocational or secondary professional education	40.1	40.5	36.8	33.9	35.0	36.9	36.5	33.7	31.2
General secondary education	22.3	20.4	21.8	23.1	23.3	22.4	22.4	24.3	23.8
Basic education	10.5	11.6	10.4	7.9	8.6	10.2	8.6	6.8	7.1
<b>By profession</b>									
Managers	29.6	27.0	28.0	31.3	29.8	26.0	23.7	29.1	31.5
Senior specialists	8.4	11.0	11.0	10.9	13.2	12.3	12.0	12.3	10.3
Specialists	6.4	5.0	5.5	5.1	4.8	7.2	7.5	7.5	6.8
Service and sales employees	7.3	9.2	9.1	8.8	8.8	8.7	9.2	11.3	11.3
Qualified workers in agriculture, forestry and fishery	26.9	25.3	23.4	21.2	20.8	22.8	23.8	19.3	19.9
Qualified workers and craftsmen	8.6	8.7	10.9	10.3	10.3	9.7	11.7	10.6	10.4
Equipment and machine operators, product assemblers	2.7	2.7	2.0	2.4	2.8	3.2	3.1	2.1	1.9
Simple professions	9.6	10.5	9.0	8.4	8.6	9.4	7.9	6.2	6.3

Source: authors' calculations based on the Central Statistical Bureau of Latvia

The analysis of the total household income per household member and the income from self-employment (Figure 3) reflects that the indicator has a positive growth trend throughout the analysed period. The household income has increased from EUR 285.70 per month in 2010 to EUR 488.84 in 2018, i.e. the increase is 71.19%. In turn, the income from self-employment per capita constituted 3.33% in 2010, while it was even less in 2018 – 2.95% of total income per capita. The dynamics indicates that the income from self-employment per household member had increased between 2010 and 2014, whereas a decline both in absolute terms and in proportion has been observed from 2015, as it comprised 2.95% in 2017. The improvement of the economic situation in Latvia may explain the figures. Work remuneration grew with the possibility to find a well-paid job. Therefore, young people choose to be self-employed more seldom (Table 1).

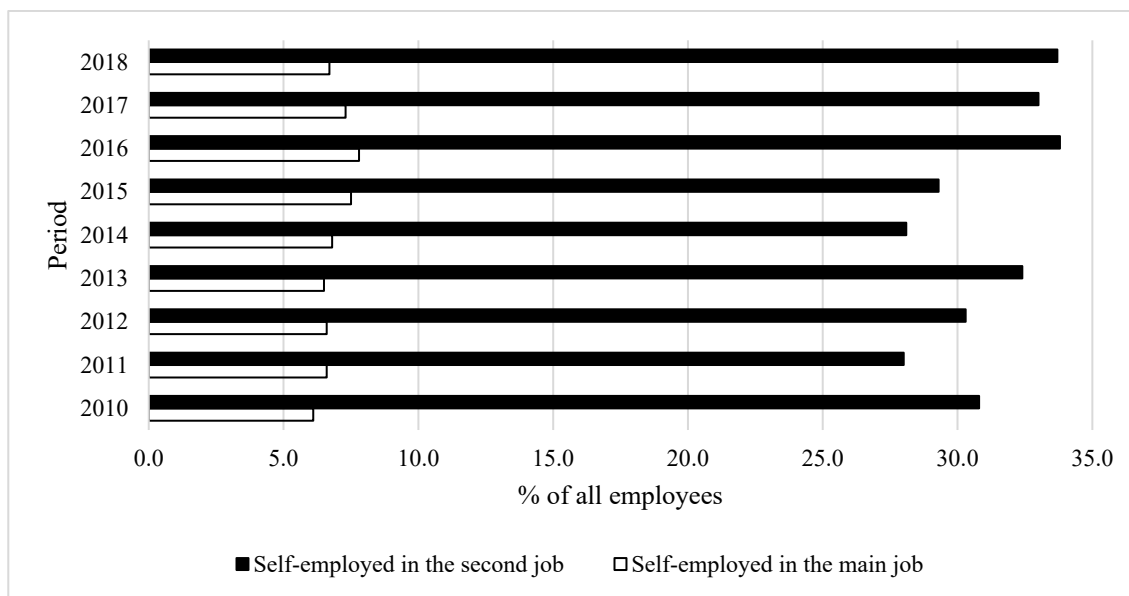


Source: authors' construction based on the Central Statistical Bureau of Latvia



**Fig. 3. The comparison of total household income with income from self-employment, per household member per month, 2010-2017, EUR**

The analysis of the data on self-employment as the main occupation or the second job in Latvia (Figure 4) obviously depicts a pronounced tendency to earn income as a self-employed person in addition to the existing job. In 2010, 30.8% of total number of employed persons were self-employed and only 6.1% were full-time self-employed. During the analysed period, the number of full-time self-employed persons has increased till 2016, reaching 7.6%, while a decline can be observed from 2017, reaching 6.7% in 2018. The proportion of part-time self-employed persons is variable, ranging from 28% in 2011 to 33.7% in 2018.



Source: authors' construction based on the Central Statistical Bureau of Latvia

**Fig. 4. The proportion of self-employed persons working in the main job and the second job, 2010-2018, % of total number of employed persons**

Summarising the analysed statistical data, it can be concluded that the portrait of a self-employed person in Latvia looks like this: male, 45-54 years old, manager with higher education, self-employed in addition to his main job.

Previous studies highlight positive aspects related with the autonomy of employees; thus, it shall be concluded that the possibility of independent work motivates people to choose self-employment among other activities. The statistics of the Central Statistical Bureau show that self-employment is registered as an activity with the purpose of earning additional income. The possibility to combine work with parenting is also an important aspect, which suggests that the form of an employment relationship, in the classic sense, may diminish over time. The lifestyle and values of the population have changed, and hence, there is a necessity to develop new forms of labour relations by adapting them to the needs of both employers and employees.

The research also identifies the negative aspects. Low level of social protection compared with paid employees is one of the negative aspects. According to the statistical data of the Central Statistical Bureau, self-employment predominantly provides additional income to households; hence, operating income may vary from month to month. Previous studies demonstrate the level of stress on self-employed persons due to the increased sense of responsibility for the job to be performed and not fixed working hours. Long working hours and high level of stress have a negative impact on the health of self-employed persons and may possibly lead to the development of heart diseases.

### Conclusions, proposals, recommendations

The average proportion of self-employed persons in the territories of the EU Member States has been about 15% of total employed population between 2010 and 2018; though, the impact of self-employment on the labour market and the economic situation in general is still widely debated in the scientific environment.

The definitions of self-employed person varies in different countries; hence hindering international research. In Latvia, the definition of self-employed person differs in legal and regulatory enactments, besides the Central Statistical Bureau provides information only on those self-employed persons who are not employers at the same time. Consequently, only part of self-employed persons is traceable.

The analysis of previous studies identified the main factors that motivate the population to choose self-employment as a form of employment: starting business, flexible working hours, additional employment opportunity, the only possibility in the labour market and possibility to integrate into it for people with disabilities. A survey carried out among the population of Latvia revealed that self-employment was chosen as an additional occupation, as evidenced by the amount of income from it. The most characteristic portrait of a self-employed person in Latvia is a person with higher education who wants to plan his/her own time and is looking for additional sources of income.

The authors, agreeing with the previous research in labour relations, recommend looking for new solutions that are attractive both to employers and employees (with flexible schedules of working time, service providers and platform workers). At present, self-employment is the most appropriate form of employment in the mentioned cases in Latvia.

#### Acknowledgements

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## ENTREPRENEURSHIP IN HIGHER EDUCATION: THE FORMATION OF ENTREPRENEURIAL UNIVERSITIES

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**Abstract.** The paper analyzes the emergence of entrepreneurial universities as a new phenomenon in higher education of Ukraine. The number of scientific publications formed essential characteristics of the concept with the emphasis on entrepreneurial thinking in the HEIs. The scientists suggest variety of approaches from internal hybrid form to a “third-generation” university. Ukrainian researchers concentrate on the question of how to integrate entrepreneurship in the HEIs. They focus mainly on commercialization of knowledge and scientific results within existing organizational forms without improving social, economic or legal environment.

The article aims to consider the evolution of entrepreneurial universities model in Ukraine. The authors applied methods of legal comparative analysis to determine the level of autonomy. Then the authors used financial analysis methods to measure the potential for entrepreneurship. In particular, the paper examines the dynamics of both absolute and relative financial indicators.

The analysis of legal environment revealed that the autonomy of public HEIs remains relatively limited despite first promising steps. The paper identified private HEIs as main players in the development of entrepreneurial model in Ukraine. Thus, the findings are based on the financial performance analysis of 77 private universities collected from statistical reports of Ukraine. The research demonstrates sufficient potential of private HEIs to ensure financial autonomy providing the opportunity to form entrepreneurial universities as a new organizational structure of an education institution. Moreover, the introduction of an entrepreneurial behavior model could lead to the growth of their financial results and, consequently, to the sustainable development on a long-term basis.

**Keywords:** *Entrepreneurial University, entrepreneurship, higher education.*

**JEL code:** K42

### Introduction

The formation of entrepreneurial universities as a new organizational structure of an educational institution is based on the decentralization of management. Decentralization of management that is the autonomy of universities involves a combination of the traditional scientific and education (academic) model of an education institution with an entrepreneurial model of behavior, providing employees and students with the opportunity to engage in innovative entrepreneurship, commercializing their research through an active interaction with regional authorities, public organizations and industry.

“Entrepreneurial university” appears in the research literature in the 80th (Rothaermel et al., 2007). The study reveals the intensification in the development of entrepreneurial universities in the USA and in the EU from 2000 to 2005. However, the analysis shows diverse interpretation of entrepreneurial university model depending on the context, purposes, tasks and activity area.

According to Burton Clark, the entrepreneurial university puts emphasis on the innovative mission, improvement of their internal organizational architecture and new ways of interaction with key stakeholders (Clark, 1998). The researcher analyzes financial autonomy of entrepreneurial universities as an important factor to diversify the financing while preserving public funding for R&D and creating a new inter- and multidisciplinary learning environment. Burton Clark supported the idea of promoting the entrepreneurial culture at the university that formed the basis of many

subsequent studies.

Later, the concept of an entrepreneurial university was transformed in the “third-generation university” that portrays a successful institution of the future (Wissema, 2009). This idea was detailed by using hybrid organizational forms in order to find a balance of relationships between the entrepreneurial university, business, industry, public organizations and other stakeholders (Etzkowitz & Ranga, 2010). In short, the growth of university autonomy should be accompanied by the change of organizational forms of entrepreneurial universities.

In other study, one of main findings was to stimulate student skills as most useful for developing entrepreneurial thinking (Urbano & Guerrero, 2013). Entrepreneurial thinking focuses on innovations (in HEIs and in private firms), so that business becomes more and more eager to innovate. Thus, entrepreneurship strengthens the university environment by encouraging to acquire new knowledge demanded by the market.

Johann Bronstein and Markus Reihlen demonstrate a difference in the interpretation of entrepreneurial university by different authors depending on their concentration on research, industrialization, servitization and commercialization (Bronstein & Reihlen, 2014). Authors have proposed archetypes such as research driven, industry driven, service innovation driven, and knowledge commercialization driven. This classification clarifies the idea of how to create an entrepreneurial university or the third-generation university.

Recent higher education reform motivated Ukrainian researchers to (re)consider the creating of entrepreneurial universities. It should be noted rather narrow scope of their interest on commercializing university research and development without deep reforming of legal, business and social environment. Thus, national researchers pay more attention to implementing advanced managerial, expert and design decisions for the commercialization of university research and development.

### **Research results and discussion**

The Lisbon Declaration (EUA, 2010) identifies four varieties of autonomy of universities: academic, organizational, financial, personnel. Autonomy is understood as the possibility and ability to own, use, and dispose of the property, as well as an independent determination of the personnel, internal structure, and academic freedom. However, all this is possible only with accountability not only to the target audience but also to the society represented by authorized bodies. Following the principles of the Lisbon Declaration, the European University Association monitors universities in 29 European countries on four mentioned types of autonomy, evaluates the achieved results according to the established methodology (EUA, 2019). A high level of autonomy of higher education institutions is considered as a prerequisite for the formation and development of entrepreneurial universities.

By joining in 2005 the Joint Declaration of Ministers of Education of Europe “The European Higher Education Area”, Ukraine has declared its desire to make an effective contribution to the creation of a European Higher Education Area based on the principles of the Bologna Declaration. Thus, the principle of the independence of educational institutions and the need to create conditions for its implementation are put at the forefront. The first major step towards implementing autonomy was the adoption in 2014 of the Law of Ukraine “On Higher Education” (Parliament of Ukraine, 2014), in which the first paragraph of the first article provides for the autonomy of higher education institutions. However, it was immediately indicated that this autonomy is limited by applicable law.

Organizational autonomy should be manifested in the complete freedom of compiling the staff timetable and the establishment of legal entities, as well as the election of the leadership of the university, its qualifications, and term of office, the possibility of attracting specialists from outside. However, the legislation contains restrictions on this autonomy, such as the qualification requirements for the candidate and a well-defined procedure for his election (Cabinet of Ministers, 2014).

Personnel autonomy lies in the ability to hire and fire academic and administrative staff, to determine the level of wages, make decisions for career development. At the moment, state universities approve the staffing table with the representatives of the Ministry of Education and Science of Ukraine, there are standards for the number of students per scientific and pedagogical staff unit, a strict procedure for conducting competitive selection when filling vacant posts of scientific and pedagogical staff (Cabinet of Ministers, 2002; Ministry of Education and Science, 2015).

Academic autonomy is independence in determining the number of students enrolling at different levels of study, as well as program content, terms of opening and closing, the language of study, and quality assessment criteria. This autonomy is also limited, for example, there are precisely defined types and results of the professional activity of persons by specialty to recognize the qualifications of the corresponding specialty (Cabinet of Ministers, 2015).

Financial autonomy gives the right to independently determine the duration and type of financing, the possibility of making a profit, lending, and setting the tuition fees. In Ukraine, at the legislative level, the procedure for the placement of income received by state universities as payment for services, charitable contributions and grants on current accounts only in state banks has been defined; the procedure for distributing temporarily surplus funds on deposits is prescribed (Cabinet of Ministers, 2015), a mechanism for institutions to incur expenses of a special fund received as payment for services is provided (Cabinet of Ministers, 2015), the exhaustive list of services that state and municipal universities can provide is established (Cabinet of Ministers, 2010).

The draft regulation of the Cabinet of Ministers of Ukraine “On Some Issues of Introducing Indicative Value” deserves special attention, under which a lower threshold for the cost of training will be established. Students of state universities will pay more than the average cost of training in commercial institutions.

Thus, private universities become the main participants in the process of forming entrepreneurial universities in Ukraine.

Currently, 77 private higher education institutions of the III-IV level of accreditation are functioning in Ukraine (Ukrstat, 2019) (Table 1).

Table 1

**The dynamics of the number of HEIs of III-IV accreditation level**

	2010/2 011	2011/2 012	2012/2 013	2013/2 014	2014/2 015	2015/2 016	2016/2 017	2017/2 018
Number of HEIs, including by ownership:	330	326	316	309	277	288	287	289
state and communal	231	227	220	218	197	208	209	212
Private	99	99	96	91	80	80	78	77

*Source: authors' construction based on Ukrstat, 2019*

The centers of preparation of bachelors, masters, PhD students in private universities are Kyiv (28 universities), Kharkiv (8 universities), Dnipro (5 universities), Lviv region (5 universities). The number of students enrolled in these universities is: Kyiv - 58266 people (16% of all students studying in Kyiv), Kharkiv - 1473 people (1%) Dnipro - 5493 people (5%), Lviv region - 6272 people (6%). It should be noted that according to these educational centers (cities and regions of Ukraine) the share of students studying at the expense of individuals is: 187350 people in Kyiv (52.59% of all students studying in Kyiv), Kharkiv - 79885 people (49.85%) Dnipro - 43034 people (42.66%), Lviv region - 51713 people (46.56%), which means that there are potential students for private universities.

Consolidated ratings of private higher education institutions formed by the Information resource "Osvita.ua" (Osvita.ua, 2019) show that the top ten included 4 HEIs from Kyiv, 1 – from Kharkiv, 1 – from Dnipropetrovsk region, 3 from Lviv and 1 - from Poltava HEI (Table 2).

Table 2

**The best private educational institutions of Ukraine 2019**



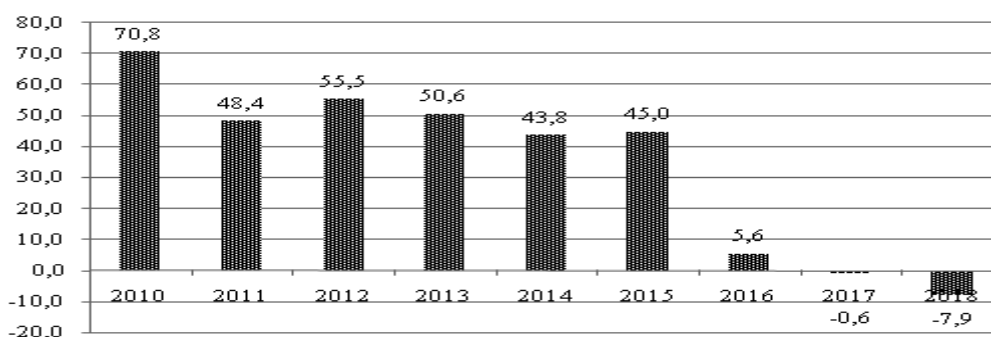
HEI	Place	Place in total rating	TOP 200 Ukraine	Mark of external independent testing for contract	Scopus	Total mark
Kyiv Medical University	1	78	131	8	147	286
Alfred Nobel University	2	80	103	49	142	294
Poltava University of Economics and Trade	3	90	109	88	113	310
Ukrainian Catholic University	4	100	161	1	167	329
Academy of Advocacy of Ukraine	5	120-121	144	58	167	369
Kyiv International University	6	123	143	72	159	374
Ukrainian-American University Concordia	7	131	201	19	167	387
Kharkiv Humanitarian University "Narodnaya Ukrainskaya Academy»	8	137-138	168	62	167	397
IT University "Step"	9	139-140	201	30	167	398
Lvov MedicaUniversity	10	143	201	35	167	403

Source: Information resource "Osvita.ua", 2019

Up to the rating "TOP 200 Ukraine" these universities are not in the top hundred. The index includes three complex components: the quality index of scientific and pedagogical potential, the quality index of education and the international recognition index. "The mark of external independent testing for contract" rating distinguishes two leaders - the Ukrainian Catholic University (1st place) and Kyiv Medical University (8th place), 4 more universities are in the top 50, and the rest are in the top hundred. The Scopus rating, based on tracking the number of scientific publications and their citations, shows a steady lag behind the highest-rated state and communal higher educational institutions.

Satu Kahkonen has marked, that the current model of higher education funding does not contribute to quality improvement; funding is not performance-based and results-based (Ministry of Education and Science, 2019).

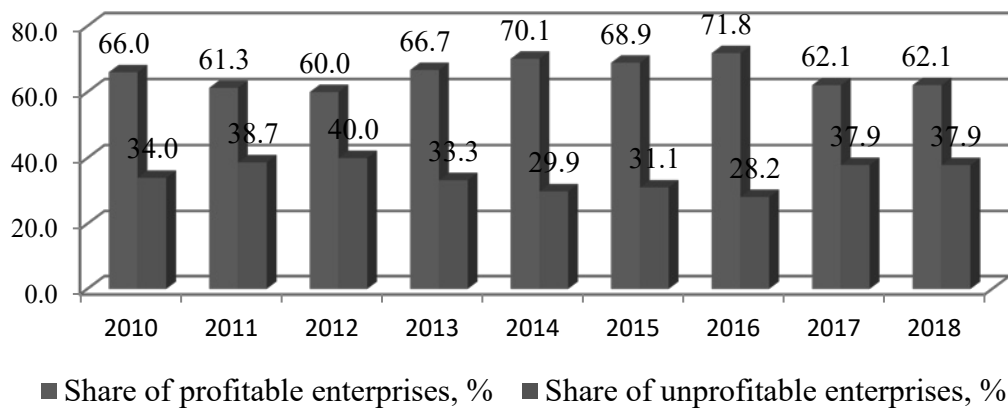
Analysis of the dynamics of the financial results of non-state HEIs, conducted according to data, indicates their stable and significant decrease during 2010-2018 (Access to the Truth, 2019). So, in the reporting period from 2010 to 2016 the volume of profit before tax decreased by more than 10 times, from 70,8 mln UAH in 2010 up to 5,6 mln UAH in 2016, and in 2017 - 2018 the overall financial result showed a negative value, the amount of losses reached 7,9 mln UAH (Figure 1).



Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 1. Dynamics of profit (losses) of non-state HEIs

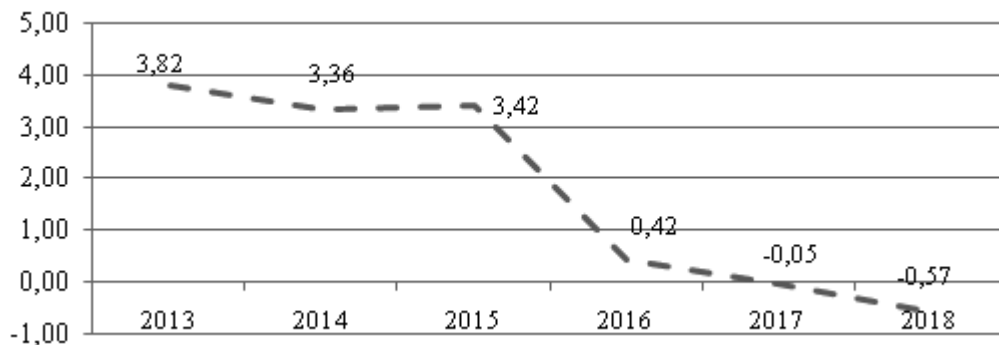
At the same time, the structure of non-state HEIs by financial results demonstrates the presence of a rather high share of unprofitable ones, which ranges from 34% in 2010 to 37.9% in 2018 (Figure 2).



Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 2. Structure of non-state HEIs by financial results

Despite the fact that the volume of assets used by HEIs remained relatively stable, their level of profitability decreased significantly (Figure 3). Since 2017 it had a negative value and showed a sharp drop in the rate of return on funds invested in HEIs activities.



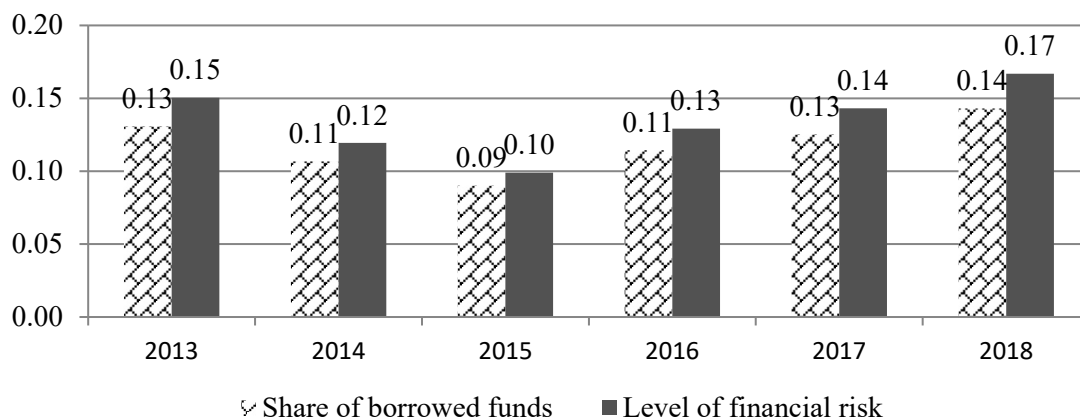
Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 3. Dynamics of profitability of assets of non-state HEIs

Thus, all this indicates the presence of a pronounced tendency to reduce productivity and reduce the level of efficiency of HEIs, which is confirmed by the dynamics of both absolute and relative indicators.

Regarding the characteristics of the financial state of the non-state HEIS, the following trends should be noted. Share of equity in the structure of sources of financing during 2013 - 2018 remains high and varies from 87% in 2013 to 91% in 2015, returning to 86% in 2018. This, on the one hand, indicates a very high level of financial autonomy of non-state HEIs, their ability to ensure financial stability in the capital structure and independence from external sources of funds. On the other hand, such a situation may demonstrate the inability of HEIs to apply for raising funds on a credit basis, which would expand the amount of general financing of educational activities and contribute to improving the quality of educational services.

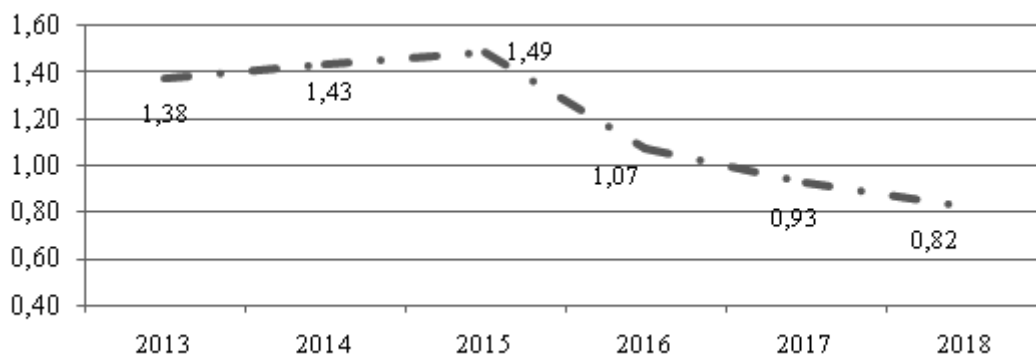
Accordingly, such a structure of funding sources provides a fairly low level of financial risk in the activities of the HEIs (Figure 4). Since the share of borrowed funds (among which current liabilities and collateral predominate) does not exceed 14%, respectively, the level of financial risk (with a critical value of the indicator equal to 1) reaches a maximum value of only 0.17 in 2018.



Source: authors' construction based on Ukrstat reports 2010-2018

**Fig. 4. Dynamics of indicators determining the level of dependence on external sources of financing of non-state HEIs**

At the same time, despite the rather low share of current liabilities in the structure of sources of funds, the solvency level of HEIs during 2013 – 2018 has significantly reduced (Figure 5).



Source: authors' construction based on Ukrstat reports 2010-2018

**Fig. 5. Dynamics of the current liquidity ratio of non-state HEIs**

Since 2015, the value of the current liquidity ratio, reflecting the ability to cover current liabilities with current assets, has been steadily decreasing, which indicates a decrease in the ability of the subjects under study to timely fulfill liabilities and generally negatively characterizes their financial condition.

**Conclusions**

So, based on the results of our analysis, we can conclude that the non-state ownership form of HEIs in Ukraine has sufficient potential to ensure its own financial autonomy, providing the opportunity to form entrepreneurial universities on their basis as a new organizational structure of an educational institution. In addition, the introduction of an entrepreneurial behavior model in their activities, involves the commercialization of research results, will ensure the growth of their financial results and, accordingly, ensure sustainable development on a long-term basis. In further research we will develop recommendations to amend current legislation on higher education in Ukraine. For instance, special attention will be paid to ensure real financial autonomy of public higher education institutions. The latter is regarded as a shift from public financing system to entrepreneurial model of state-owned universities. This includes focusing on profit-oriented activities of public universities and financial statements similar to private HEIs. Such a new approach to financial autonomy will allow to transform existing model of Ukrainian public universities into active entrepreneurship. Thus, a system of absolute and relative indicators would be developed to stimulate entrepreneurship of public HEIs.

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## THE PERFORMANCE OF THE KOSOVO CREDIT GUARANTEE FUND AND EFFECTS ON THE FINANCING OF THE REAL SECTOR ENTERPRISES IN KOSOVO

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**Abstract.** The main purpose of this study is to analyse the performance of the Kosovo Credit Guarantee Fund and the effects of this fund on the financing of real sector enterprises in Kosovo. To realize this study purpose, we first analysed the experiences of other countries in how they operate these guarantee funds of loans and through a comparative analysis using critical approach will compare the empirical findings of other authors for the performance of funds guarantors in different countries of the world.

The scientific methods used for conducting the empirical analysis are quantitative methods, where through secondary data we have analysed the performance of this fund, capital structure, investments, credit portfolio development as well as presentation of credit guarantee statistics. These data were obtained from the annual financial reports of the Kosovo Credit Guarantee Fund and from financial stability reports published by the Central Bank of Kosovo. Linear trend analysis and comparative analysis were applied to derive the results.

According to the econometric results we can conclude that the creation of the Kosovo Credit Guarantee Fund has had a positive impact on increasing the volume of loans to the real sector of Kosovo's economy. Based on trend analysis, there is a positive upward trend between credit guarantees and the volume of business loans, with the value of credit guarantees by the end of 2018 reaching € 41.66 million.

**Keywords:** *guarantee fund, portfolio, investment, SMEs, equity.*

**JEL code:** G11, G21, E22, G28

### Introduction

Credit guarantee funds are widespread in both types of economies, both in developed and developing economies, as they are considered as an active instrument for improving access to financial assets for entrepreneurial activities. These credit guarantee funds are often funded by public institutions and their implementation is often reflected in the recommendations of international organizations' policies. The popularity of credit guarantee funds has increased due to many initiatives that have been strengthened in such policies, where their capacity to move private equity and the ability to cover a large portion of public fund at the end of the program is very large.

The performance of credit guarantee funds is a very important issue in the operation of such schemes, as most credit guarantee funds are implemented in order to overcome the financial constraints of borrowers. The main idea behind this research is that it is necessary to conduct an empirical analysis of the banking sector in Kosovo, in order to have an accurate picture of how this guarantee fund has helped the businesses in Kosovo to have it easier access to commercial bank loans as well as other business activities. The research question of this study is: What are the effects of the creation of the Kosovo Credit Guarantee Fund on facilitating access to finance of real sector enterprises in Kosovo?

Despite their popularity, economic theory does not definitively determine the effect of credit guarantee funds on real sector financing. The actual effects of these programs have been addressed in various empirical studies, but there is little evidence available to date. This paper attempts to fill this gap by assessing the effect of the creation of credit guarantee funds on real sector financing through lending and the impact of these funds on the credit risk management process.

Based on the findings of recent studies regarding credit guarantee funds, it has been identified that these funds have not had an impact on the volume of loans, increasing the amount of long-term debt and then affecting the interest

rate reduction. Paid by firms. All other variables at firm level were insensitive, in particular, these studies were not able to find significant impact on the sensitive balance sheet items, suggesting that improving the financial structure had no direct "real effect". ", at least even in the short term (Beck, Klapper, Mendoza, 2008).

### Literature Review

There are a large number of studies that have addressed the importance of credit guarantee schemes, reflecting the growing interest of governments in different countries to support SME access to finance. All previous studies on credit guarantee schemes can be classified into three broad areas. The first consists of various surveys and surveys that describe the main features of warranty schemes. (eg. Beck, Klapper, Menadoza, 2008; Bennett, Doran, Billington, 2005).

The second consists of individual studies, including attempts to evaluate credit guarantee schemes (eg. Riding, Madill, Haines, 2007; Cowan, Drexler, Yañez, 2009). Finally, a third category of studies focuses on best practices and design issues, drawing on international experience (eg. Deelen, Molenaar, 2004; Green, 2003).

The World Bank in 2008 conducted a survey on the importance of credit guarantee schemes. The purpose of this survey was to provide an overview of the main features of funding for credit guarantees worldwide, such as eligibility criteria, coverage ratios, fees and financial performance reports from operating and financial activities. The sample of this research consisted of 76 credit guarantee funds operating in 46 developed and developing countries.

According to this survey, the results show that there are significant differences in the organizational features and rules of credit guarantee funds globally. It is worth noting that these differences are not systematically related to financial and economic development. One of the most interesting findings of this survey is that some countries in their credit guarantee funds use risk-based pricing or risk management mechanisms (Beck, Klapper, Menadoza, 2008).

Recent empirical studies show that credit guarantee schemes have contributed positively to SMEs' access to finance. Although measuring the impact of these funds remains a challenge for many researchers, some recent studies have concluded that these funds have had a positive impact on businesses' access to finance, otherwise if these funds are not implemented then these businesses' access in finance will be very limited.

For example, in Canada, according to a study conducted by the authors Riding, Madill and Haines (2007) estimate that 75% of credit guarantee funds are used by firms that would not be able to obtain any bank loans. According to a study conducted in Chile in 2006 by the authors Larrain and Quiroz find that credit guarantee funds increase the probability of small firms to borrow by 14%. At the same time, these funds can add limited value and be considered costly when they are not well designed (Larraín, Quiroz, 2006).

A study by authors Bennett, Doran, & Billington in 2005 identified the key factors that determine the success of credit guarantee funds in improving businesses' access to finance. These authors in their study classified the success and failure factors of credit guarantee funds at the macroeconomic and microeconomic level. Credit guarantee funds serve as an accelerator for the development of the financial sector. In other words, these funds are not a necessary condition for the development of the financial sector.

In fact, in those countries where the need for financial sector development is very grate, credit guarantee funds are less likely to be successful in promoting this development. A credit guarantee fund provides the intermediary to accelerate bank reductions in unregistered markets, but is unable to overcome serious shortcomings in the structure of financial markets to achieve financial sector development. (Bennett, Doran, Billington, 2005).

According to Honohan (2008) appropriate criteria, low tariffs and interest coverage ratios may result in providing guarantees to enterprises that would have the financial capacity to obtain any bank loan. Credit guarantee funds around the world vary from basic features to their performance, but there is a growing tendency to identify good operating



practices. The failure of some credit guarantee funds in the 1980s led to an intense debate over their role. (Levitsky, 1997).

The main objective of a credit guarantee fund is to help real sector companies that have a higher level of credibility but do not have sufficient collateral to get a loan with a flexible interest rate to improve investment projects. A successful credit guarantee scheme should be able to help riskier businesses obtain funding by reducing exposure to credit risk and limiting transaction costs as well as guaranteeing late payment. However, the question is whether such requirements can be translated into a credit guarantee fund that is not only sustainable (eg Italy's Confidi schemes or SBLA's in Canada) but also creates financial and economic surpluses (Lapachi, Ormotsadze, 2012). There are four main types of guarantee funds (Green, 2003) as follows:

1. *Public Guarantee Funds*: these funds are created by public policies. They usually include various state subsidies, which are managed by a private organization. So, if the loan is borrowed, the guarantee is paid directly from the government budget. This gives this fund higher credibility within the banking sector.
2. *Corporate Guarantee Funds*: these funds are generally funded and operated by the private sector, e.g. banks and companies. Corporate guarantee funds are administered by corporate managers and generally these corporations benefit from direct involvement of the banking sector.
3. *International Credit Guarantee Funds*: these funds are usually government initiatives of various international organizations, e.g. ILO, UNIDO or European Investment Fund. Often, such schemes combine credit guarantee fund with technical assistance to firms.
4. *Mutual credit guarantee funds*: these funds are private and independent organizations formed and administered by borrowers with limited access to bank loans.

Figueiredo and Gasper (2010) identify three main models for credit guarantee funds: mixed model with private guarantee and public guarantee entities (a type of public-private partnership) - very common in old EU member states; public guarantee fund - also very frequent mainly in the new EU member states (eg Invega Ltd, Lithuania) and fully private (mutual) guarantee fund - not very frequent. (eg. SOCAMA) (Lapachi, Ormotsadze, 2012).

### **Kosovar Credit Guarantee Fund**

Real sector enterprises, especially new businesses in Kosovo, face many difficulties in accessing financial resources through commercial banks. Interest rates on loans in 2014 were 10.6%, while in 2015 they were around 10%, which are estimated to be very high for these businesses. This interest rate is one of the highest in the region. (GAP, 2015).

Based on the data of the Central Bank of Kosovo, over 50% of the loan portfolio in the banking sector in Kosovo belongs to the trade sector. Whereas, the agriculture sector as part of the production sector accounts for only 3.6% of loans, while the ratio of loans to total deposits in Kosovo banks is 78.1%. So, this shows that commercial banks in Kosovo are very liquid and even have unused liquidity (CBK, 2014).

The Kosovo Credit Guarantee Fund is established by law. The Law establishing the Fund was an initiative of the Ministry of Trade and Industry, supported by USAID in Kosovo, through the EMPOWER credit support program. This law was approved by the Assembly of Kosovo on January 8, 2016 and entered into force on January 23, 2016 (KBA, 2016).

This fund is a local, independent, sustainable institution providing credit guarantees to financial institutions to cover up to 50% of credit risk for micro, small and medium enterprises. The Kosovo Credit Guarantee Fund has been created to facilitate access to finance for these businesses, thereby creating new jobs, increasing local productivity, enhancing values, improving trade balance as well as enhancing opportunities for the economic sectors, in Kosovo (KBA, Banking periodical, 2016).

This fund provides credit guarantees to all registered financial institutions for certain SME loans. All principles of credit guarantees are set out in the Law on Establishment of Kosovo Credit Guarantee Fund. This fund may issue credit guarantees or other products and services approved in accordance with this law and with the approval of the Board of Directors. All financial institutions licensed by the CBK may apply for registration with the KCF, and then this fund will evaluate these financial institutions based on the CBK methodology for assessing risk, other institutional factors and credit portfolio risk. (Law 05/L-057, 2016).

The following will elaborate on some of the principles and criteria set out in the law establishing the Kosovo Credit Guarantee Fund. To qualify for a credit guarantee loan, the minimum criteria such as; the loan must be for a qualified business, the loan must be for new financing, for lawful purposes, the loan may not exceed the maximum value of the principal specified in the guarantee agreement and this loan must also meet all the criteria and the terms specified under the credit guarantee agreement.

The financial institution that subscribes to this fund pays the guarantee fee at the time the loan is subject to the credit guarantee and every year thereafter for the outstanding amount of the principal of the guaranteed loan (Law 05 /L-057, 2016). KCGF aims to build a partnership with all financial institutions operating in the local market, including banks, non-bank financial institutions and microfinance institutions. The process of registering banks with this fund started in April 2016, while in early May 2016, banks started submitting their registration documents. Banks registered with the Kosovo Credit Guarantee Fund at the end of 2016 were: Business Bank, NLB Bank, Raiffeisen Bank, Banka Ekonomike, ProCredit Bank, TEB SHA and National Commercial Bank (KCGF, 2016).

The Kosovo Credit Guarantee Fund provides income from deposits and investments of KCGF assets and collects fees charged on credit guarantees. This fund uses all these revenues and fees to cover its operating expenses and the costs of paying the amounts due on the credit guarantees. The sources of financing of this fund are: fund capital donated by the Government of the Republic of Kosovo and donors (in the form of grants), guarantee fees paid by other financial institutions registered in this fund, interest and income of investments from deposits and equity investments of the fund, other capital contributions and borrowing.

In special cases, the KCGF may require emergency funding, so this funding is required when the Board of Directors considers that this fund does not have sufficient financial resources to meet its objectives. Therefore, in the financial plan, for emergency financing of this fund, the following steps are foreseen: increase of fees charged to the financial institutions that are registered in this fund, receiving of grants or donations, borrowing of funds and acquiring capital supplement, which creates additional interest or additional investment income (Law 05 / L-057, 2016).

KCGF bodies are the Board of Directors and Managing Director. The Board of Directors consists of seven members: one representative from the Ministry of Trade and Industry, one representative from the Ministry of Finance, the KCGF Managing Director, and four other independent donor-elected members. KCGF Managing Director must have expertise in banking and finance. The minimum capital of this fund should be € 300,000, which capital is required to be kept at this minimum by KCGF (Law 05 / L-057, 2016).

### **KCGF performance, capital structure and investment**

The capital of the Kosovo Credit Guarantee Fund consists of the capital donated or funds provided to KCGF by the Government of the Republic of Kosovo and international donors. In 2016 the value of the donated capital was € 7,345,141, while in 2017 this value was doubled to € 15,790,921. This institution multiplies its capital five times, while the capital dedicated to Agro doubles its capital twice. This restriction affects the Kosovo Credit Guarantee Fund to have sufficient capital to absorb all potential losses that may result from its activity (KCGF, 2017).

Table 1

### **The amount of donors and donated funds for FKKG's capital**

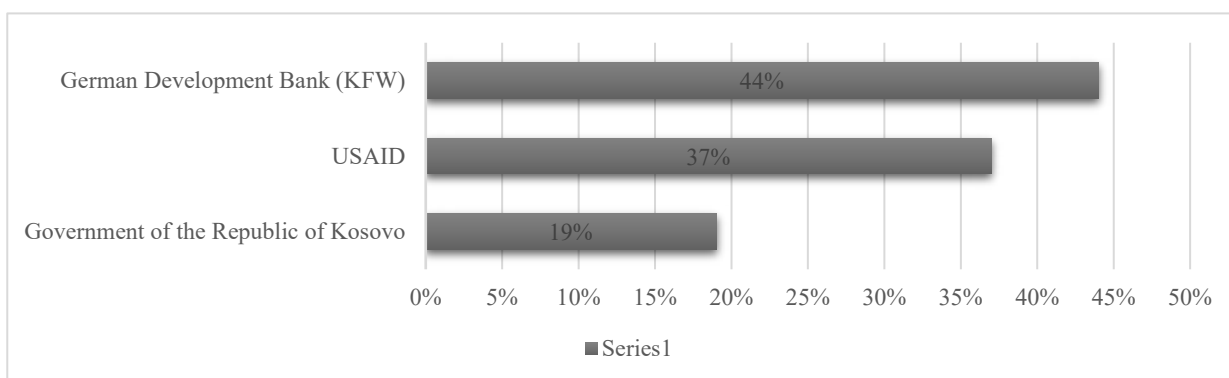
Donors	Funds donated in 2016	Funds donated in 2017	Total	%
<b>Government of the Republic of Kosovo</b>	2,000,000	1,000,000	3,000,000	19%
<b>USAID</b>	5,345,141	445,780	5,790,921	37%
<b>German Development Bank (KFW)</b>	-	7,000,000	7,000,000	44%
<b>Total</b>	7,345,141	8,445,780	15,790,921	100%

Source: Data Processing by Authors (2019)

During 2017 the fund has reached the capacity to guarantee close to 64 million euros and taking into account that the maximum coverage is 50% of the credit issued by the commercial bank registered in this fund. This value implies that 128 million Euros of potential loans issued in the banking market in Kosovo, thus affecting the access to finance and the development of businesses in our country.

Table 1 shows the donor amounts and funds donated for the Kosovo Credit Guarantee Fund capital. Based on this table we can see that the Government of the Republic of Kosovo in 2016 donated 2 million euros for the capital of this institution, while the United States Agency for International Development (USAID) donated 5,345,141 € during this year, thus becoming one of the main actors that has contributed most to the consolidation of this guarantee fund.

While in 2017, the Government of the Republic of Kosovo contributed € 1 million to the equity of this fund, USAID with € 445,780, and the German Development Bank with € 7 million. Thus, in 2017, the German Development Bank is estimated to be the main donor that has contributed to the increase of the KCGF guarantee capacity (44%).



Source: Data Processing by Authors (2019)

Fig. 1. Participation of FKGGK donor's percentage

Increasing the amount of guarantees issued, as one of the two main sources of funding of this fund, also affects the revenues and financial sustainability of this institution. The increase in donated capital has an impact on the two main sources of funding of this institution. Another very important source of funding for this fund is KCGF's capital investment income. During 2017, the fund invested € 8,500,000 in financial institutions registered in this fund, mainly with one-year maturity. Funds received as capital donated by the German Development Bank at the end of 2017, were invested at the beginning of 2018 in these financial institutions, affecting the increase of investment cooperation (KCGF, 2017).

Investment income and guarantee fees are used by the Kosovo Credit Guarantee Fund to cover its operating expenses and the costs of paying the losses on credit guarantees. Almost any accumulated surplus of fees in excess of operating expenses and eventual credit losses is held by the fund for the purpose of its operation and is not diversified out of the portfolio in any form, including dividend (KCGF, 2016).

In 2017, KCGF has also signed an agreement with another international donor, which is the Swedish Agency for International Development and Cooperation (SIDA), mediated by the Swedish Embassy in Kosovo, worth 10 million

euros. This arrangement, which provides a good risk coverage for the KCGF loan guarantee portfolio, reflects the high credibility of this institution in the banking system in Kosovo.

### **Impact of the Kosovo Credit Guarantee Fund on the financing of real sector enterprises in Kosovo**

To better understand the economic impact and the need to establish a Kosovo Credit Guarantee Fund, we are first analyzing some of the key issues of micro, small and medium-sized businesses in Kosovo, and then a comprehensive analysis of the effects of this fund on business financing in Kosovo. The question arises: Why is the financing of micro, small and medium enterprises always in the spotlight?

If we analyze the real and practical situation in the economies of different countries, we find that not all small and medium-sized businesses grow into large multinational enterprises and have an impact on economic development and job creation. There are only a few of these businesses that are fortunate enough to make economic progress, while the vast majority of these businesses face various challenges to survive in the marketplace.

Everywhere in the world, micro, small and medium-sized enterprises make up the largest number of businesses, where their individual contribution is very small, and their joint contribution is very large, as almost over 80% of the world's population are employed precisely in the SME sector. Therefore, decision-making policies consider that access to finance is one of the most important determinants of a country's economic development.

Promoting the banking sector as a basis for financing these businesses remains one of the major and most challenging issues in commercial bank credit policies. The additional risks and costs associated with financing these businesses are known from various economic studies and analyzes. But the financial institutions that issue loans to these businesses are concerned not only with the risk of lending but also with the high costs of supervision, which can be numerous in terms of the number of loans issued, although the amount involved low (KBA, The Kosovo Banker, 2016).

Various economic studies and analyzes have made different assessments of what appropriate policies should be taken by the government in order to assist businesses in their economic development and progress and to contribute to employment growth in the country. These policies should be aimed at creating favorable conditions for these businesses to have easier access to finance. Therefore, the introduction of credit guarantee schemes is intended to facilitate micro, small and medium-sized businesses access to finance.

With the creation of this fund, Kosovo will reduce credit risk, and the fund will encourage financial institutions to lend more to SMEs, increase loan amounts, expand products and services for these businesses, such as and improve credit conditions. The obstacles that this fund enables Kosovar businesses to overcome are: lack of collateral, limited credit registry or credit history.

Additivity is a key principle of the Kosovo Credit Guarantee Fund. Prior to 2015, all banks and other financial institutions would not issue loans to these businesses without the guarantees provided, and now there is growth that allows the new client to grow. This fund through credit guarantees and the additive function has promoted the issuance of new loans, money in the economy and job creation. The purpose of the fundraising is to provide some vulnerable categories (women, minorities, farmers, entrepreneurs and youth) better opportunities for business development and growth (KBA, The Kosovo Banker, 2016).

The parameters for micro, small and medium-sized businesses qualified for under-guaranteed financing are: businesses with less than 250 employees, businesses that are eligible but do not have sufficient collateral or credit history, businesses that require long-term financing, businesses that can increase domestic productivity and reduce imports as well as increase exports, less favored economic groups, and businesses that have the potential to create new jobs. Only new loans can qualify for a guarantee.

Issuing guarantees to cover refinancing or credit restructuring is normally not allowed, as this fund is focused on helping micro, small and medium-sized businesses through financing, rather than helping financial institutions with their non-performing loans. The types of loans that can be covered by KCGF credit guarantees are: long-term, investment loans (for the purchase of machinery, equipment, technology and immovable property related to business operations) and working capital loans (KCGF, 2017).

### Credit portfolio development and credit guarantee statistics in Kosovo

The Kosovo Credit Guarantee Fund started accepting loan guarantees from financial institutions at the end of 2016. The activity of this fund during 2017 expanded to include all major banks in the guarantee agreement. The portfolio of credit guarantees in 2017 is characterized by growth and high quality. KCGF during 2017 brokered € 25.5m worth of lending to 700 micro, small and medium-sized businesses, backed by a € 12.3m guarantee amount, achieving cumulative amounts of approved loans worth € 30m for 785 SMEs, backed by a € 14.4 million guarantee (KCGF, 2017).

The following will provide some statistics on the amount of loans approved, the amount of loans disbursed, total outstanding loans, the amount of guarantees approved and total outstanding guarantees and the number of loans for the period September 2016 - December 2018. During 2016, the total amount of loans approved amounted to 4,505,500 €. From September 2016 to December 2016, the amount of loans approved in the Kosovo Credit Guarantee Fund increased from 405,000 € to 4,505,500 €, while the amount of loans disbursed amounted to 4,353,526 €.

Table 2

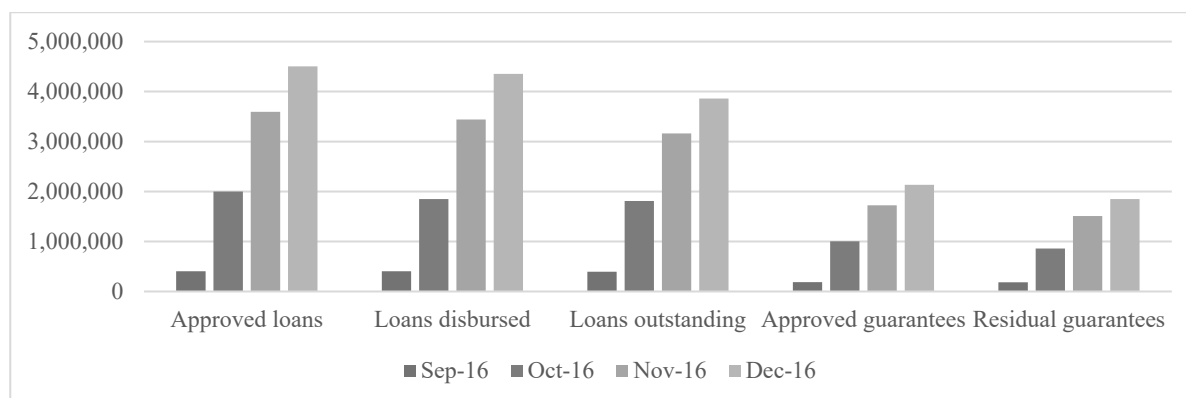
#### KCGF loan and credit statistics for September 2016 - December 2016

Description	Sep-16	Oct-16	Nov-16	Dec-16
<b>Approved loans</b>	405,000	2,001,000	3,594,000	4,505,500
<b>Loans disbursed</b>	405,000	1,849,000	3,442,000	4,353,500
<b>Loans outstanding</b>	393,896	1,810,037	3,160,799	3,859,526
<b>Approved guarantees</b>	187,500	1,002,000	1,723,500	2,133,950
<b>Residual guarantees</b>	182,500	859,092	1,509,385	1,848,846

Source: Data Processing by Authors (2019)

Based on the data presented in table 2 we can see that the amount of guarantees approved in September 2016 was 187,500 €, much of which at the end of this year increased to 2,133,950 €. One of the main reasons that contributed to the significant increase in the amount of credit guarantees approved by KCGF was the amount of funding donated by international donors, notably USAID and the German Development Bank.

The amount of guarantees approved for this four-month period only increased by 1,946,450 €. The year 2016, although considered to be the first year of operation of this fund, for a short period of time, has managed to establish a high level of confidence in the banking industry in Kosovo. During this year the total number of guaranteed loans reached 86 loans from all financial institutions registered in this fund.



Source: Data Processing by Authors (2019)

Fig. 2. **Graphic presentation of statistics on loans and guarantees approved by KCGF - year 2016**

According to the Kosovo Credit Guarantee Fund data for 2016, out of 86 guaranteed loans, 34 loans are from Prishtina region, 17 loans from Prizren region, 9 loans from Peja, 8 loans from Gjakova and Gjilan region, 7 from Ferizaj and 3 credits from Mitrovica region. All these loans to be guaranteed by KCGF have met all the parameters set by law no. 05 / L - 057 on the establishment of this fund.

Regarding the amount of loans approved by KCGF, taking into account the regional criteria, for 2016, the region of Prishtina dominates with 1,729,000 €, followed by the region of Prizren with 1,307,000 €, Mitrovica with 365,000 €, Ferizaj with 343,000 €, Peja with 297,500 €, Gjilan with 264,000 € and Gjakova with 200,000 € worth of loans approved by the Kosovo Credit Guarantee Fund.

Table 3

**Distribution of KCGF loans and credit guarantees by regions for 2016**

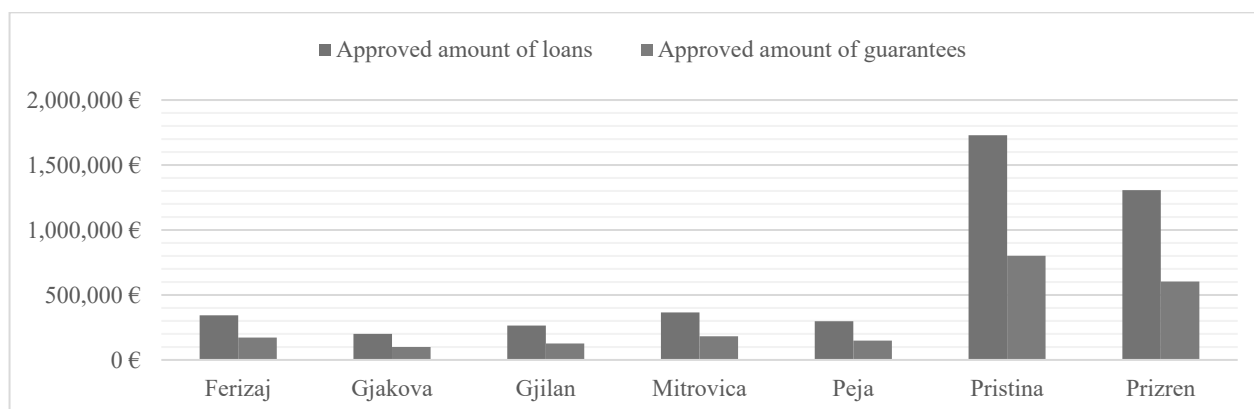
Loans by regions	Approved amount of loans	Approved amount of guarantees
<b>Ferizaj</b>	343,000 €	171,500 €
<b>Gjakova</b>	200,000 €	100,000 €
<b>Gjilan</b>	264,000 €	127,000 €
<b>Mitrovica</b>	365,000 €	182,500 €
<b>Peja</b>	297,500 €	148,750 €
<b>Pristina</b>	1,729,000 €	801,000 €
<b>Prizren</b>	1,307,000 €	603,200 €

Source: Data Processing by Authors (2019)

According to figure 3 we can see that the largest amount of credit guarantees of this fund by region is in Prishtina (801,000 €), while the smallest approved amount of credit guarantees was in the Gjakova region in the amount of 100,000 €. Therefore, it is worth noting that this fund covers only 50% of the total amount of loans approved by this institution.

If we consider sector-specific loans for 2016, the wholesale and retail trade sector (33%) dominates the total amount of loans approved by this fund, then 26% in the manufacturing sector, 14% in the agriculture, forestry sector, fishing and 28% in other sectors. In the wholesale and retail sector, loans in the amount of 1,479,000 € were approved and credit guarantees in the amount of 675,200 € were approved.

This fund in the manufacturing sector approved loans in the amount of 1,164,000 € and in this sector 527,500 € were guaranteed. It is worth noting that the manufacturing sector is one of the sectors that should be further supported by KCGF in order to facilitate these businesses greater access to loans granted by the banking sector in Kosovo.



Source: Data Processing by Authors (2019)

Fig. 3. **Graphic presentation of KCGF loans by regions for 2016**

During this year, the amount of approved loans to the agricultural, forestry and fisheries sector amounts to 615,000 €, while the approved amount of credit guarantees in this sector was up to 307,500 €. Most of the credit guarantees approved by KCGF for 2016 are intended for agricultural production and equipment (583,000 €), purchase of equipment and machinery (571,000 €), construction and renovation (556,250 €) and other (423,000 €).

In 2017 the amount of loans approved by the Kosovo Credit Guarantee Fund amounted to 30,018,326 €, where compared to the same period of the previous year, we have an increase in the amount of loans approved for 25,512,826 €. Such an increase of this fund is as a result of the continuous increase of funds donated by various international donors.

Table 4 presents the quarterly data on the approved loan amount, active loans, approved loan amount and total active guarantees.

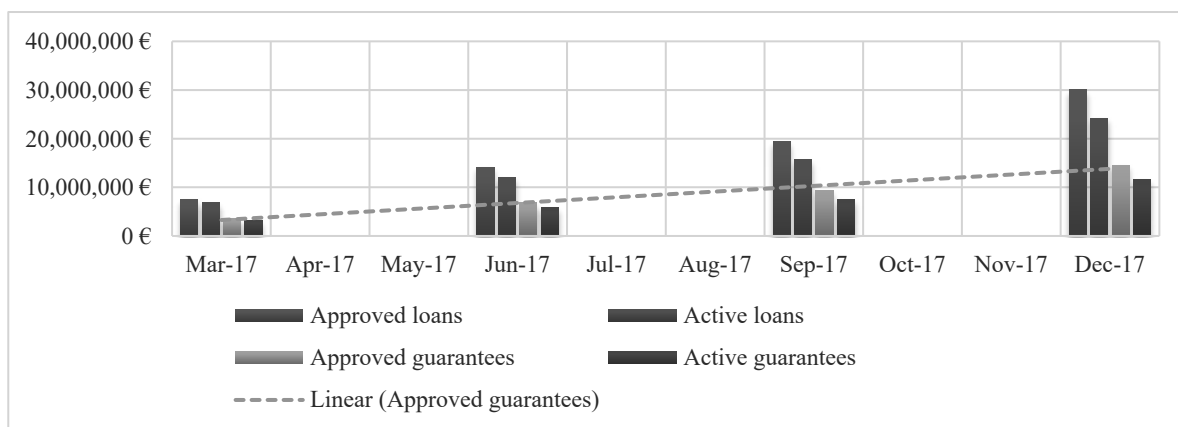
Table 4

**KCGF loan and credit statistics for 2017**

Description	March 2017	June 2017	September 2017	December 2017
<b>Approved loans</b>	7,513,500 €	14,103,300 €	19,404,600 €	30,018,326 €
<b>Active loans</b>	6,800,571 €	12,005,742 €	15,623,288 €	24,216,834 €
<b>Approved guarantees</b>	3,593,740 €	6,806,570 €	9,341,370 €	14,443,018 €
<b>Active guarantees</b>	3,265,159 €	5,798,604 €	7,509,931 €	11,657,826 €

Source: Data Processing by Authors (2019)

During this year the approved amount of guarantees amounted to 14,443,018 €, while the value of total active guarantees amounted to 11,657,826 €. The total number of loans guaranteed by KCGF during 2017 was 785 credits, with 70 credits belonging to the agricultural, forestry and fisheries sector, 134 credits in the manufacturing sector, 319 credits in wholesale and retail trade, 30 credits in the sector of construction and 232 other loans belong to other sectors. Most of the loans in this fund are earmarked for the working capital of these firms that are commercial bank borrowers who are registered as active participants in the Kosovo Credit Guarantee Fund.



Source: Data Processing by Authors (2019)

**Fig. 4. Graphic presentation of statistics on loans and guarantees approved by KCGF - year 2017**

Considering the regional criterion regarding the distribution of KCGF loans, then the Pristina region dominates this year with 324 approved loans amounting to 12,861,526 € and with a guaranteed amount of 6,172,943 €. According to these statistics, the Prizren region is second in terms of the number and amount of loans approved by KCGF for credit guarantees. The number of loans in this region amounts to 131 loans or 5,457,000 € and 2,639,640 € is the amount of credit guarantees in the Prizren region for 2017.

Table 5

**Distribution of KCGF loans and credit guarantees by regions for 2017**

Loans by regions	Approved amount of loans	Approved amount of guarantees
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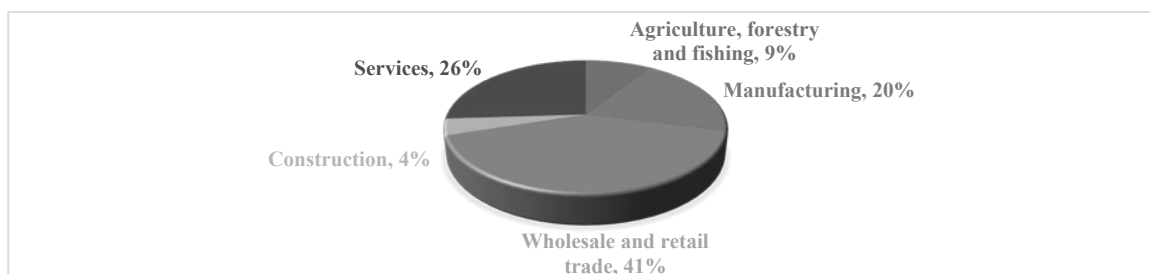


<b>Ferizaj</b>	2,345,000 €	1,120,500 €
<b>Gjakova</b>	1,682,000 €	825,000 €
<b>Gjilan</b>	2,267,100 €	1,094,950 €
<b>Mitrovica</b>	2,733,200 €	1,291,350 €
<b>Peja</b>	2,672,500 €	1,298,635 €
<b>Pristina</b>	12,861,526 €	6,172,943 €
<b>Prizren</b>	5,457,000 €	2,639,640 €

Source: Data Processing by Authors (2019)

According to data from the beneficiaries of these credit guarantee schemes, divided into different sectors for 2017, the foreseen number of employees to be employed in these sectors, who are backed by credit guarantees from this fund, was 5,365 employees. Thus, during 2017, 4,164 workers were employed in these sectors, the most in the services sector (1,164 workers) and the wholesale and retail trade sector (1,123 workers).

During this year, KCGF has supported the wholesale and retail sector (5,892,080 €) with credit guarantees, followed by the services sector with 3,854,150 €, the manufacturing sector with 2,797,140 €, agriculture, forestry and fishing with 1,245,735 €. and the construction sector with 653,913 €. The distribution of KCGF portfolio across different sectors has continued to follow the same trend, which dominates the country's economy.



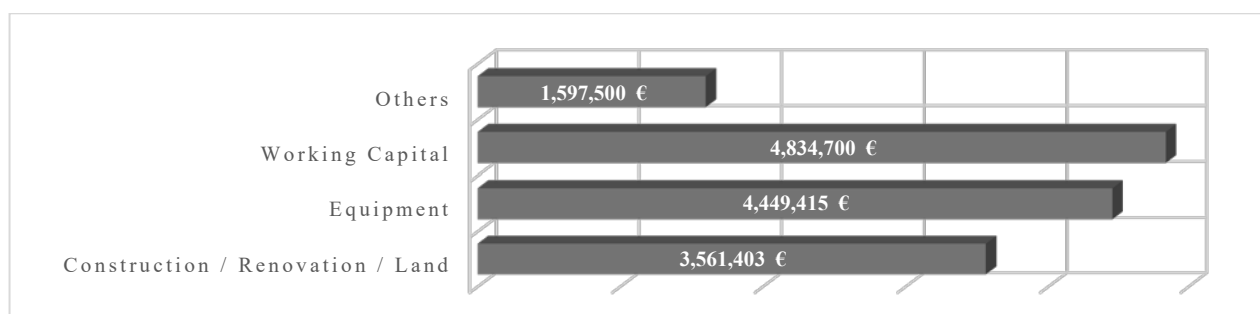
Source: Data Processing by Authors (2019)

Fig. 5. Sector credit allocation by KCGF for 2017

As the agricultural sector continued to have a low share, at around 4% of the total banking sector, this share of KCGF's total portfolio was 9%. Given that the main objective of this fund is to stimulate sectors that create added value for the economy, there is still more work to be done to strengthen the production and agribusiness enterprises, which are the driving forces of the economy and contributing to increased employment and in promoting social welfare in general (KCGF, 2017).

Approximately 27% of loans approved in 2017 were invested in equipment (production machinery, agricultural equipment, other equipment), 23% in land, construction or renovation, 37% in working capital and 13% in others. Investments in fixed assets (equipment and construction, renovation and land), which are revenue generating, dominated the guaranteed potfollow during 2017.

Equally important, working capital investments to expand the business had significant participation in the guaranteed portfolio. Creating new jobs as one of the main objectives of establishing this fund, 700 credits for micro, small and medium businesses during 2017 provided 944 new jobs. These new jobs come mainly from the 68% trade and services sectors (KCFG, 2017).



Source: Data Processing by Authors (2019)

Fig. 6. Destination of KCGF loans for 2017

A large portion of KCGF's loan portfolio is dedicated to supporting women in business. Women today participate with a low rate of formal borrowing compared to men, being forced to obtain part of the financing for their businesses from informal financing. This is related to the lack of collateral, as only 15% of them have registered property in their own name. During 2017 out of 700 loans to SMEs, 11% were issued to women business owners.

The total amount of loans approved for 2018 by the Kosovo Credit Guarantee Fund amounts to 87,159,138 €. If we compare the amount of approved loans of this fund with the same period of the previous year, then we notice an increase of 57,140,812 €. During 2018, we can see a positive growth trend of total active loans, total amount of credit guarantees, total active guarantees as well as the total number of loans approved by this fund.

In December 2018, the total number of loans guaranteed amounted to 2,262 loans, with most of these loans being distributed in the Prishtina region (1300 loans), these loans being mainly allocated to the wholesale and retail sector. (886 credits) and their main destination is the working capital of businesses (844 credits).

Table 6

KCGF loan and credit statistics for 2018

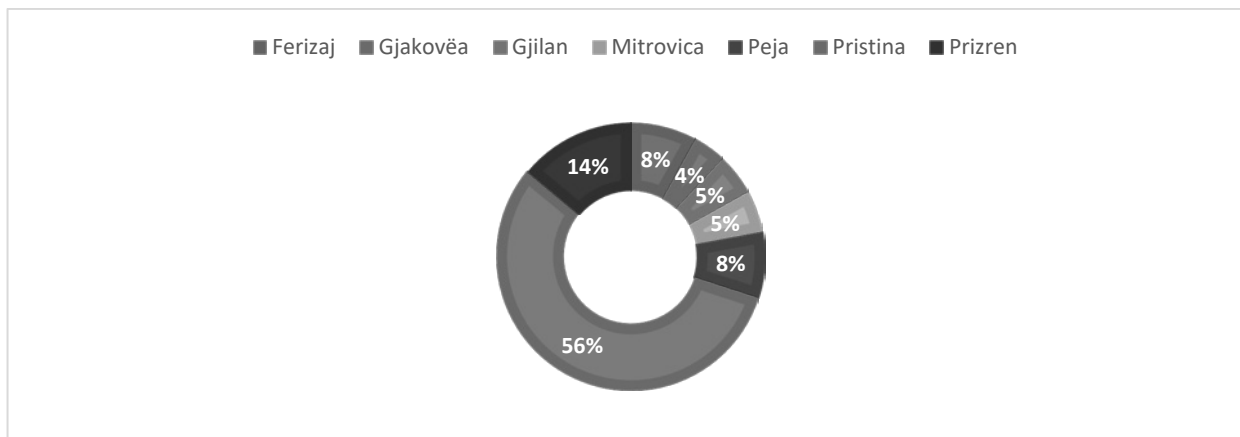
Description	March 2018	June 2018	September 2018	December 2018
Approved loans	42,310,430 €	54,531,956 €	66,407,656 €	87,159,138 €
Active loans	32,300,868 €	40,676,195 €	47,282,788 €	61,299,244 €
Approved guarantees	20,326,670 €	26,021,483 €	31,695,333 €	41,665,724 €
Active guarantees	15,512,003 €	19,363,911 €	22,509,564 €	29,334,911 €

Source: Data Processing by Authors (2019)

Based on table 6 we can conclude that the total amount of credit guarantees approved in December 2018 amounts to 41,665,724 €. Considering the distribution of loans by region and referring to the approved amount of credit guarantees, the region of Prishtina is still dominated by 23,356,706 € during 2018. Figure 7 shows the percentage distribution of loans approved by KCGF for 2018.

In the region of Prizren 12,131,000 € were approved this year and credit guarantees in the amount of 5,902,420 € were approved. It is worth noting that the Prizren region remains the second largest region in terms of the total amount of loans provided by KCGF. In the Peja region 176 loans or 7,096,326 € were approved and the total amount of credit guarantees amounted to 3,439,948 €.

All approved loan guarantee amounts have helped over the last few years, a large number of businesses to obtain loans given the fact that these businesses in the past have had great difficulty in obtaining loans at commercial banks in Kosovo.

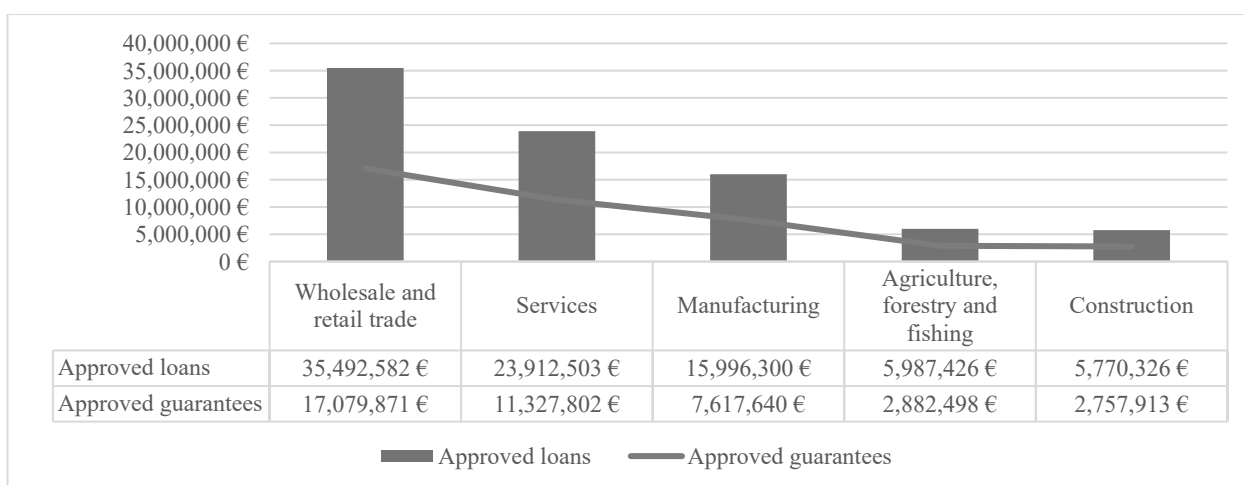


Source: Data Processing by Authors (2019)

Fig. 7. Distribution of loans by KCGF regions for 2018

One of the main goals of this fund is to increase lending to businesses mainly in the manufacturing and agriculture sectors. In 2018, the approved amount of credit guarantees in the manufacturing sector amounted to 7,617,640 € or 18% of the total loan portfolio guaranteed by KCGF. In this sector, out of the total number of credit guarantees approved, it has affected the employment of 2,106 persons during 2018 in the manufacturing sector enterprises.

In the agriculture, forestry and fishing sector the total number of loans guaranteed by KCGF amounted to 160 loans and the total amount of these approved guarantees amounted to 2,882,498 €. The effects of these credit guarantees have significantly influenced the growth of lending to this sector by commercial banks, even if we compare the total number of loans approved in this sector with the same period of the previous year, then we can notice that we have increase from 70 credits to 160 guaranteed credits for 2018. As a result, in this sector for 2018, 425 employees out of 627 were hired to be employed by these firms that have received agricultural loans and are part of the credit guarantee fund.



Source: Data Processing by Authors (2019)

Fig. 8. Distribution of loans and credit guarantees by major economic sectors - Year 2018

Based on the KCFG loan statistics, it is noticed that the retail and wholesale sector is one of the sectors with the largest amount of loans guaranteed by this fund. The total value of credit guarantees for 2018 in this sector amounted to € 17,079,871, and out of 4,536 employees that were foreseen to be employed in this sector, 3,376 were employed for this year. The impact of credit guarantees on the economic well-being and development of the real sector in Kosovo is enormous, always based on the official statistics presented in this study. During 2018, the KCGF loan portfolio was mainly earmarked for working capital (33%), equipment (28%), construction, renovation and land 26% and others (13%).

**Econometric analysis and findings of the study**

First, in this analysis we will present descriptive statistics and normal distribution for the variables included in this econometric model, correlation analysis, linear regression, analysis of variance via ratio test and T-test.

Table 7 presents the descriptive statistics for the dependent variable (amount of loans) and the independent variable (credit guarantees). Within the descriptive statistics we will analyze the minimum and maximum value, mean, standard deviation and variance.

Table 7

**Descriptive statistics on the amount of bank loans and credit guarantees**

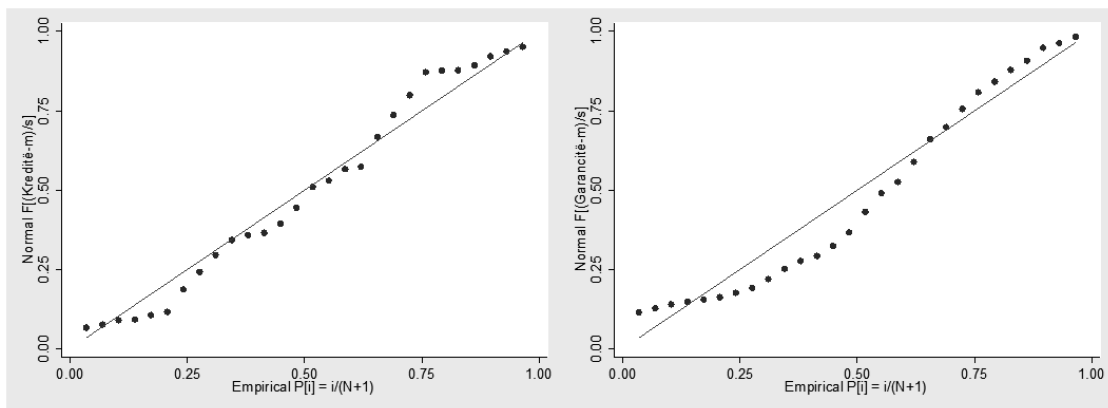
Variable	N	Minimum	Maximum	Mean	Std. Deviation	Variance
BL	28	2184.5	2755.5	2455.711	180.7178	32658.93

<b>CG</b>	28	187.5	41665.72	15167.12	12439.46	1.55e+08
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Source: Author's calculations in the Stata program

According to the data in the descriptive statistics table, the minimum value of bank loans in September 2016 was 2.18 billion €, while this value at the end of 2018 reached 2.75 billion €. The average value of loans is 2455.71 with a standard deviation of 180.71. Based on the results of the preliminary analysis, during this period there has been a positive trend in increasing the volume of business loans granted by the banking sector in Kosovo. However, the minimum value of credit guarantees in September 2016 was 187,500 €, which amounted to 41.66 million € at the end of 2018.

During the period 2016 - 2018, we had a significant increase in the amount of credit guarantees, which has also had a positive impact on the increase of banks' lending to various sectors of the economy. The following figure shows the normal distribution of the variables included in this empirical analysis.



Source: Author's calculations in the Stata program

Fig. 9. Normal distribution of the amount of loans and credit guarantees

The figure above shows us that the two variables included in this analysis have normal distribution of data and are linearly correlated with each other. This fact is verified because in both graphs, the points are placed very close to the regression line which implies that the values of X and Y are correct, except for certain deviations that are part of the stochastic variable. The form of the general equation for testing this hypothesis is as follows:

$$Y = b_0 + b_1 X_1 + e$$

Ku:

Y – amount of bank loans (dependent variable)

$b_0$  and  $b_1$  – the model parameters coefficient

$X_1$  – credit guarantees (independent variable) and

$e$  – stochastic variables

After specifying this econometric model and explaining the variables incorporated in it, this model takes this form:

$$BL = b_0 + b_1 CG + e$$

Table 8

**Results of standard linear regression analysis on the impact of credit guarantees on credit volume**

<b>BL</b>	<b>Coef.</b>	<b>Std. Error</b>	<b>t</b>	<b>P &gt;  t </b>	<b>95% Conf. Interval</b>	<b>95% Conf. Interval</b>
<b>CG</b>	0.0141763	0.0006229	22.76	0.000	0.012896	0.0154567
<b>_cons</b>	2240.696	12.13042	184.72	0.000	2215.762	2265.631

Source: Author's calculations in the Stata program

$$BL = 2240.696 + 0.0141763 CG + 0.0478$$

These results show that the creation of a credit guarantee fund has had a positive impact on the growth of loans to the real sector of the economy. The value of the coefficient of determination in this case is 95.22%, indicating that for this value, the independent variable explains the dependent variable. The correlation coefficient is 0.9758, which indicates a very strong linear relationship between the amount of bank loans and credit guarantees. If the credit guarantees are zero (constant), then the amount of bank loans will be € 2.24 billion, given that this assertion is of statistical significance because it is at the standard signification level. If we increase by 1 unit of credit guarantees, this will increase the amount of loans by 0.14%.

The value of the error term in this case is 0.0478, while the standard error for the parameter  $b_0$  is 12.13042 and for the parameter  $b_1 = 0.0006229$ . The variance for the parameter estimator  $b_0 = 12.13042^2 = 147.1$ , while the variance for the parameter estimator  $b_1 = 0.0006229^2 = 0.388^{-06}$ . According to these results, the alternative hypothesis that the creation of a credit guarantee fund has positively influenced the growth of lending to the real sector of the economy is confirmed.

Following this analysis we will present the results of the analysis of variance through the racio test. Since the number of observations is 28, it is preferable to use analysis of variance via the racio test and the t-test. To establish whether the creation of a credit guarantee fund has had a positive impact on lending growth, through this analysis we formulate two hypotheses:

**The basic hypothesis:** *If the value of the ratio test is equal to 1, the credit guarantees have not affected the credit growth.*

**Alternative hypothesis:** *If the value of the ratio test is less than 1, credit guarantees have had a positive effect on lending growth.*

Table 9

**Results of the analysis of variance (Racio Test) on the impact of credit guarantees on the credit volume**

Variables	Obs.	Mean	Std. Error	Std. Dev.	95% Conf. Interval	95% Conf. Interval
<b>BL</b>	28	2455.711	34.15246	180.7178	2385.636	2525.786
<b>CG</b>	28	15167.12	2530.837	12439.46	10343.6	19990.64
<b>combined</b>	56	8811.416	1446.108	10821.68	5913.35	11709.48
<b>Ratio Test</b>	Ratio = sd (BL) / sd (CG) = 0.0002 $H_0$ : ratio = 1 $H_a$ : ratio < 1					

Source: Author's calculations in the Stata program

Based on the value of the ratio test that is 0.0002 which is less than 1, then the alternative hypothesis is accepted, that credit guarantees have positively influenced the growth of lending to the real sector of Kosovo's economy. This result is in line with studies by many other authors who have identified that the creation of such credit guarantee schemes facilitates access to finance and contributes to the increase in loan volume.

To give further support to the validation of this hypothesis, we will also use two-way analysis of variance via t-test. Taking the same principle as the racial test and the two-way variance, the T-test proves that the alternative hypothesis is correct when the actual value of the t-test is less than zero.

**The basic hypothesis:** *If the actual value of the t-test is equal to 0, the credit guarantees did not affect the credit growth.*

**Alternative hypothesis:** *If the actual value of the t-test is less than 0, credit guarantees have had a positive impact on lending growth.*

Table 10

**Results of analysis of variance (T-Test) on the impact of credit guarantees on credit volume**

Variables	Obs.	Mean	Std. Error	Std. Dev.	95% Conf. Interval	95% Conf. Interval
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<b>BL</b>	28	2455.711	34.15246	180.7178	2385.636	2525.786
<b>CG</b>	28	15167.12	2530.837	12439.46	10343.6	19990.64
<b>combined</b>	56	8811.416	1446.108	10821.68	5913.35	11709.48
<b>diff</b>	-	-12711.41	2351.085	-	-17425.05	-7997.769
<b>T - Test</b>	Diff = mean (BL) - mean (CG) = -5.4066 $H_0 : \text{diff} = 0$ $H_a : \text{diff} < 0$					

Source: Author's calculations in the Stata program

Based on this analysis, it turns out that the actual value of the t-test is less than zero, so the basic hypothesis is rejected and the alternative hypothesis accepted, that credit guarantees have had a positive impact on the growth of lending to the real sector of the economy.

### Conclusion and recommendations

This study aimed to identify whether the creation of the Kosovo Credit Guarantee Fund has contributed to reducing credit risk and increasing commercial banks' lending to the real sector of the economy. The data for testing this hypothesis were obtained from the Central Bank of Kosovo financial stability reports and credit statistics to KCGF reports. In this case, data were collected from September 2016 to December 2018 and projections were made for the next five years on the amount of credit guarantees in total bank loans. The results of econometric models and trend analyzes are very important and the hypothesis is statistically measurable. Some of the main conclusions of the empirical analysis for the third hypothesis are:

- Based on the econometric results we can conclude that the creation of the Kosovo Credit Guarantee Fund has positively influenced the increase of the volume of loans to the real sector of Kosovo's economy.
- If we have a 1% increase in the amount of credit guarantees, this will increase the loan amount by 0.14%.
- Based on trend analysis, there is a positive upward trend between credit guarantees and the volume of business loans, with the value of credit guarantees by the end of 2018 reaching 41.66 million €.
- Trend analysis projections predict that the fund will follow a positive trend for the next five years, where the value of credit guarantees is projected to rise to 172.51 million €.
- The results of econometric models give us empirical evidence that the creation of this credit guarantee fund has greatly influenced the reduction of credit risk.
- Since 2016 when KCFG has been operational, non-performing loans have decreased from € 111.4 million to 69.39 million € at the end of 2018. Such data show the positive effects of the creation of this fund on reducing credit risk of commercial banks.
- Projections carried out through linear trend analysis show that for the next five years the amount of non-performing loans in Kosovo as a result of the creation of this fund can be reduced up to € 34.6 million. Of course, many other reforms that will help the process of efficient management of these loans will also be affected by the reduction of credit risk.

The Kosovo Credit Guarantee Fund is of great importance for the economy of Kosovo because it contributes to the economic development of the country, creating new jobs, increasing and stimulating local production, reducing the poverty rate and on the other hand this fund will unlock excess liquidity in Kosovo, much of it up to € 600 million due to the high risk and high uncertainty that commercial banks have in lending to businesses in Kosovo. Therefore we recommend that:

- The Law on Credit Guarantee Fund of Kosovo should specify the percentage of coverage and fees by the beneficiaries of this fund.

- Further restructure this fund, recommending that the Government of Kosovo increase the participation of more funds to guarantee loans based on the annual GDP growth rate of the country.
- Increase the contribution of external donors and commercial banks to the total amount of the fund based on a previously harmonized plan with the Government of Kosovo based on the achieved results.
- Mitigate the criteria for accepting collateral from commercial banks, especially in rural areas and for agricultural land and illegal construction assets that are in the process of being legalized because the current criteria for accepting collateral are too rigid and are the main obstacle to accepting credit applications in general and in particular in the agricultural sector.
- Review the budgetary opportunities for the Government of Kosovo, together with other donors, to allocate more financial funds that will increase credit coverage (over 50%) in the agricultural and manufacturing sectors that are identified as strategic sectors of economic development in Kosovo.

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## USE OF INFORMATION SOURCES IN OUTBOUND TRAVEL PLANNING: CASE OF THE NETHERLANDS AND BELGIUM

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**Abstract.** In the Information Age travellers have a wide range of information that can be accessed by a variety of channels. The kind of information search travellers undertake and acquire will have significant consequences for the purchases they will make. There is a need for repeated studies to track possible changes in tourist behaviour for information search patterns as use of information sources and their combination evolve over the time. Understanding tourists' information search peculiarities can be of use for tourism scholars and practitioners in the marketing planning process. Majority of European citizens are travelling mainly within their home country (Eurobarometer, 2014) still small countries of Central Europe are among the most active international travellers (Eurostat, 2018). The aim of the research is to study the usage of sources of information and their combinations in outbound travel planning for Dutch and Belgian travellers.

The research is based on the data of a survey of travelling population carried out in different cities of the Netherlands and Belgium in the summer 2018. 502 valid questionnaires were obtained. MS Excel, SPSS and R network visualization visNetwork software tools were used for analysing the data applying following methods - descriptive statistics, crosstabulation and network analysis method concept as network diagram.

The conclusions and recommendations of the study are addressed to marketing organizations of tourism destinations and companies, whose target market is tourists from Belgium and the Netherlands.

**Keywords:** *travel planning, information sources, experience, social media.*

**JEL code:** M31, L83

### Introduction

The kind of information search consumers undertake and information they acquire has significant consequences for the purchases customers will make, therefore understanding of information search patterns is essential for destination marketers (Steen Jacobsen, Munar, 2012). In the Information Age customers in general and especially in the tourism industry are overwhelmed with the amount of information, therefore understanding how tourists acquire information and what kind of sources of information they use is important for marketing management decisions. As indicated by researchers (Zarezadeh, Benckendorff, Gretzel, 2019), tourism information search is a complex and dynamic process that is applied in several phases of travel. Tourists are using different sources of information and the use as well as combination of sources of information evolve over time (Almeida-Santana, Moreno-Gil, 2017) consequently there is a need for repeated studies to track possible changes in tourist behaviour for information search patterns. Understanding tourists' information search peculiarities can be of use for tourism scholars and practitioners in the marketing planning process.

As indicated in a household study of Eurobarometer (2014), almost 40% of European citizens are travelling mainly within their home country, especially in south-eastern countries and some of the larger countries, such as Italy, Spain and Poland, where more than 50 percent of the population have never been abroad in their entire life. The most active international travellers are citizens of small countries of Central Europe. The Netherlands and Belgium are among TOP10 countries of highest share of travelling population of EU (Eurostat, 2018). The aim of the research is to study the usage of sources of information and their combinations in outbound travel planning for Dutch and Belgian travellers.

This study focuses on the pre-travel phase – the planning phase of outbound trips.

The following research questions are explored:

- Which sources of information are used more often when planning a trip abroad,
- What are the differences in the use of information sources between different segments of potential travellers,
- Which sources of information potential travellers combine to obtain information when planning an outbound trip?

The research paper is organised as follows – starting with literature review on tourism information search importance, variety of information source types and determinants affecting use of information sources, then describing statistical research methods used, study organisation process, sampling, data collection, result analysis, finishing with conclusion.

## **Literature Review**

### **1. Importance and specifics in information search for tourists**

Information search behaviour in tourism industry has been a popular research area in the recent decades (Dey, Sarma, 2010; Coromina, Camprubí, 2016) and an impressive amount of literature has been published on tourist information search, 556,000 results according to Google Scholar 2016 was indicated by Zarezadeh, Benckendorff and Gretzel (2019), still the concept of consumer search for information dates back to the research done by Stigler (1961) that was conceptualised in theory of the economics of information, outlining that consumers will continue expending resources for search until the utility gained from the search exceeds the cost. (Stigler, 1961; Money, Crotts, 2003; Zarezadeh, Benckendorff, Gretzel, 2019). Information search is a complex and dynamic process (Dey, Sarma, 2010; Coromina, Camprubí, 2016; Zarezadeh, Benckendorff, Gretzel, 2019) as consumers in the searching process are checking various sources in all stages of their travel decision-making as a multiple set of decisions. What kind of source of information consumers will use has implications (Money, Crotts, 2003) for their travel decision they will eventually make.

In comparison with other industries, complex and fragmentary nature of the tourism product determines that tourists must make a number of decisions before a trip that require obtaining a substantial amount of information. (Xiang, Wang, O’Leary, Fesenmaier, 2015). Travel products as a set of services are intangible, involving personal interactions between customers and service providers as well as customer to customer influence, especially international tourism products have functional, financial, physical, psychological, and social risks (Bieger, Laesser, 2004; Xiang, Wang, O’Leary, Fesenmaier, 2015), a tourist is highly involved in the information search because of high-perceived risk factor (Bieger, Laesser, 2004; Sirakaya, Woodside, 2005).

With increasing frequency, in tourism marketing research consumers have been segmented based on their information search behaviour (Bieger, Laesser, 2004).

### **2. Variety of information sources in tourist decision making process**

Information search process can be divided into internal and external search, in the internal information search tourists use their long-term memory to make decisions in travelling (Tjostheim, Tussyadiah, Hoem, 2007; Shekarchizadeh, Ranjbarian, Ghasemi, 2018), still, when additional information is not sufficient, they use external sources from the environment that can be both marketing or non-marketing sources. (Sirakaya, Woodside, 2005; Pan, Fesenmaier, 2006; Tjostheim, Tussyadiah, Hoem, 2007; Coromina, Camprubí, 2016).

Generally, there are three main reasons for external information searches in tourism (Coromina, Camprubí, 2016):

- trips are considered a high-risk purchase,
- intangibility of the tourism product
- unfamiliarity with the new destination.

Four basic categories of external sources of information can be grouped as follows (Beatty, Smith, 1987; Assael, 1987; Hawkins et al., 1998):

- personal e.g., word-of-mouth advice from friends and relatives;

- marketer-dominated e.g., advertisements in print and electronic media;
- neutral e.g., third-party sources such as travel agents and travel guides;
- experiential sources – direct contacts with retailer.

In addition to the previously mentioned groups, Internet can be added as a fifth uniquely interactive source of external information (Money, Crofts, 2003), due to the wide range of information available, searching on the Internet has become an increasingly dominant tool for travellers (Tjostheim, Tussyadiah, Hoem, 2007; Xiang, Gretzel, 2010; No, Kim, 2015). Some researchers add DMOs (Destination Marketing Organizations) information as neutral, some as marketing source (Money, Crofts, 2003).

The number of information sources differ in various research papers, Bieger and Laesser (2004) included 18 different types of information sources, Coromina and Camprubí (2016) used 11 types and Llodrà-Riera, Martínez-Ruiz, Jiménez-Zarco and Izquierdo-Yusta (2015) used 19 types. There is no common agreement among researchers on the number of variables that should be included in information search analysis (Coromina, Camprubí, 2016).

Previous research indicates that travellers to a high degree (Money, Crofts, 2003; Gursoy, Umbreit, 2004) use a combination of different information sources, therefore marketing researchers should pay their attention not only to the frequencies of information sources, but also to the particular combination of sources used by potential travellers. (Tjostheim, Tussyadiah, Hoem, 2007). Tourists use different channels of information that are continuously evolving over time, therefore there is a need for repeated studies to track possible changes in tourist behaviour for information search patterns (Almeida-Santana, Moreno-Gil, 2017).

### 3. Factors affecting the use of information sources

There is a general common agreement in academic literature on tourism consumer behaviour that socio-demographic characteristics and travel behavioural variables influence search of information (Coromina, Camprubí, 2016; Shekarchizadeh, Ranjbarian, Ghasemi, 2018), but the opinion on particular influences differs between scholars and their studies. Fodness and Murray (1999) developed an in-depth study and models of tourist information search (Zarezadeh, Benckendorff, Gretzel, 2019) analysing information search process, strategies and outcomes. Such socio-demographic characteristics as age, gender, income, education, nationality and occupation are the conditioning variables in information search strategy (Coromina, Camprubí, 2016), taking as an example the research of Luo, Feng and Cai (2004), they confirmed that gender and household income are related to information search preferences, still no differences were indicated among different ages, education levels or occupations (Luo, Feng, Cai, 2004). Fodness and Murray (1999) also concluded in their research that the level of income affected information sources used.

Studying scale for sociodemographic and travel behaviour characteristics is important for tourism marketers to be able to determine the dimensions of information source use for better understanding of the communication strategy needed (Coromina, Camprubí, 2016).

Additionally to the previously mentioned variables, cross-cultural studies also concluded that nationality has certain influence on tourist information search behaviour (Money, Crofts, 2003; Coromina, Camprubí, 2016).

### Research results and discussion

The study is based on survey data from interviewing Dutch and Belgian residents in August 2018 in different cities of the Netherlands and Belgium. During the survey 502 valid questionnaires were obtained. Table 1 shows the structure of respondents.

Table 1

#### Respondent's Profile

	Number of respondents	%		Number of respondents	%
<b>All respondents</b>	502	100	<b>Gender</b>		

Age			Male	212	42.2
18 – 24	245	48.8	Female	290	57.8
25 – 44	202	40.2	Country		
45+	55	11	The Netherlands	267	53.2
			Belgium	235	46.8

Data source: Dutch and Belgian population survey data 2018

One of the survey questions was about the use of different information sources in the travel planning process ('Where did you get information for planning the outbound trips?'). Respondents were given the option to select multiple answers out of the 13 offered, as well as to record a different one.

Study results show that, despite the increasing role of information and communication technologies in the last decade, more than half of the potential travellers use the experience and suggestions of their friends and relatives (word of mouth communication) and their personal experience (internal source) when planning outbound trips. (See Table 2)

Table 2

### Use of information sources for planning the outbound trips in the Netherlands and Belgium

Information sources	All respondents (n=502)	
	Frequency	%
My previous experience/ previous visit	230	45.6
Experience/ suggestions of friends/ relatives	317	62.9
Guidebooks (Lonely Planet, Dorling Kindersley, etc.)	111	22.0
Newspapers and magazines	76	15.1
TV and radio	88	17.4
Travel fairs	66	13.1
Destination official webpage	162	32.1
Homepage of travel agency/ tour operator/ Suggestions of travel agent	115	22.8
Tourism related platforms (TripAdvisor, Lonely Planet, etc.)	107	21.2
Facebook	135	26.8
Instagram	117	23.2
Travel blogs	120	23.8
On-line reviews from other travellers	109	21.6
Other	12	2.4
	Google (4), YouTube (4), Wikipedia (1), Qudra (1), TV series (1), Zoover (1)	

Data source: Dutch and Belgian population survey data 2018

The results of the study show that Internet sources (websites, social networks) are used more often than traditional tourism information sources. The most frequently used information sources on the Internet prior to travelling are official websites of tourist destinations, used by 32.1% of the respondents, together with the most frequently used social networking site - Facebook, which is used by 26.8% of respondents. Only traditional travel guidebooks have the same frequency of use as most Internet sources (used by 22% of all respondents).

From analysing the data showing gender differences, it can be concluded that men are more confident in their personal travel experience than women. (See Table 3) Women, on the other hand, are more likely than men to use information available at travel agencies when planning trips abroad. From the listed Internet sources, women more often than men use Instagram and travel blogs in the travel planning process, as well as draw information more often from TV, radio, newspapers and magazines.

Table 3

### Use of information sources for planning the outbound trips by gender

Information sources	Female (n=290)		Male (n=212)	
	Frequency	%	Frequency	%
My previous experience/ previous visit	122	42.1	108	50.9

Experience/ suggestions of friends/ relatives	180	62.1	136	64.2
Guidebooks (Lonely Planet, Dorling Kindersley, etc.)	63	21.7	48	22.6
Newspapers and magazines	51	17.6	25	11.8
TV and radio	56	19.3	31	14.6
Travel fairs	40	13.8	26	12.3
Destination official webpage	94	32.4	68	32.1
Homepage of travel agency/ tour operator/ Suggestions of travel agent	75	25.9	40	18.9
Tourism related platforms (TripAdvisor, Lonely Planet, etc.)	64	22.1	43	20.3
Facebook	78	26.9	57	26.9
Instagram	78	26.9	39	18.4
Travel blogs	76	26.2	44	20.8
On-line reviews from other travellers	59	20.3	50	23.6
Other	8 Google YouTube TV series Zoover	2.8	4 Google Wikipedia Qudra	1.9

Data source: Dutch and Belgian population survey data 2018

The analysis of the survey data by age group reveals several differences, which are shown in Table 4. Experience and suggestions from friends and relatives as a frequently used source of information, when planning trips abroad, is more common in the age group 18 – 24 (67.8% of all respondents in this age group). Respondents in the age group 25 – 44 use their past travel experience more often (49.5% of all respondents in this age group) than other age groups in the travel planning process, which can be explained by the higher travel intensity and thus more experience. Younger travellers are less likely to use traditional guidebooks (only 16.7% of all respondents in the age group 18 – 24), but are much more likely to use information from social networks (from Instagram – 34.3%, from Facebook – 30.2%). Respondents over the age of 45 are equally likely to use their travel experiences (40% of respondents in the age group 45+), as well as those of their friends and relatives (41.8%). A little less often they use information from tourism destination websites (36.4%) and travel agencies (32.7%). Much less often travellers of this age group use social networks as sources of information in the travel planning process, both in comparison to other sources of information and to other age groups.

Table 4

**Use of information sources for planning the outbound trips in different age groups**

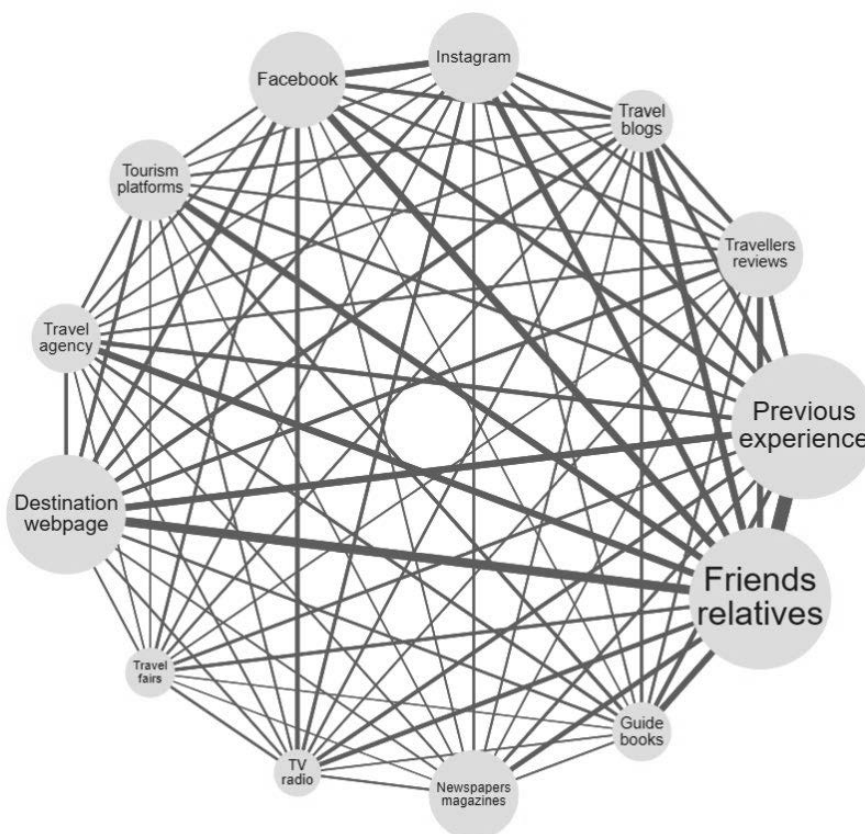
Information sources	Age groups					
	18 – 24 n=245		25 – 44 n=202		45+ n=55	
	Frequency	%	Frequency	%	Frequency	%
My previous experience/ previous visit	108	44.1	100	49.5	22	40.0
Experience/ suggestions of friends/ relatives	166	67.8	127	62.9	23	41.8
Guidebooks (Lonely Planet, Dorling Kindersley, etc.)	41	16.7	55	27.2	15	27.3
Newspapers and magazines	42	17.1	23	11.4	11	20.0
TV and radio	48	19.6	33	16.3	6	10.9
Travel fairs	41	16.7	22	10.9	3	5.5
Destination official webpage	74	30.2	68	33.7	20	36.4
Homepage of travel agency/ tour operator/Suggestions of travel agent	51	20.8	46	22.8	18	32.7
Tourism related platforms (TripAdvisor, Lonely Planet, etc.)	47	19.2	52	25.7	8	14.5
Facebook	74	30.2	56	27.7	5	9.1
Instagram	84	34.3	31	15.3	2	3.6
Travel blogs	62	25.3	50	24.8	8	14.5

On-line reviews from other travellers	55	22.4	46	22.8	8	14,5
Other	9	3.7	2	1.0	1	1.8

Data source: Dutch and Belgian population survey data 2018

Travellers usually use more than one source of information when planning their outbound trip, as evidenced by the results of the survey. Therefore, find out which sources of information are most often combined with one another. The following figures (Figure 1 – Figure 4) show the combinations of information sources used for travel planning by all respondents and by age group. The combinations of information sources were determined by selecting each information source and, accordingly, the frequency of use of other information sources combined with it, expressed as a percentage of the frequency of use of the selected information source. Combinations of information sources were visualized using the R package for network visualization visNetwork. The size of the background circles and the size of the letters of the information sources indicate the frequency of use of those sources in combination with other information sources, the thickness of the connecting lines indicates the intensity of combining the connected information sources.

All respondents (Figure 1): Respondents who have used their personal experience from previous trips as a source of information for travel planning abroad most often combined this internal source of information with recommendations from friends and relatives (69% of the respondents selected by this indication), travel destination websites (34%) and information on Facebook (26%).



Data source: Dutch and Belgian population survey data 2018

Fig. 1. Combinations of information sources used for outbound travel planning (all respondents)

Those respondents, who use experiences and suggestions from their friends and relatives, most often combined it with their own travel experience (50%), travel destination websites (33%) and information on Facebook (27%). Respondents using guidebooks as a source of information for travel planning most frequently combined this source with experiences and suggestions from their friends and relatives (64%), their personal experience from previous trips (45%) and tourism related platforms (TripAdvisor, Lonely Planet, etc.) (34%). Respondents who have used

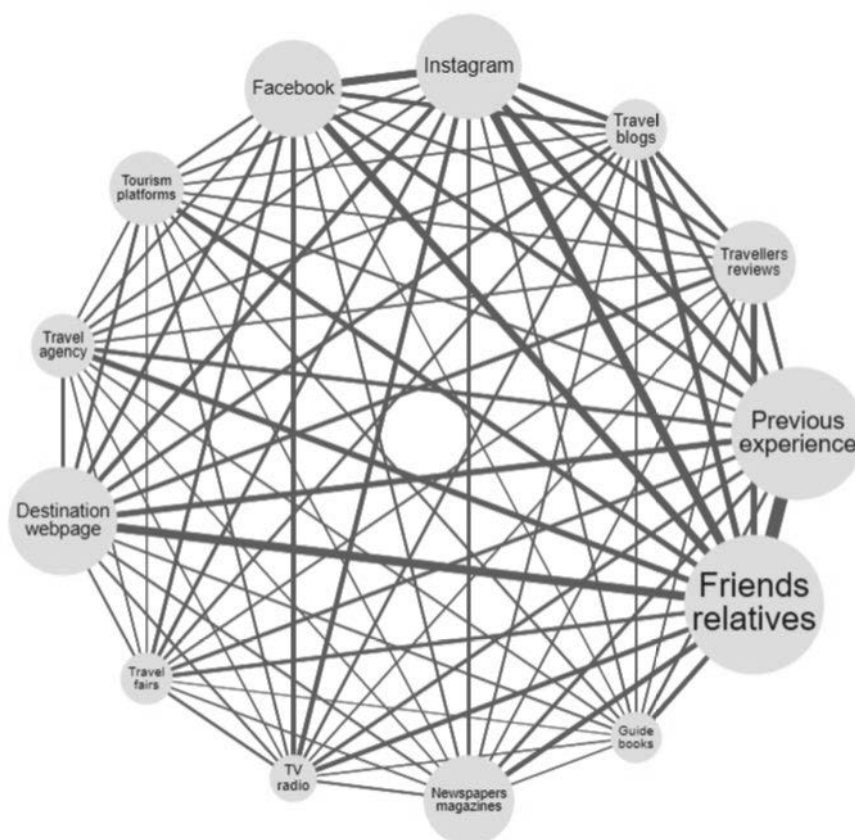


information from newspapers and magazines most often combined this source with experiences and suggestions from their friends and relatives (71%), their personal experience from previous trips (45%) and information from the social network Instagram (36%). Those respondents, who use information from TV and radio, most often combined it with experiences and suggestions from their friends and relatives (58%), social network Facebook (55%) and their personal experience from previous trips (49%). Respondents using information from travel fairs most frequently combined this source with experiences and suggestions from their friends and relatives (58%), their personal experience from previous trips (53%) and social network Facebook (55%). Respondents who have used information from destinations official websites most often combined this source with experiences and suggestions from their friends and relatives (64%), their personal experience from previous trips (48%), travel blogs and social network Facebook (both 30%). Those respondents, who use information from travel agencies, most often combined it with experiences and suggestions from their friends and relatives (66%), their personal experience from previous trips (44%) and information from destination official websites (34%). Respondents using information from tourism related platforms most frequently combined this source with experiences and suggestions from their friends and relatives (69%), information from destination official websites (38%), guidebooks (36%) and their personal experience from previous trips (36%). Respondents who have used information from Facebook most often combined this source with experiences and suggestions from their friends and relatives (62%), social network Instagram (54%) and their personal experience from previous trips (44%). Respondents using information from social network Instagram most frequently combined this source with experiences and suggestions from their friends and relatives (62%), information from another social network Facebook (62%) and their personal experience from previous trips (46%). Those respondents, who use information from travel blogs, most often combined it with experiences and suggestions from their friends and relatives (65%), their personal experience from previous trips (44%) and on-line reviews from other travellers (43%). Respondents who have used information from on-line reviews from other travellers most often combined this source with experiences and suggestions from their friends and relatives (60%), information from travel blogs (48%) and their personal experience from previous trips (47%).

Age group 18 – 24 (Figure 2): Younger respondents (age group 18 – 24) have most often combined their personal experiences from previous trips with recommendations from friends and relatives (74%), information on Instagram (37%) and travel destination websites (32%). They have most often combined the recommendations from friends and relatives with their personal experiences from previous trips (48%), information on Instagram (33%) and travel destination websites (32%). Respondents using the guidebooks as a source of information for travel planning most frequently combined this source with experiences and suggestions from their friends and relatives (71%), their personal experience from previous trips (44%), tourism related platforms (34%) and social network Instagram (34%). Respondents who have used information from newspapers and magazines most often combined this source with experiences and suggestions from their friends and relatives (74%), their personal experience from previous trips (50%) and information from social network Instagram (50%). Those respondents, who use information from TV and radio, most often combined it with experiences and suggestions from their friends and relatives (58%), social network Facebook (63%) and Instagram (60%). Respondents using information from travel fairs most frequently combined this source with experiences and suggestions from their friends and relatives (56%), social network Facebook (54%), Instagram (51%) and their personal experience from previous trips (51%). Respondents who have used information from destinations official websites most often combined this source with experiences and suggestions from their friends and relatives (72%), their personal experience from previous trips (47%), and social network Instagram (30%). Those respondents, who use information from travel agencies, most often combined it with experiences and suggestions from their friends and relatives (69%), their personal experience from previous trips (49%) and



information from destination official websites (41%). Respondents using information from tourism related platforms most frequently combined this source with experiences and suggestions from their friends and relatives (68%), information from destination official websites (43%) and social network Facebook (36%). Respondents, who have used information from Facebook, most often combined this source with experiences and suggestions from their friends and relatives (62%), another social network Instagram (62%), information from TV and radio (41%). Respondents using information from social network Instagram most frequently combined this source with experiences and suggestions from their friends and relatives (64%), information from another social network Facebook (55%) and their personal experience from previous trips (48%). Those respondents, who use information from travel blogs, most often combined it with experiences and suggestions from their friends and relatives (60%), information from social network Instagram (53%) and on-line reviews from other travellers (47%). Respondents who have used information from on-line reviews from other travellers most often combined this source with experiences and suggestions from their friends and relatives (67%), information from travel blogs (53%), social network Instagram and destination official webpages (both 46%).

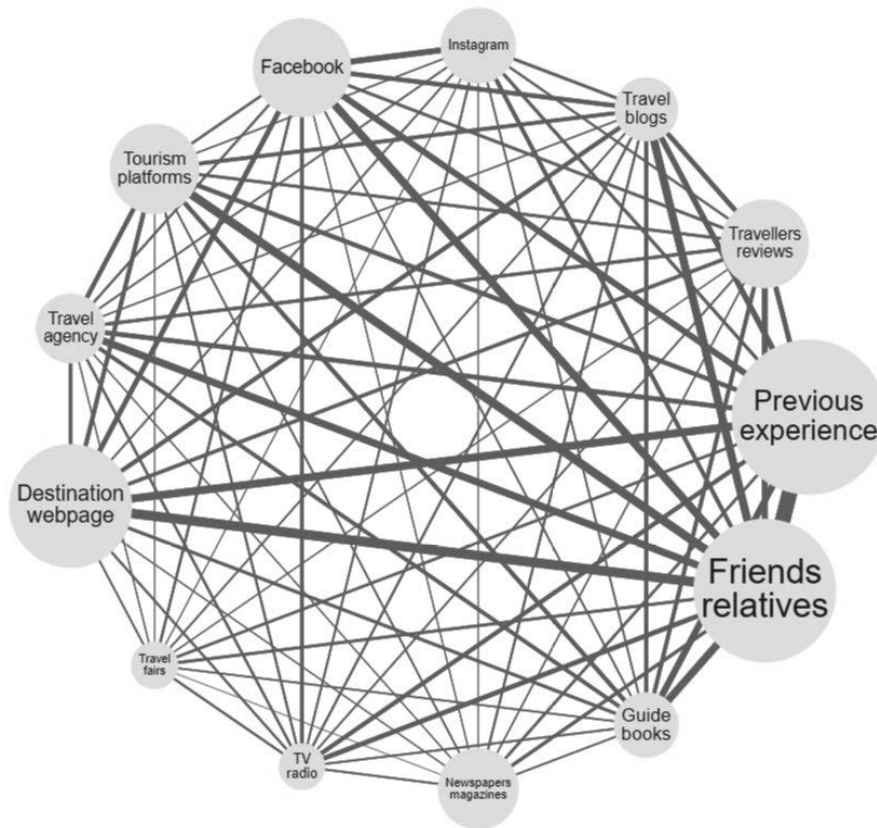


Data source: Dutch and Belgian population survey data 2018

Fig. 2. Combinations of information sources used for outbound travel planning (age group 18 – 24)

Age group 25 – 44 (Figure 3): Respondents in the age group 25 – 44 most often combined their personal experience with recommendations from friends and relatives (71%), information on travel destination websites (35%) and from guidebooks (29%). They have most often combined recommendations from friends and relatives with their personal experience (55.9%), information on travel destination websites (33.9%) and from tourism related Internet platforms (29.9%). Respondents using the guidebooks as a source of information for travel planning most frequently combined this source with experiences and suggestions from their friends and relatives (62%), their personal experience from previous trips (53%) and tourism related platforms (TripAdvisor, Lonely Planet, etc.) (35%). Respondents, who have used information from newspapers and magazines, most often combined this source with experiences and suggestions

from their friends and relatives (65%), their personal experience from previous trips (52%) and information from travel blogs (44%). Those respondents, who use information from TV and radio, most often combined it with experiences and suggestions from their friends and relatives (64%), their personal experience from previous trips (58%) and social network Facebook (49%).



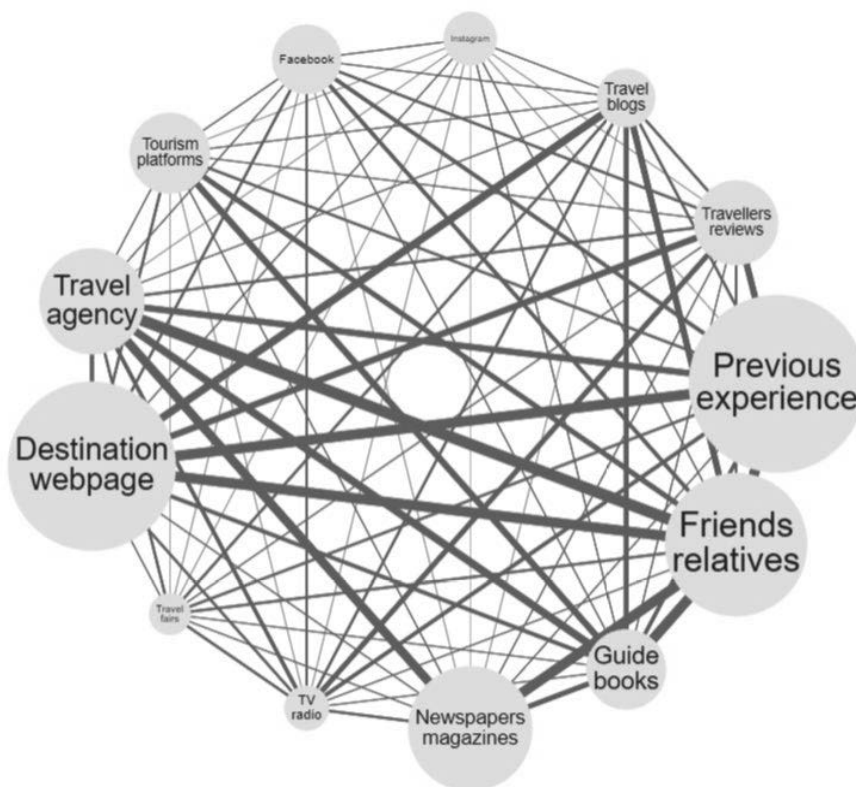
Data source: Dutch and Belgian population survey data 2018

Fig. 3. Combinations of information sources used for outbound travel planning (age group 25 – 44)

Respondents using information from travel fairs most frequently combined this source with experiences and suggestions from their friends and relatives (59%), their personal experience from previous trips (55%) and social network Facebook (50%). Respondents, who have used information on travel destination official websites, most often combined this source with experiences and suggestions from their friends and relatives (63%), their personal experience from previous trips (52%) and social network Facebook (32%). Those respondents, who use information from travel agencies, most often combined it with experiences and suggestions from their friends and relatives (70%), their personal experience from previous trips (46%) and information from tourism related platforms (44%). Respondents using information from tourism related platforms most frequently combined this source with experiences and suggestions from their friends and relatives (73%), their personal experience from previous trips (39%) and information from travel agencies (39%). Respondents, who have used information from Facebook, most often combined this source with experiences and suggestions from their friends and relatives (63%), their personal experience from previous trips (48%) and another social network Instagram (46%). Respondents using information from social network Instagram most frequently combined this source with information from another social network Facebook (84%), experiences and suggestions from their friends and relatives (58%) and their personal experience from previous trips (45%). Those respondents, who use information from travel blogs, most often combined it with experiences and suggestions from their friends and relatives (72%), their personal experience from previous trips (50%) and on-line reviews from other travellers (42%). Respondents who have used information from on-line reviews from

other travellers most often combined this source with experiences and suggestions from their friends and relatives (57%), their personal experience from previous trips (48%) and information from travel blogs (46%).

Age group 45+ (Figure 4): Respondents in the age group 45+ have also most often combined their personal experiences with recommendations from friends and relatives and information on travel destination websites (both sources used by 36.4% of respondents), information from travel agencies and on-line reviews from other travellers (both sources used by 22.7% of respondents).



Data source: Dutch and Belgian population survey data 2018

Fig. 4. Combinations of information sources used for outbound travel planning (age group 45+)

Respondents in the age group 45+ have combined experiences and suggestions from their friends and relatives with information from travel agencies (39.1%), their own travel experience, information from guidebooks and destination webpages equally often (34.8%). Respondents using the guidebooks as a source of information for travel planning most frequently combined this source with experiences and suggestions from their friends and relatives (53%), information from travel agencies (40%) and tourism related Internet platforms (33%). Respondents, who have used information from newspapers and magazines, most often combined this source with experiences and suggestions from their friends and relatives (73%), information from travel agencies (64%) and information from guidebooks (36%). Those respondents, who use information from TV and radio, most often combined it with on-line reviews from other travellers (67%), their own travel experience (50%) and information from travel agencies (50%). Respondents, who used travel fairs as a source of information for travel planning abroad, also used their previous travel experiences, experiences and suggestions from their friends and relatives, information from travel agencies, travel blogs and TV and radio equally frequently (67%). Respondents who have used information from destinations official websites most often combined this source with experiences and suggestions from their friends and relatives (40%), their personal experience from previous trips (40%) and travel blogs (30%). Those respondents, who use information from travel agencies, most often combined it with experiences and suggestions from their friends and relatives (50%), information from newspapers and magazines (39%) and guidebooks (33%).

Respondents using information from tourism related platforms most frequently combined this source with information from guidebooks (63%) and experiences and suggestions from their friends and relatives (50%). Respondents who have used information from social network Facebook most often combined this source with experiences and suggestions from their friends and relatives and their personal experience from previous trips (both 60%). Those respondents, who use information from travel blogs, most often combined it with information from destination official websites (75%), experiences and suggestions from their friends and relatives (63%) and guidebooks (50%). Respondents who have used information from on-line reviews from other travellers most often combined this source with their personal experience from previous trips (63%), information from destination official websites (63%) and TV and radio (50%). Too few respondents have used information from Instagram to objectively evaluate the combination of this source with other sources.

### **Conclusions, proposals, recommendations**

Practitioners usually make marketing decisions on combinations of information channels instead of individual channels of information. Scientific novelty of this research paper is analysis of the most often combined sources of information as well as use of network visualization visNetwork for information channels for different groups of segments

A key finding from the study is that despite the growing role of the Internet in today's world, the personal 'word of mouth' information from friends and relatives as well as search for internal information based on previous travel experience of potential traveller himself is more important in the outbound travel planning process. This result is common to the whole group of respondents and to different gender and age groups. These results, which highlight the importance of personal experience in the travel planning process, lead to the conclusion that tourism destinations and individual tourism product providers must focus on creating an attractive, memorable, and high-quality visitor and customer experience.

The most frequently used combinations of information sources are the experiences and suggestions of friends and relatives, the experiences of potential travellers themselves, as well as tourism destination websites and the social network Facebook. Such combinations of information sources are also prevalent in the age group 25 – 44. For younger travellers (age group 18 – 24) the most frequently combined sources of information are the experiences and suggestions of friends and relatives, the experiences of potential travellers themselves, tourism destination websites as well as social networks Facebook and Instagram. In contrast, in the age group over 45 years, information from travel agencies and traditional travel guidebooks appear alongside experiences of potential travellers themselves, experiences and suggestions from friends and relatives, information on travel destination official websites.

The above conclusions should be taken into account for tourist destinations and tourism product providers whose target markets are the Netherlands and Belgium.

As the most important source of non-marketing information for tourists from Belgium and the Netherlands is the advice of relatives and friends, therefore a suggestion for marketing organizations and business marketers looking to reach this target market is to work on quality.

The most frequently used combinations of marketing tourism sources for Belgian and Dutch tourists are the destination websites in combination with Facebook. Therefore, it is important for tourism organizations and business marketers to use and coordinate these sources of information. For those travel agencies and businesses whose target market is young people in Belgium and the Netherlands, it is important to use and match the information on Instagram profiles and ads to combine marketing information sources in addition to websites and Facebook. It is likely that the Internet sources will be even more important in the future. Internet will also become very important as an information source in the travel phase for travellers on the move



There are certain limitations to the study and to the result analysis presented in this paper that are related to narrow research in two European markets analysing data of one-time study. A suggestion for future research is as follows – repeated studies should be carried out to track possible changes in tourist behaviour for information search patterns as use of information sources and their combination evolve over time and in different tourism markets.

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## NEW CHALLENGE FOR SOCIAL INCLUSION - MARINE PRODUCT PROCESSING DEVELOPMENT OF MUSSEL FARMING IN THE BALTIC SEA REGION

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**Abstract.** Product recycling opportunities that potentially increase the value of the initial product create interest in creating and developing a field. Seafood is demanded product in the world but creating a higher value of the product the value of it can be increased and in many countries it helped to solve social problems with food provision and employment. Aim of research analysis of area for mollusc farming, and mollusc-processing options to explore opportunities for development of the field. By analysing views of public administrators, entrepreneurs and researchers in selected Baltic Sea Region countries. Based on expert viewpoint (public administrators, entrepreneurs and researchers that participated in the survey), the study summarizes aspects of seafood re-processing that may affect the potential for shellfish development in the Baltic Sea region and whether educational measures can contribute to the development of processed seafood in the Baltic Sea Region.

Research methods used: Scientific publication studies on mussel farming development and marine product processing supporting and braking factors, survey of different stakeholders in mussel farming – public administrators, entrepreneurs and researchers; expert interviews. For evaluation of different aspects affecting marine product processing from mussel farming evaluation scale 1 – 10 was used, where 1 – do not affect; 10 – affect in great extent. Data obtained in the survey were analysed with indicators of descriptive statistics, cross-tabulations by gender, education level, age group and country, analysis of variance – ANOVA, correlation analysis, and factor analysis.

From the experts' point of view, the important aspects that could affect the processing of marine products in mussel farming in the Baltic Sea region were indicated as government support, education including informal education, human resources as well as marketing events. The results were statistically different by age group and by country.

Experts who evaluated aspects of education as a less important factor affecting the development of marine product processing rated the development potential of marine product processing over the next 10 years lower.

**Keywords:** *social inclusion, marine product processing, marketing tools, mussel farming, survey.*

**JEL code:** I38, L23, M11, M31

### Introduction

Blue mussel farming and the results of production in those farms are discussed among the researchers, entrepreneurs and policy makers as mussel farms are producing products for human consumption and animal feed, as well as for water quality improvement and to increase its transparency. Aim of research analysis of area for mollusc farming, and mollusc-processing options to explore opportunities for development of the field. The research is conducted by analysing views of public administrators, entrepreneurs and researchers in selected Baltic Sea Region countries. Based on expert viewpoint (public administrators, entrepreneurs and researchers that participated in the survey), the study summarizes aspects of seafood re-processing that may affect the potential for shellfish development in the Baltic Sea region and whether educational measures can contribute to the development of processed seafood in the Baltic Sea Region.

Research methods used: Scientific publication studies on mussel farming development and marine product processing supporting and braking factors, survey of different stakeholders in mussel farming – public administrators, entrepreneurs and researchers; expert interviews. For evaluation of different aspects affecting marine product processing from mussel farming evaluation scale 1 – 10 was used, where 1 – do not affect; 10 – affect in great extent. Data obtained in the survey were analysed with indicators of descriptive statistics, cross-tabulations by gender, education level, age group and country, analysis of variance – ANOVA, correlation analysis, and factor analysis.



This paper analyses finding of the scientific publications on marine product manufacturing with special attention paid to blue mussel farming and processing of marine products and experience in use them for solving food problem as well as supporting social inclusion. Due to the environmental conditions of the Baltic Sea Region countries up to now there were no vivid activities done in mussel farming. Respectively, there was no action from marine product users, however, some first steps are going on to investigate the situation and develop possible solutions for the mussel farming development also in the Baltic Sea Region countries. Therefore, the viewpoint of several stakeholders is on great importance and survey of experts from the Baltic Sea Region countries was conducted. Among the important aspects analysed were opinions of experts from the Baltic Sea Region countries on how analysed factors affect development of marine product processing. Some of factors affecting marine product processing were: availability of end – use market; availability of different sources of financing (subsidies, loans); level and influence of formal and informal education of specialists involved; availability of governmental support; availability of labour force/ human resources; application of marketing events; level of taxes.

### **Literature Review**

Many countries are paying a lot of attention to scientific research in marine product processing as marine products are very popular and are getting even more popular in many countries and special scientific analysis is carried out on how marine products affect gross domestic product – analysis was carried out also in Gulf Cooperation Council GCC (ALshubiri, 2018). Researchers have analyzed aquaculture product importance in finding solution of future food needs and have concluded the growing importance of aquaculture product influence in food aspects of world agriculture resources and food security (Anderson, Asche, Garlock, Chu, 2017). Several Mussel Watch Program influence aspects in historical evaluation are on great importance (Apeti, Lauenstein, 2010) and on special attention by scientific researchers. Scientific discussions on scale of mussel production industry – either large scale or small scale as benefits and challenges are for all scales of production indicating that different countries have different approaches and different results (Gonzalez-Poblete, Hurtado, Rojo, Norambuena, 2018). Mussel farming possibilities are analyzed in many seas on the globe including the Baltic Sea (Gren, Lindahl, Lindqvist, 2009) even taking into account that the Baltic Sea is not so warm as traditional mussel farming waters in Southern part of the Earth and has not so big experience in the field. Norwegian scientists have analyzed mussel farming results and use them in food in their coastal lines (Handå, Alver, Edvardsen, Halstensen, Reinertsen, 2015) and by modelling have found the best possible solutions and have developed practical suggestions for applications in mussel farming. Several regional innovative approaches are under scientific investigations for blue mussel production for finding the best possible solution for practical use and applications in blue mussel farming (Hjalager, Johansen, Rasmussen, 2015) by different approaches presented in academic research findings (Maar, Saurel, Landes, Dolmer, Petersen, 2015). Academic research results are discussed on the use of marine products for animal feed advantages and challenges (Nørgaard, Petersen, Tørring, Jørgensen, Lærke, 2015). Blue mussel farming is considered also as water transparency and water quality improvement (Schröder, Stank, Schernewski, Krost, 2014) in different regions on the Earth (Trottet, Roy, Tamigneaux, Lovejoy, Tremblay, 2008). Business options of wind mills and mussel farming are discussion cases in scientific papers (van den Burg, Kamermans, Blanch, Pletsas, Dalton, 2017) and research findings are basis in suggesting practical applications for use of such approach in production and business development taking into account several aspects of research findings and suggestions.

### **Research results and discussion**

Analysed aspects on factors affecting marine product processing was organized within the Baltic Sea Region countries (Denmark, Estonia, Finland, Germany, Latvia and Sweden) expert survey. Experts were selected by their experience in work with marine product processing aspects and were invited to answer questions on the main factors

affecting marine product processing. For many analysed aspects there were used evaluation scale 1 – 10, where 1 – do not agree and 10 – agree in full extent. Experts could mention if they had no opinion on respective analysed aspect – there were two to three percent of responses and they were not included in this analysis. The main statistical indicators of evaluation by experts of the Baltic Sea Region countries on factors affecting marine product processing are included in table 1.

Table 1

**Main statistical indicators of evaluation by experts on factors affecting marine product processing – the Baltic Sea Region countries expert survey results in 2018**

Indicators	Financing (subsidies, loans)	Education (formal, also informal)	Marketing events	Taxes	End- use market	Government support	Labor force /Human resource
Mean	7,34	6,39	7,11	6,92	8,43	7,61	6,46
Standard Error of Mean	0,301	0,321	0,269	0,321	0,206	0,270	0,329
Median	8	7	8	7	9	8	7
Mode	8	7	8	10	10	8	7
Std. Deviation	2,351	2,505	2,098	2,505	1,607	2,108	2,566
Variance	5,530	6,276	4,403	6,277	2,582	4,443	6,586
Range	9	9	8	9	8	8	9
Minimum	1	1	2	1	2	2	1
Maximum	10	10	10	10	10	10	10

Source: Zaiga Ozolina conducted survey, evaluation scale 1 – 10, where 1- do not agree; 10 – agree in full extent, n = 61

Baltic Sea region countries expert survey results indicate that the higher evaluated factor was end-use market where almost all evaluation scale was covered with arithmetic mean 8,43 and mode 10 (most often used evaluation) and median 9 (half of respondents have evaluated with 9 or less and half of respondents have evaluated with 9 or more). For those evaluations, experts had alike results as variance and other indicators of dispersion are the lowest. The next highest evaluated aspect in the survey was government support with arithmetic mean 7,61 and mode 8 and median 8; relatively lower estimate was for education (formal and informal) with arithmetic mean of evaluation 6,39 and mode 7 and median 7. For almost all of analysed aspects on factors affecting marine product processing by experts it was used all range in the evaluation scale except evaluations for availability of end-use market and government support. The highest differences of evaluations by the Baltic Sea Region experts are for analysed aspect availability of human resources/labour force in the results of expert evaluations of all analysed main factors affecting marine product processing. Therefore, the distribution of evaluations on evaluated factor – labour force / human resources by experts of the Baltic Sea Region countries is included in table 2.

Table 2

**Distribution of expert evaluations on factor – labor force/ human resource affecting marine product processing – the Baltic Sea Region countries expert survey results in 2018**

Evaluations	Frequency	Percent	Valid Percent	Cumulative Percent
1	1	1,6	1,6	1,6
2	3	4,9	4,9	6,6
3	5	8,2	8,2	14,8
4	8	13,1	13,1	27,9
5	6	9,8	9,8	37,7
6	3	4,9	4,9	42,6
7	14	23,0	23,0	65,6
8	7	11,5	11,5	77,0
9	2	3,3	3,3	80,3
10	12	19,7	19,7	100,0
Total	61	100,0	100,0	

Source: Zaiga Ozolina conducted survey, evaluation scale 1 – 10, where 1- do not agree; 10 – agree in full extent, n = 61

The arithmetic mean of expert evaluations on availability of labour force / human resources is among the lower evaluated aspects by experts and the evaluations of experts for this aspect is with higher dispersion (indicators of variability characterized by standard deviations) of the Baltic Sea Region countries expert evaluations – it means that the views of experts differ in great extent. Expert evaluations have mode 7 – made by 23% of respondents, and median 7 (half of respondents have evaluated with 7 or less and half of respondents have evaluated with 7 or more).

Correlation analysis of all mentioned aspects affecting marine product processing and age group of experts and gender of experts and country of expert had not statistically significant correlation with reasonable significance level – it means that there were no differences in evaluations within experts by expert's gender, by expert's age group or by expert's country.

Average evaluations by the Baltic Sea Region countries experts of analysed aspects on factors affecting marine product processing did not show statistically significant differences in average evaluations by expert's age groups confirmed by analysis of variance (ANOVA) – the results are included in table 3. The highest significance was indicated regarding education, government support and marketing events' aspects.

Table 3

**Results of analysis of variance (ANOVA) on expert evaluations on factors affecting marine product processing – the Baltic Sea Region countries expert survey results in 2018 by expert's age groups**

Analyzed aspects	Sum of Squares	Sum of Squares	df	Mean Square	F	Sig.
Labor force /Human resource	Between Groups	34,603	4	8,651	1,370	0,256
	Within Groups	340,923	54	6,313		
	Total	375,525	58			
Financing (subsidies, loans)	Between Groups	24,538	4	6,135	1,090	0,371
	Within Groups	303,970	54	5,629		
	Total	328,508	58			
Education (formal, also informal)	Between Groups	7,102	4	1,775	0,266	0,898
	Within Groups	359,780	54	6,663		
	Total	366,881	58			
Marketing events	Between Groups	6,390	4	1,597	0,337	0,852
	Within Groups	255,780	54	4,737		
	Total	262,169	58			
Taxes	Between Groups	36,818	4	9,204	1,502	0,214
	Within Groups	330,810	54	6,126		
	Total	367,627	58			
End-use market	Between Groups	15,249	4	3,812	1,481	0,221
	Within Groups	138,988	54	2,574		
	Total	154,237	58			
Government support	Between Groups	6,297	4	1,574	0,330	0,857
	Within Groups	257,940	54	4,777		
	Total	264,237	58			

Source: Zaiga Ozoliņa conducted survey, evaluation scale 1 – 10, where 1- do not agree; 10 – agree in full extent, n = 58

The results of analysis of variance ANOVA (the results of table 3) indicate that the significance levels are rather high for all analysed aspects on factors affecting marine product processing in the Baltic Sea Region countries.

The Baltic Sea Region countries have very different historical experience and are on different level of marine product processing. Moreover, these countries have very different levels of economic development and have different levels of standard of living. Therefore, it is important to analyse also the experts' evaluations on factors affecting marine product processing by expert's country as the mentioned above differences could affect expert evaluations.

The average assessment by the Baltic Sea Region countries experts of analysed aspects on factors affecting marine product processing were compared by the use of analysis of variance. The obtained results did not show statistically significant differences in average expert evaluations by expert's country (Denmark, Estonia, Finland, Germany, Latvia and Sweden) – confirmed by analysis of variance (ANOVA); the main results are included in table 4. The highest significance was indicated for financing and end-use market aspects on factors affecting marine product processing by expert's country.

Table 4

**Results of analysis of variance (ANOVA) on expert evaluations on factors affecting marine product processing – the Baltic Sea Region countries expert survey results in 2018 by expert's country**

Analyzed aspects	Sum of Squares	Sum of Squares	df	Mean Square	F	Sig.
Labor force /Human resource	Between Groups	29,459	5	5,892	0,902	0,487
	Within Groups	346,067	53	6,530		
	Total	375,525	58			
Financing (subsidies, loans)	Between Groups	20,467	5	4,093	0,704	0,623
	Within Groups	308,042	53	5,812		
	Total	328,508	58			
Education (formal, also informal)	Between Groups	27,773	5	5,555	0,868	0,509
	Within Groups	339,108	53	6,398		
	Total	366,881	58			
Marketing events	Between Groups	29,353	5	5,871	1,336	0,263
	Within Groups	232,817	53	4,393		
	Total	262,169	58			
Taxes	Between Groups	33,727	5	6,745	1,071	0,387
	Within Groups	333,900	53	6,300		
	Total	367,627	58			
End-use market	Between Groups	9,629	5	1,926	0,706	0,622
	Within Groups	144,608	53	2,728		
	Total	154,237	58			
Government support	Between Groups	24,837	5	4,967	1,100	0,372
	Within Groups	239,400	53	4,517		
	Total	264,237	58			

Source: Zaiga Ozolina conducted survey, evaluation scale 1 – 10, where 1- do not agree; 10 – agree in full extent, n = 58

Experts who graded the development potential of marine products processing over the next 10 years with 6 and 7 indicated financing aspect lower than other experts.

Experts who evaluated aspects of education as a less important factor affecting the development of marine product processing rated the development potential of marine product processing over the next 10 years lower.

Table 5

**Results of analysis of variance (ANOVA) on expert evaluations on factors affecting marine product processing and chance of marine product processing development in the next 10 years – the Baltic Sea Region countries expert survey results in 2018**

Analyzed aspects	Sum of Squares	Sum of Squares	df	Mean Square	F	Sig.
Labour force /Human resource / chance of marine product processing development in the next 10 years	Between Groups	29,459	8	8,425	1,354	0,237
	Within Groups	346,067	56	6,221		
	Total	375,525	64			
Financing (subsidies, loans)/ chance of marine product processing development in the next 10 years	Between Groups	20,467	8	4,339	0,686	0,702
	Within Groups	308,042	56	6,327		
	Total	328,508	64			
Education (formal, also informal) /chance of marine product processing	Between Groups	27,773	8	6,746	1,160	0,339
	Within Groups	339,108	56	5,815		
	Total	366,881	64			

development in the next 10 years						
Marketing events /chance of marine product processing development in the next 10 years	Between Groups	29,353	8	6,407	1,341	0,243
	Within Groups	232,817	56	4,779		
	Total	262,169	64			
Taxes /chance of marine product processing development in the next 10 years	Between Groups	33,727	8	8,726	1,322	0,252
	Within Groups	333,9	56	6,601		
	Total	367,627	64			
End-use market / chance of marine product processing development in the next 10 years	Between Groups	9,629	8	4,225	1,196	0,318
	Within Groups	144,608	55	3,533		
	Total	154,237	63			
Government support/ chance of marine product processing development in the next 10 years	Between Groups	24,837	8	4,922	0,942	0,490
	Within Groups	239,4	56	5,226		
	Total	264,237	64			

Source: Zaiga Ozolina conducted survey, evaluation scale 1 – 10, where 1- do not agree; 10 – agree in full extent, n = 64

Scientific research in many fields investigate differences in evaluations by expert's gender even taking into account that expert is expert and gender characteristic attitudes have not influenced the evaluation results. To check experts' viewpoint on factors affecting marine product processing in the Baltic Sea Region countries t – test was carried out by expert gender statistical hypothesis testing on average evaluations of analysed aspects. H0 was stated: average evaluations of experts by expert gender do not differ statistically significant and respectively alternative hypothesis: average evaluations of experts by expert gender differ statistically significant.

The average evaluations of experts by gender do not differ statistically significant with reasonable significance level but for all analysed aspects affecting marine product processing evaluations averages by female experts were higher – see table 6.

Table 6

**Main statistical indicators of evaluations on factors affecting marine product processing – the Baltic Sea Region countries expert survey results in 2018 by gender**

Analyzed aspects	Gender	N	Mean	Standard Deviation	Standard Error of Mean
Labor force /Human resource	F	39	6,51	2,635	0,422
	M	20	6,05	2,395	0,535
Financing (subsidies, loans)	F	39	7,51	2,372	0,380
	M	20	6,90	2,404	0,538
Education (formal, also informal)	F	39	6,33	2,619	0,419
	M	20	6,30	2,364	0,529
Marketing events	F	39	7,51	1,972	0,316
	M	20	6,35	2,254	0,504
Taxes	F	39	7,15	2,368	0,379
	M	20	6,25	2,751	0,615
End-use market	F	39	8,69	1,454	0,233
	M	20	7,85	1,843	0,412
Government support	F	39	7,62	2,172	0,348
	M	20	7,55	2,114	0,473

Source: Zaiga Ozolina conducted survey, evaluation scale 1 – 10, where 1- do not agree; 10 – agree in full extent, n = 58

The analysis of obtained results did not show statistically significant differences in expert evaluations testing with t – test. One of the most often applied multivariate analysis method – factor analysis was applied to reduce factors and finding common factors influencing marine product processing. Factor analysis results on factors affecting marine product processing are included in table 7.

Table 7

**Factor analysis results on evaluations on factors affecting marine product processing – the Baltic Sea Region countries expert survey results in 2018**

Rotated Component Matrix <sup>a</sup>		
Analyzed factors affecting marine product processing	Component	
	1	2
Labor force /Human resource	0,179	0,834
Financing (subsidies, loans)	0,785	0,402
Education (formal, also informal)	0,709	0,311
Marketing events	0,748	0,030
Taxes	0,160	0,858
End-use market	0,383	0,633
Government support	0,783	0,265

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Source: Author's construction based on Zaiga Ozolina conducted expert survey

As the result of factor analysis by applying extraction method – Principal Component Analysis in three iterations by varimax rotation with Kaiser Normalisation there were extracted two complex factors or components: first complex factor consisting of initial factors - financing, education, marketing events and government support, but second complex factor consisting of initial factors - human resources, taxes and end-use market – it was indicated by correlation coefficients bigger than 0,5 of the complex factor and initial factors.

**Conclusions, proposals, recommendations**

1. Marine product development has been an efficient tool for reduction of social exclusion and finding inhabitant involvement in development of new innovative products which could be introduced in the countries of the Baltic Sea Region including Latvia.



2. Among the marine product processing influencing factors in the Baltic Sea region countries the most important are availability of end-use market, then followed by government support, by financing availability including loans, by marketing events, by taxes, by availability of labor force and by education (formal and informal).
3. The evaluation results of experts from different countries on analyzed aspects for marine product development in the countries of the Baltic Sea Region did not differ statistically significant by expert's age group, by expert's gender and by expert's country.
4. Experts were invited to evaluate the prospect of marine product processing development in the next 10 years. Experts who graded the development potential of marine products processing over the next 10 years with 6 and 7 indicated financing aspect lower than other experts.
5. Experts who evaluated education aspects as a less important factor affecting the development of marine product processing rated the development potential of marine product processing over the next 10 years lower.
6. Research results could be used in development of marketing strategies for consumption improvement of the production and development more effective information on new product.

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## CORPORATE SECURITIES AND DERIVATIVES MARKETS IN EMERGING ECONOMY: OPPORTUNITIES FOR NON-FINANCIAL ORGANIZATIONS IN THE REPUBLIC OF BELARUS

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**Abstract.** The instruments of financial market provide an effective way to mobilize free funds of investors and manage market risks, which, however, isn't fully used in Belarus. Some steps to improve the situation in financial sphere have been taken from the government side, but the area of corporate securities and derivatives still cannot be considered effective for all market participants. The aim of the research is to analyze the current state of corporate securities and derivatives markets in Belarus, identify problematic aspects and provide possible solutions for further development of those markets. For this purpose following research methods were used: analysis, synthesis, generalization, induction, deduction, observation, method of logical analysis, classification.

According to the results of the study we have identified that corporate securities market, as well as derivatives market in Belarus, can be characterized by a significant role of the state in the creation process and high ratio of securities issued by banks and state institutions. In the article have been defined factors that constrain the development of those markets. Some factors lay in theoretical sphere, where have been proposed our own definition of corporate securities. Other factors arise in practical sphere: we have identified problems in accounting, taxation, legal regulation. For better understanding the necessity of hedging and its practical importance, we have considered the organization as an opened system, which is influenced by external factors. In this system, we have developed the model of hedging the most significant risks arising in the current activity of non-financial organizations.

**Keywords:** *corporate securities, derivatives, hedging.*

**JEL code:** G32

### Introduction

The strategy of financial market development in the Republic of Belarus until 2020 sets a goal to provide its qualitative transformation, increase stability and efficiency of its functioning in compliance with the directions of national economic growth. Creation of necessary conditions for the formation of an integrated, liquid, transparent and efficient securities market as a component of the financial market of the Republic of Belarus will help to attract investment in the real sector of the economy. In this regard, spheres of corporate securities and derivatives can be distinguished as priority areas of qualitative transformation of Belarussian financial market, where an important place is given to the creation of the variety of corporate financial instruments, useful for all market participants. We provide the analysis of the essence of corporate securities and give our own definition of that category, which contributes to existing studies of Shershenevich (1994), Mammanovich (2008), Endovitsky (2009). Also from the practical side of corporate securities it can be noted, that nowadays corporate financial instruments in the Republic of Belarus are presented mainly by shares and bonds. And trading volumes remain rather low.

For non-financial organizations derivatives may also be interesting, because they can be used for hedging market risks. Hedging market risks is a common practice in developed economies. For example, in the global study, conducted by Bodnar (2011), it is noted that 71 % of companies from the extractive sector, 67 % from the manufacturing sector and 46 % from the services sector use derivatives in their risk management strategy. Non-financial organizations in the Republic of Belarus are also interested in hedging to ensure the stability of cash flows, which are exposed to the influence of constantly changing market variables. We have identified a number of factors that constrain the use of derivatives by non-financial organizations in the Republic of Belarus.

At the level of national economy, the problematic aspects include, firstly, insufficiently effective legal regulation in the field of civil relations, accounting and taxation in the part that is related to derivative instruments, and, secondly, the underdevelopment of exchange and OTC derivatives market in the Republic of Belarus.

At the level of organizations the derivatives usage is complicated by the lack of clear understanding from management side of how the particular hedging strategy will look like step by step and what benefits it can give their company. Also the issues of planning, organization, control and accounting for transactions with derivatives are still relevant at the company level. The results of our research on derivatives market in Belarus contribute to the existing works, provided by the following authors: Sidorenko (2017), Demidenko et. al. (2016), Usefalchick (2017).

The purpose of this research is to analyze the current state of corporate securities and derivatives markets in Belarus, identify problematic aspects and provide possible solutions for further development of those markets. According to this aim the following tasks will be solved:

- to consider existing research in the field of corporate securities market, derivatives market and hedging implementation in non-financial organizations;
- to characterize the current state and identify problematic aspects in the development of financial market at the Republic of Belarus;
- to consider the organization as an opened system and determine in this system the place of such risk management tool as hedging with derivatives.

For this purpose general scientific research methods were used: analysis, synthesis, generalization, induction, deduction, observation. Methods of theoretical research: idealization, formalization, method of logical analysis, classification.

#### **Literature review**

The issue of securities by business entities, their purchase from other companies necessitates the formation and receipt of complete and accurate information on organization's financial instruments. In this regard study of the economic nature of corporate securities and derivatives has particular relevance and practical importance.

Belarussian research in the field of corporate securities have mainly theoretical character of economic (Mammanovich, 2008; Endovitsky, 2009; Mahovikova, Selishchev, 2008; Mirzazhanov, 2006), law (Shershenevich, 1994) and accounting (Sosnauwskene, 2008) features of that term. Empirical studies are not widespread in Belarus in this very area, statistical bulletins and reports of National Bank can be considered, if we speak about real situation in corporate securities market.

By contrast in the sphere of derivatives Belarussian authors provide more research related to the practical problems, for example: Sidorenko (2017), Demidenko et. al. (2016), Usefalchick (2017). Due to the lack of fundamental works on derivatives and hedging in Belarus, we had to look for those researches in the countries, where futures market are well developed. As noted by M. Bartram (2017), the global (not only the companies from the United States) studies for both hedging and speculation are very limited. Theoretical issues of derivatives and their influence on the company value considered in the work of Smith and Stulz (1985), Stulz (2013), Aretz and Bartram (2010), while the empirical works try to demonstrate real impacts of derivatives usage on the company's value (Bodnar, 2011; Erik, P. Gilje, 2017; Carter et al., 2006, etc.). For the purposes of this study we can distinguish the area of corporate securities and sphere of derivatives. The substantive aspects and opportunities for non-financial organizations in each direction from theoretical and practical sides will be discussed further.

#### **Research results and discussion**

The essence of the corporate securities

In modern conditions of formation the stock market in the Republic of Belarus the creation of corporate diversity in financial instruments is very important for the redistribution of temporary free funds, which allows expediting the process of obtaining debt capital and attracting additional investment resources. For this purpose Belarus has adopted the "Program for the development of the corporate securities market of the Republic of Belarus". However, the term "corporate securities" isn't sufficiently studied by domestic authors and even not clearly defined in the mentioned program. So our aim here is to research the essence of that category to provide more transparency in terminology.

It should be noted that nowadays the remark of Russian Professor G. F. Shershenevich (1994) that «the concept of securities isn't clearly understood neither in life nor in science...» is still timely and fair. «Obviously, the paper becomes valuable not itself, but because it expresses the right to obtain something that has value. On the other hand, if a right could be exercised freely without paper, there was no need for it to be embodied in paper. So, not every document, confirming the right to value, should be recognized as a valuable paper (*in English it is more natural to say security*), but only the document which places the right to value in close relationship with the paper» (Shershenevich, 1994).

It should be noted that in the legal acts of the Republic of Belarus, as well as in the economic literature there is no definition of «corporate securities». Moreover, an indirect definition, which can be derived from the legislation, regulating procedures of circulation of financial instruments, leads to ambiguity of the term «corporate securities» by the issuer's criterion. The contradictory interpretation of that economic category complicates its understanding. In its turn, this leads to the situation, when the information doesn't meet the needs of investors, isn't suitable for making management decisions, related to the placement of capital in the stock market.

Based on the conducted research, it should be noted that only some authors, studying the essence of the «securities» category, mention the concept «corporate securities», but at the same time they don't provide a clear definition. We consider that particular relevance relates to the full classification of corporate securities, which will allow to get necessary information of higher quality, as well as to monitor movement and effectiveness of corporate securities usage. However, the authors, studying the category of «corporate securities», don't classify them, but only note some types and groups. Literature review on this matter has been summarized in table 1.

Table 1

**Analysis of the authors' views on the classification of corporate securities**

Author	Types of corporate securities			Groups of corporate securities		
	stocks	bonds	promissory notes	debt	equity	derivative
Mamanovich	+	+	+			
Belzetskiy				+	+	
Kolesnikov, Torkanovsky	+	+	+	+	+	+
Mahovikova, Selishchev, Mirzazhanov	+	+	+			
Sosnauwskene	+	+				
In total:	4	4	3	2	2	1

*Own development based on the study of literary sources*

As a result of conducted research it may be concluded, that the absence of a thorough definition of the economic essence of category «corporate securities» is common for all authors, and also there is no legally fixed formulation of this part of financial instruments. Thus, based on the performed study it can be argued that corporate securities are relatively new and insufficiently studied type of securities. But at the same time, the usage of this exact type of financial instruments should be significantly expanded in order to mobilize and provide rational use free funds of investors on the strategic directions of economic development.

The analysis of the authors' views shows that most of them name only specific securities that may be corporate, but at the same time they don't classify them. In its turn it won't allow to organize the formation of data on the

acquisition of this type of financial instruments at a higher level, to obtain the information, necessary for the analysis, and also it will reduce the quality of financial statements. As an economic category, corporate securities have different characteristics and their classification should contribute to a more rational organization of gathering information by types of financial instruments and meet the requirements of detailed data provision.

The conducted research of the essence of corporate securities allowed us to provide own definition: corporate securities are securities of shared-ownership legal entities, which collectively own property (capital) and united by common professional and other interests in achieving goals that doesn't contradict the law. Such definition will help to unify the terminological apparatus. In turn, the emergence of corporate securities will contribute to the development of domestic financial instruments.

The essence of derivatives market and the impact of hedging on the efficiency of non-financial organizations.

Risk management – is the process of assessing and re-evaluating a variety of possible variants for the relationship between risk and potential profit on an ongoing basis for making management decisions (Dafir, 2016). Risk reduction generally entails certain costs in the form of lower expected return on investment. In this context, it can be noted that risk management can be defined as the assumption of risks, which are inherent in the specifics of the company's work and hedging undesirable risks. This choice ultimately depends on the company's competitive advantages.

Before the advent of derivatives markets, risk management was quite burdensome. Ensuring that the actual level of risk was consistent with the desired level required transactions with underlying assets. «Derivatives solve these problems very effectively: they allow to trade risk without trading the underlying asset itself» (Wendy et.al, 2017).

Kovalev V. V. (2010), investigating hedging risks, emphasizes that the idea of hedging can be implemented in almost any enterprise, regardless of whether its operational activity aimed at financial markets or not. Galanov V. A. (2011) notes, that it is impossible to protect company from the price movement, because it is an objective process. It is possible only to try to protect against the resulting capital losses. Accordingly, hedging is a way of active capital protection, because it is connected with making additional transactions.

In order to make hedging work there should be speculators, who ready to bear risks. Derivatives markets are undoubtedly attractive to speculators, who act as professional traders and are willing to accept the risk that others want to get rid of in order to profit from price fluctuations. The more speculators work in the market, the cheaper it is for hedgers to transfer risk. In this sense, the distribution of risks improves both within the markets and in the world economy in general. Despite major financial turmoil the crisis of 2008-2009 didn't significantly affect the use of derivatives around the world. This is confirmed by a study, conducted by Bodnar (2011), where it is noted that out of 624 respondents (risk managers of large organizations around the world) 27 % indicated that the crisis prompted them to reduce the use of derivatives, 23 %, on the contrary, noted that the crisis forced them to expand the scope of derivatives usage, and the remaining 50 % indicated that the crisis didn't affect their attitude to derivatives.

Since the use of derivatives isn't widespread in the Republic of Belarus we consider foreign research in this area. A considerable part of these studies pay attention to the issues of hedging risks with derivatives: the objectives, volumes, types of hedging are studied, and special emphasis is made on the relationship between this method of risk management and the value of the company and its investment attractiveness. Some of these studies are presented in table 2.

Empirical researches don't allow us to say unambiguously that hedging is a source of increasing firm value, however as noted by Stulz (2013), corporate managers have an intuitive sense that an effective risk management program contributes to shareholder value, but they typically find it difficult to measure the success of such program.

Table 2

### **The usage of hedging with derivatives at the corporate level**

Author and research direction	Brief results of the research
Aretz, K., Bartram, S., & Dufey, G. (2007) The analysis of hedging objectives at the corporate level	With the help of hedging, the problem of lack of investment can be solved, when managers of loan companies prefer not to invest in projects with positive NPV. Hedging creates a stable cash flow that ensures that project profits are less likely to be below their initial investment plus liabilities to bondholders.
Aretz and Bartram (2010) The relationship between hedging and firm value	Corporate hedging may be considered as a source of increasing shareholder value due to the fact that corporations use hedging to minimize expected taxes, underinvestment and financial costs.
Smith and Stulz (1985, 2013) Determinants of corporate hedging strategies	Hedging using derivatives can bring significant benefits in countries, where companies have a convex (non-linear) tax scale, and also it is possible to increase shareholder value by easing the costs, associated with financial shocks.
Bodnar (2011) Global risk management study	With the support of ISDA, a survey was conducted among risk managers of large companies around the world on various issues of risk management, including the use or refusal from hedging with derivatives.
Erik P. Gilje (2017) The impact of hedging on the company's value: evidence from refiners in the USA and Canada	The benefits of hedging are theoretically well understood. Yet empirical evidence documenting the channels through which hedging affects firm value remains limited. The main reason for this lack of evidence is due to the endogenous nature of hedging policies; inferring causality is a delicate exercise in most situations. Results of research provide direct empirical evidence that reducing the probability of financial distress and mitigating underinvestment are first-order reasons why firms hedge.
Allayannis and Weston (2001) The usage of currency derivatives	Authors checked the relationship between hedging the risks of activities in foreign currency and the Tobin Coefficient (Q) and concluded that hedging increases the investment attractiveness of the firm.
Carter et al. (2006) Relationship between hedging and investment attractiveness in the aviation industry	It is noted that hedging has a positive effect on current activities on the example of US airlines.
Jin and Jorion, Impact of hedging in the oil and gas sector (2006), and for gold mining companies (2007)	Hedging does not affect the value of the firm in oil and gas production and even negatively affects the value of the firm in the gold mining company.
Phan et al.'s (2014) The analysis of hedging impact on 94 companies specializing in oil and gas exploration and production from 1998 to 2009	Authors document a negative and significant relationship between hedging and firm value, i.e. a hedging discount. At a theoretical level, hedging can enhance firm value by reducing the costs relating to underinvestment and financial distress. Nevertheless, there is little reason to expect that these costs materialize in the presence of upside risk. As a result, it is noted that hedging adds value only in the presence of downside risk, when underinvestment and financial distress risks are more substantial.
Wang and Birkeland (2017) Corporate hedging in US oil and gas companies	Investors recognize the effects of hedging on stock price exposure towards fluctuations in oil and gas prices in periods of negative shocks in these prices. These periods are the only periods, where hedging proves to be value adding. Outside these periods hedging brings discount on firm value. This is connected with investor loss aversion, i.e. investors being more sensitive to negative surprises than to positive.

Source: own development based on the study of literary sources

It can be concluded that the results are quite contradictory. It depends on the specifics of a particular industry and the corresponding time period. At the same time, in the research of derivatives usage at the corporate level, conducted by M. Bartram (2017), it is noted that most companies use derivatives from case to case based on their vision of the market at a particular time.

In the conditions of the Republic of Belarus it is also necessary to take into account the fact that shares of almost all large non-financial organizations aren't traded on the stock exchanges, so there are no benchmarks for assessing the market value of companies. From the other side it can be noted, that the main result of hedging is predictability of cash flows, but the direct connection between firm value and that predictability may be absent at a certain time interval. At the same time losses can be significant, if derivatives are used for speculative purposes in a gambling manner, especially if such transactions are positioned as hedging operations or hidden from investors and the company's



management at all (Masko, Pankov 2019). For example, Jacques L. (2016) notes that the Japanese company Showa Shell Sekiyu in 1993 announced a huge loss on foreign exchange transactions in the amount of \$1.07 billion USD. What had been starting as legitimate hedges mysteriously turned into a colossal loss-making position on forward contracts for the dollar/yen currency pair between 1989 and 1993.

As noted by Smith & Stulz (1985) quite often losses on derivatives with well-thought-out hedging are considered as a failure in the risk management system. Although the company applies hedging because it cannot predict, what result will bring the asset, liability or future cash flow, which is exposed to market risk, in the future. And to avoid this uncertainty, organizations resort to hedging, while if the market movement is favorable for the company, then the hedging instrument will show an offsetting loss.

Thus, it can be concluded that, despite the inconsistency of empirical results, hedging with derivatives is an effective way for non-financial organizations to manage risks arising from fluctuations in market variables, which finally can improve the stability of the company's operational activity.

Current state and problematic aspects of the financial market components in the Republic of Belarus.

As noted by Goldstein et al. (2013), the key feature of modern financial markets is that capital is relatively segmented and moves slowly, but information is relatively integrated and moves quickly, and traders actively use this information. At the same time neither the market of corporate securities nor the market of derivative financial instruments can be considered sufficiently developed in the Republic of Belarus. As a result, the potential for improving the current activity of non-financial organizations in these markets remains undisclosed. Further we will consider how these markets are characterized in the Republic of Belarus and what problematic aspects can be identified in this area.

At the moment the «Strategy of financial market development until 2020» is the main document, governing financial market development in the Republic of Belarus. According to which the goal of the financial market development for the period up to 2020 is its qualitative transformation, increasing its stability and efficiency of functioning, aimed at economic growth and welfare of the whole nation. To achieve this goal, it is necessary to solve, among others, the following tasks. To form a full-fledged, structurally developed financial market, this requires: ensuring accelerated development of non-banking sectors of the financial market; improving the range of banking products; development of financial market infrastructure; increasing confidence in the financial market. Also it is necessary to intensify competition through: development of the institutional structure of the securities market; development of the insurance market; increasing the share of private property, reduction of the capital concentration in the banking and insurance sectors; improvement of corporate governance; increasing the degree of information openness of all financial market participants.

Also in this Strategy the assessment of the current state is characterized as follows: despite the fact that the financial market as a whole performs its functions, the existing structural imbalances and accumulated problems don't allow it to develop dynamically enough and also these problems affect the quality of financial services. The dominance of the banking sector reduces competitive pressure and reduces incentives for financial market development.

The following results have been achieved in the development of the securities market. In general the legislation, regulating activities in the securities market, has been formed; the basic elements of its infrastructure (depository, exchange and settlement-clearing systems) have been created. Population and organizations are being attracted to this market. However, certain segments of the market (secondary equity market, derivatives market and securitized assets) and its institutions (investment, pension funds) haven't been sufficiently developed.

Quantitatively the development of the securities market is characterized by the following indicators. As of January 1, 2017: the volume of share issues reached 29.2 billion rubles, which is almost 5 times higher than the level as of



January 1, 2011. At the same time, the ratio of shares to gross domestic product for the period decreased by 3.7 percentage points to 30.9 percent. The annual volume of secondary trading in shares ranged from 0.03 billion rubles in 2011 to 0.08 billion rubles in 2012 and amounted to 0.05 billion rubles in 2017. Liquidity of the stock market remains low: in 2017, market prices were calculated on shares of only 63 from 2,300 open joint stock companies (in 2010 – 61 issuers); trading volumes in 2018 on both organized and OTC markets was only 0.096 billion rubles.

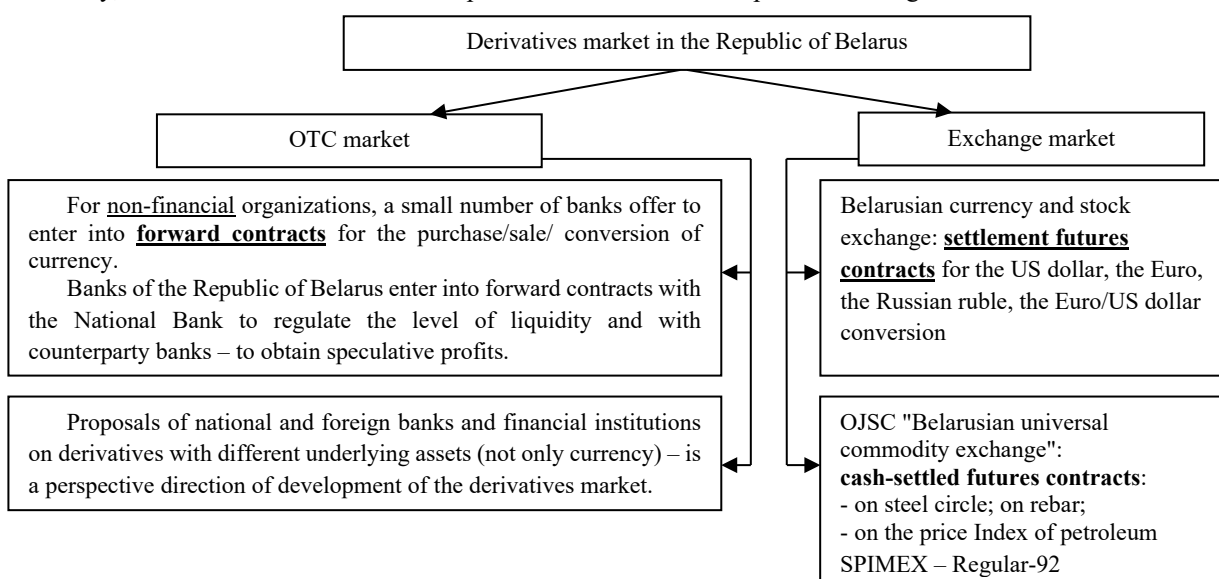
The volume of transactions of purchase and sale of bonds of legal entities, including local executive and administrative bodies in 2017 amounted to 2.5 billion rubles and increased from 2010 to 4.5 times. In 2018 both organized and OTC bond trading volumes reached the level of 2.2 billion rubles. Since 2010, the volume of this market has increased in more than 15 times. That means that investors in Belarus prefer to make investments in less risky operations with bonds, rather than to take a greater risk through investments in shares of Belarussian corporations.

The market of corporate securities of the Republic of Belarus can be characterized as developing, because its intensive formation falls on the beginning of 90-ies of XX century. Its main characteristic is the significant role of the government in the process of creation, as well as the high percentage of bank and state securities. Also it should be noted that an important indicator – the number of reformed enterprises of Republican ownership in the process of privatization. «Overall, for the entire period the most enterprises were privatized under the Ministry of industry, Ministry of agriculture and food, Ministry of architecture and construction» (Jernoseck, 2008).

In the Strategy of development of the financial market in the Republic of Belarus until 2020 it is noted that the greater flexibility of the exchange rate of Belarussian ruble increases the relevance of hedging currency risks by non-financial organizations, which will require development of derivatives market instruments for hedging currency risk.

Currently among non-financial organizations the most popular derivative financial instruments for hedging currency risks are forward contracts for the purchase, sale or conversion of currency. As a rule, the counterparty to such transactions is the servicing bank. Offers of banks on forward transactions for purchase, sale and currency conversion represent the OTC market of derivatives. In addition, banks and financial institutions both registered in the Republic of Belarus and abroad may offer organizations to purchase derivatives with different conditions and underlying assets. While the volume of OTC transactions with such derivatives is rather difficult to estimate, it can be noted that the usage of OTC derivatives with a variety of underlying assets (not only currency) by non-financial organizations of the Republic of Belarus hasn't received widespread at the moment.

Generally, the derivatives market in the Republic of Belarus can be represented in figure 1.



Source: own development based on the materials of National Bank, Sidorenko (2017), Usefalchick (2017)

### Fig. 1. Derivatives market in the Republic of Belarus

The main problematic aspects that hinder the development of the derivatives market in the Republic of Belarus can be structured in the following way.

Firstly, as noted by Ph. Jorion (2007), one of the first steps of effective risk management is to evaluate assets and liabilities at fair value. For a long period derivatives were reflected in the accounting on off-balance accounts, hence didn't appear in the balance sheet and the statement of profit or loss. The growth of derivative markets and a number of financial shocks due to losses on derivatives contributed to the adoption in 1998 the standard SFAS 133 in the United States, and IAS 39 «Financial Instruments: Recognition and Measurement». These standards established requirements for mandatory assessment and revaluation of the fair value of derivatives with the attribution the results to profit or loss.

Despite the introduction of international financial reporting standards (IFRS) as technical regulations on the territory of Belarus since January 1, 2017 the national system of accounting and reporting in the field of derivatives still doesn't provide a clear accounting of these instruments, therefore, doesn't facilitate the receipt by users of reporting relevant information on the opened market positions (Masko, Pankov, 2017). It should be noted that in the CIS countries there is a focus on convergence with IFRS. For example, until recently, the accounting standards for investors in Russia were US GAAP, because they regulated the accounting for real situations in detail. However, in 2010 organizations, whose securities were admitted to the organized trading had to prepare consolidated financial statements in accordance with IFRS (Pashkevich, 2017). In Belarus is currently pursuing a policy of convergence with IFRS as well. The adoption of the National accounting standard «Financial instruments» in January 1, 2019 had to clarify accounting for derivatives; however certain significant aspects, related to the use of derivatives in the practice of business entities, remain unsolved. Also, organizations note that accounting for this standard is more difficult than under the rules of IFRS 9.

Secondly, the regulation of transactions with derivative financial instruments in the field of taxation in the Republic of Belarus affects the value added tax and income tax, applicable only to banks, and income tax for individuals. In the taxation of income of non-financial organizations there is no any features related to income tax. At the same time, it can be noted that in the Republic of Kazakhstan, in Russian Federation and in the United Kingdom the legislation, governing the calculation and payment of income tax to a greater or lesser extent defines the features of transactions with derivatives, including those used for hedging.

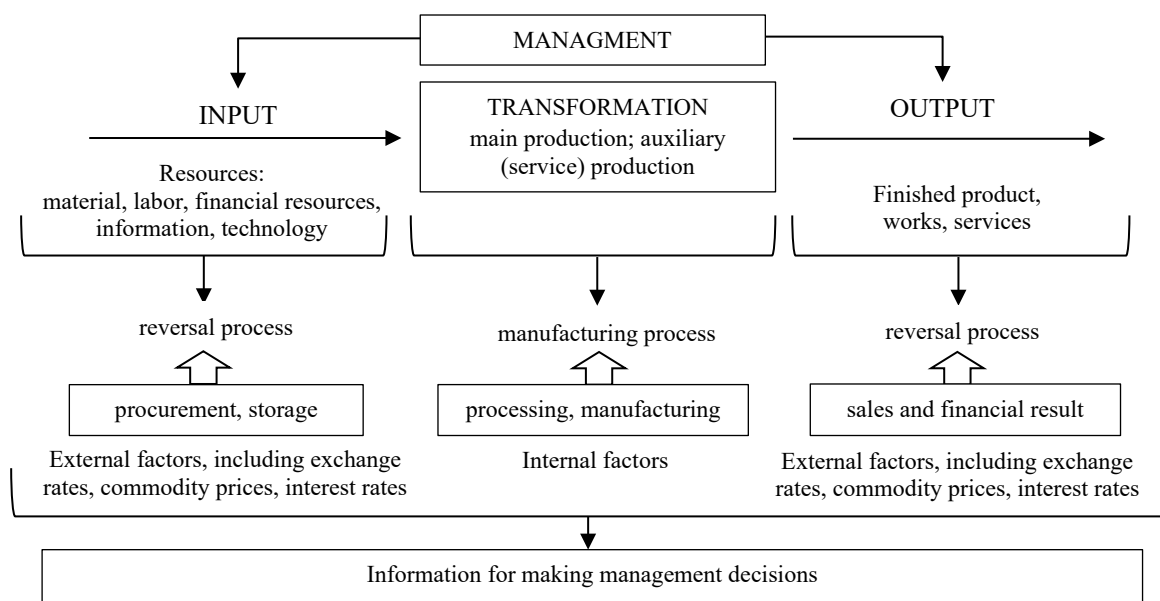
Thirdly, from the point of view of civil law, nowadays operations with net-settled derivatives can be qualified as wager transactions, judicial protection for which is not provided. For comparison, in the Russian Federation this gap was eliminated in 2010 by the introduction of the corresponding norm in the Civil code of the Russian Federation.

With regard to the implementation of the hedging transactions themselves, we note that are more likely to arise at the OTC market, because on the exchanges the contracts of the futures market section are standardized and there are well-established mechanisms for ensuring the fulfillment of obligations. Complexity can be caused by OTC contracts, where there is more flexibility, however, can be disputable moments concerning the order of calculations, determining the prices and terms of collection the debt from the defaulter.

Fourthly, the Belarusian authors name the low level of corporate risk management as one of the reasons for the underdevelopment of derivatives market. It should be noted that it is rather difficult to assess this level, especially within the country; therefore, here we should speak about the fact that the management of non-financial organizations of the Republic of Belarus is focused on solving critical issues related to current activities. While reducing exposure to non-core commodity or currency risks through hedging may improve the efficiency of an organization, but it is not

a critical aspect of their operations. No doubts that if there is a clear in implementation and well-understood in possible benefits hedging strategy, every manager won't refuse to use derivatives, but so far everything remains very confusing. Opportunities for non-financial organizations of the Republic of Belarus in the derivatives market.

In modern conditions any organization is closely connected with the environment and depends on it both in terms of its resources and in terms of consumers. Openness of both individual organizations and the economy as a whole is associated with many risks that are caused by external factors. The impact of external environment and the necessity of coordination within the organization require making management decisions constantly. Management is understood worldwide as the process of planning, organization, motivation and control necessary to achieve the company's goals. Theory and practice of management allow us to present economic entities of any level as opened systems. The characteristics of management activity in that system may be presented in the following form (figure 2).

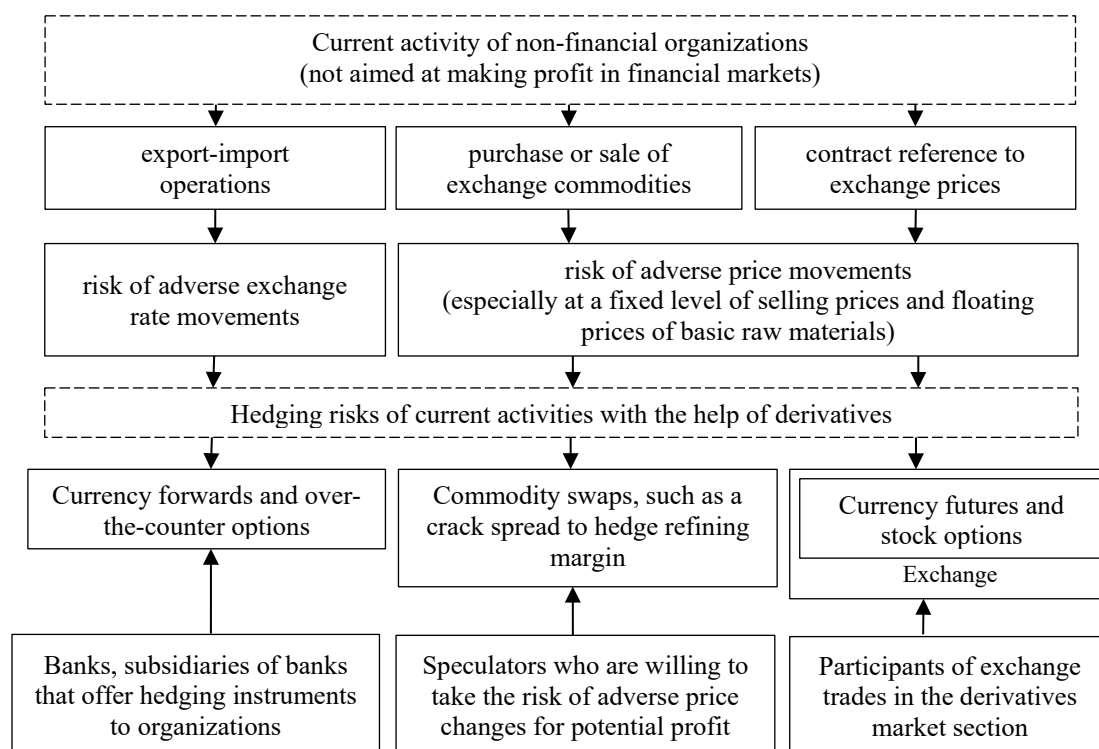


Source: own development based on the scheme, elaborated by Lavrinenko (2010)

Fig. 2. Characteristics of the opened management system

Depending on the field of activity, market variables (exchange rates, exchange prices, interest rates) can have significant impact on the final result of the company's performance indicators. Moreover, exposure to the risk of adverse movement of market variables can occur both at the stage of procurement and at the stage of sale of goods or services.

It is evident that the planning function will be implemented better, if the probability of occurrence of the planned scenario is higher. In this case, hedging with derivatives allows the company to plan the result that won't be affected by market risk. The most evident directions of hedging for non-financial organizations are protection against currency and price risks faced by exporters and importers, or by organizations working with exchange traded commodities. Potential areas of hedging risks that arise in the terms of current activity in non-financial companies are presented in figure 3.



Source own development

Fig. 3. Model of hedging the most significant risks arising in the current activity of non-financial organizations

In assessing hedging effectiveness it's necessary to take into account the changes in the value of the hedged item as well, while consideration only profit or loss on the hedging instrument doesn't take into account the purpose of hedging: the cost of hedged item and hedging instrument in an effectively built risk management system should move in opposite directions and provide the company with a stable level of income with a high probability (Masko, Pankov 2018).

### Conclusions, proposals, recommendations

According to the results of the study, the following conclusions can be drawn.

1. Corporate securities are an insufficiently studied type of securities in the Republic of Belarus, which, however, can provide an effective way to mobilize free funds of investors. Most authors name only specific securities, but do not make their classification. For clear understanding the essence of corporate securities we've provided our own definition of that term, which will help in the development strategic documents from the government side. One type of financial instrument that should be considered separately is derivatives. The use of derivatives at the corporate level has become widespread, as well as research in this area is versatile. Special attention is paid to the relationship between hedging and company value: theoretically, this relationship should have positive direction, but empirical studies are contradictory.
2. In the Republic of Belarus, the stock market, as well as the derivatives market, can be characterized by a significant role of the state in the creation process and high ratio of securities issued by banks and state institutions. If the share and bond market has certain trading volumes and positive growth dynamics, the derivatives market, both exchange and over-the-counter remains nominal: only currency instruments are traded between banks. In our opinion, derivatives with other underlying assets still remain a promising direction of development. We have identified problematic aspects in the legislative sphere, which results in such situation, when top-management of non-financial organizations considers that it is better to avoid financial innovations, because derivatives can bring more difficulties than benefits to their companies.

3. For better understanding from senior management side the necessity of hedging market risks and its place in the management system, we have considered the organization as an opened system, which is influenced by external factors. The planning function in this system will be implemented better, if the organization will be able to obtain the result that is not exposed to market risk. Therefore, we have developed a Model of hedging the most significant risks arising in the current activity of non-financial organizations. It includes such areas as export-import operations, purchase or sale of exchange goods, contract binding to exchange prices. In these cases, hedging with derivatives will be one of the most appropriate risk-management techniques and will have positive effect on the work of a non-financial organization.

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# THE THEORETICAL BASIS OF THE METHODS OF ACCOUNTING ANALYSIS OF THE EFFECTIVENESS OF ENTERPRISE MODERNIZATION WITHIN THE CONCEPT OF MAINTAINING FINANCIAL AND PHYSICAL CAPITAL

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**Abstract.** One of the decisive conditions for ensuring a high level of competitiveness is modernizing production processes. Exactly due to the modernization, enterprises can maintain an up-to-date level of their engineering and technological potential, ensure product quality, achieve a high labor productivity and access to international markets. Although modernization is the most important aspect of any enterprise activity, it has not been considered as a special object of accounting and analysis up to the present. This research is devoted to the elimination of this shortcoming. The goal is to indicate the possibility of applying the accounting methods and analytical tools to generate reliable data on business processes, which are typical for modernization, as exceptional objects of accounting and analysis. Emphasis on the modernization and the identification, with its business operations, has a special value in the decision-making process for developing a business, using intensive factors of economic growth. This research is focused on the development of a number of methods of audit analysis, which we can be applied when obtaining a quantitative assessment of the effectiveness of business processes and investments in enterprise modernization. This research is based on the study of scientific literature and the application of theoretical methods of comparative analysis, critical evaluation, systematization and generalization. The obtained research results give a possibility to improve the economic analysis of the enterprise. This makes it possible to detect hidden trends in the development of business entities, prevent crisis situations, strengthen the importance of prognostic functions, comprehensively research and evaluate the performance of business entities in general and in the field of modernization, in particular.

**Keywords:** *enterprise modernization, accounting, audit, analysis.*

**JEL code:** M4

## Introduction

The objectivity and necessity to modernize Belarusian economy are determined by the requirements of “survival” in terms of the fastly growing level of competition and technological superiority of individual countries, which have chosen an innovative development path. In the context of the global recession, the potential of the growth of traditional goods export is very limited. There used to be mainly a competition in the production of traditional products, focusing on improving quality and developing technical and economic characteristics. Those who create a new product and, accordingly, a new market, receive super-profits until the analogues of competitors appear.

Since the investment of funds and their rational use is an important condition for effective functioning and successful development, the most important task of the government and enterprises is to increase the economic efficiency of the ongoing modernization. Assessing the effectiveness of enterprise modernization is the most considerable step in making decision on the feasibility of implementing an investment project. The time scales of the return on invested capital, its profitability and the pace of development of the enterprise depend on how objective and comprehensive the analysis is.

Various aspects of the inclusion of information on enterprise modernization in the accounting and reporting are considered in the works of foreign and domestic authors: S. G. Vegera, M. I. Kuter, S. G. Korotaev, N. I. Ladutko, V. F. Paly, D.A. Pankov, P.G. Ponomarenko, M.L. Pyatov, J. Rishar, A.P. Shevlyukov, V.G. Shirobokov and others. General issues of economic efficiency of enterprise modernization were investigated by L.L. Ermolovich, T.B. Berdnikov, L.S. Vasilyeva, M.V. Petrovskaya, D.V. Lysenko, D.A. Endovitsky, V.I. Makaryeva, L.V. Andreeva, G.V. Savitskaya, V.I. Strazheva, A.D. Sheremet, R.S. Sayfulin. Theoretical and methodological issues of the economic content of the concept



“enterprise modernization” are considered in the studies of Belarusian authors: A. E. Daineko, L. M. Kryukov, V. S. Protasenya, V.N. Shimov and others.

Analysis of foreign and domestic publications enables us to conclude that the use of traditional methods of accounting and analysis of the effectiveness of entrepreneurial activity does not allow obtaining reliable data on the actual business processes of enterprise modernization. The existing accounting and reporting system is mainly focused on the reflection of aggregated data on the valuation of assets, capital, liabilities, revenue and expenses of business entities. From the information contained in the standard forms of financial reporting, which is standardized in accordance with the established requirements, no conclusions can be drawn regarding the conditions, sizes and sources of financing for enterprise modernization, nor about the economic efficiency of its implementation, nor about the profitability of products manufactured on the modernized equipment, nor about the money flows that accompanied modernization. It can be stated that at present, the considerable potential that is laid down in accounting and reporting, as the most important information management system, is vaguely used.

The relevance of the research is determined by the need to solve a whole range of interrelated problems of theory, procedure, methods and organization of accounting, reporting and analysis of the results of enterprise modernization in the context of harmonization of national legislation with IFRS and best practices. To solve these problems, further development of the existing accounting and reporting system is required, which determined the purpose of the research: theoretical and methodological objectivation and improvement of accounting, reporting and analysis of business processes, associated with enterprise modernization. This goal can be achieved by solving the following tasks:

- to justify the feasibility of considering enterprise modernization as a special object of accounting and analysis within the concept of maintaining physical and financial capital;
- to develop methods of the formation of a special subsystem of accounting and reporting on the process and financial and economic results of the effectiveness of enterprise modernization;
- to develop methods for identifying and analyzing hidden correspondences between modernization facilities and their financing sources.

The research object is the influence of the processes of enterprise modernization on a unified system of accounting, financial reporting and economic analysis. The choice of the research object is determined by the relevance of the formation of a single information system about the results of business processes at all stages of the life cycle of enterprise modernization in a single system of accounting and reporting, their insufficient development and practical significance in modern conditions.

The research is based on the study of scientific literature and the application of theoretical methods of comparative analysis, critical assessment, systematization and generalization.

#### **Theoretical background for the reflection of production modernization in the accounting and reporting of business processes**

Evaluation of the effectiveness of enterprise modernization is the most essential step in deciding on the feasibility of implementing an investment project. The time scales of the return on invested capital, its profitability, and the pace of development of the enterprise depend on how objective and comprehensive the analysis is. Qualitative analysis is impossible without reliable and complete information about the availability, structure and dynamics of resources involved in business processes due to enterprise modernization. In the process of economic activity, information flows are formed that characterize the main economic parameters of the enterprise: the composition and size of assets, equity, liabilities, revenue and expenses of the enterprise. Accounting fulfills the task of organizing these information flows and presenting data in the form of final reports. Although modernization is the most important aspect of any enterprise activity, it has not been considered as a special object of accounting and analysis since the present. The traditional

system of accounting and analysis does not allow to sufficiently and comprehensively disclose the totality of causal relationships due to enterprise modernization. The financial reporting, as the main information base for managing enterprise modernization, is mainly focused on the reflection of aggregated data on assets, capital, liabilities, revenue and expenses of business entities. One of the main shortcomings of the modern analysis of economic activity is its fragmentation and lack of methods to assess the continuous process of funds movement.

To eliminate these shortcomings, it seems appropriate to highlight enterprise modernization as an independent object of accounting and economic analysis with its system of accounts and valuation of those assets that are the direct subject of modernization, as well as the revenue and expenses that are generated at the enterprise in the course of using the modernized facilities.

The research of the economic essence of the concept “enterprise modernization” made it possible to state that in the process of modernization the useful properties of modernized facilities are improved, i.e. the productivity of equipment and workload increases, the quality increases and the cost of production decreases, thereby directly affecting the capital and the amount of profit received at the enterprise.

Measuring the effectiveness of enterprise modernization infers the introduction of a criterion of economic efficiency. For the owners of the organization, as well as for the users of financial reporting, the dynamics of changes in such indicators as invested capital and profit are important. Therefore, at the enterprise level, the maximization of profits and the preservation of initially invested capital can serve as a form of a single criterion for the effectiveness of its activities.

A large number of scientific works is devoted to the study of the mechanisms for maintaining the enterprise capital. J. R. Hicks (1946) was one of the first researchers who talked about the importance of establishing the correct criteria for assessing the enterprise effectiveness in terms of revenue and expenses, and the final financial results. “The purpose of calculating revenue in practical matters is to give people an idea of how much they can spend without impoverishing themselves. According to this idea, we must define a person’s income as the maximum value that he can consume during the week, remaining at the end of the week as wealthy as at the beginning” (J. R. Hicks). Thus, it is necessary not only to determine the amount of revenue received by the enterprise in the reporting period, but also to determine the amounts and means that can be used in the future to maintain and build up business activity.

In connection with the transition to international financial reporting standards, the interest in applying certain provisions in practice has recently increased. One of the key theoretical elements underlying the accounting methodology, which is defined by IFRS, is the so-called concept of capital. Their idea is to identify possible interpretations of the enterprise profit and its capital, based on the economic concept of creating accounting information.

In IFRS, when determining the interpretations of an enterprise profit, they are based on concepts of capital. The principles of preparation and development financial reporting allow enterprises to choose one of the two concepts of capital maintenance as the basis of the accounting methodology - financial or physical:

- maintaining financial capital means that during the reporting period, profit is declared to be earned only if the value of net assets at the end of the period exceeds the value of net assets at the beginning of the period after transfers to owners;
- maintenance of physical capital means that during the reporting period, profit is declared to be earned when the physical productivity (or operational ability) of the company at the end of the reporting period exceeds physical productivity at the beginning of the reporting period after deducting all owners’ contributions and distributions between them during the reporting period.

The concept of maintaining capital gives a possibility to make the distinction between the company return on invested capital and the maintenance of capital. This way, profit (return on invested capital) is understood only as an increase in the value of assets that exceed the amounts necessary to maintain capital.

In practice, the concept of maintaining financial capital is most widely used, as it is more universal and is not tied to specific types of physical assets of the enterprise.

The concept of physical capital maintenance is determined by the appropriateness of maintaining and developing the production capacity of an enterprise, which is expressed in a certain output of a natural quantity of products. From this point of view, the generation of a net cash flow of assets is determined by the multiplication of production capacity in units of output by the amount of profit per unit of output.

Since in the process of modernization, the useful properties of the modernized objects are improved, i.e. the productivity of equipment and labor service increases, the quality increases and the cost of production decreases, then it directly affects capital. Within the physical concept, the modernization impact on the capital is to increase the productivity of the equipment, and within the financial concept it is the maximization of profit. Therefore, it is offered to consider the enterprise modernization as one of the ways to ensure the practical implementation of the concepts of maintaining financial and physical capital, and as a general criterion for the effectiveness of the enterprise.

Considering the above, the life cycle of production modernization should not be limited only to business processes to improve the useful properties of objects. The life cycle of production modernization should also include both business processes for the further use of modernized facilities in entrepreneurial activity, and business processes for generating revenue from the use of these facilities and it should consist of the following stages: 1) developing sources for modernization financing; 2) transformation of resources and improvement of useful properties of modernized objects; 3) the use of modernized facilities in business to generate revenue.

Thus, it is advised to monitor all business processes associated with modernization throughout the entire cycle of capital circulation.

Summing up, we regard it appropriate to consider modernization as a separate accounting object with the need to highlight its inherent accounting records and valuation of those assets that are the direct subject of modernization, as well as the revenue and expenses that are generated at the enterprise in the course of using the modernized facilities. To create a special information subsystem of accounting for production modernization, it is offered to use the basic algorithm: 1) The project and a set of special organizational, technical, financial and economic measures for the production modernization. 2) Development of criteria for the recognition of business transactions related to the production modernization. 3) The system of primary documentation of business operations related to the production modernization. 4) Development of a system of analytical indicative accounts to reflect business processes and business operations due to the production modernization. 5) Development of a standard system of accounts in the form of correspondence of indicative accounts in the framework of a single closed cycle of capital circulation, due to the production modernization. 6) Development of an analytical reporting system on the progress and results of the production modernization.

This idea will be as a prerequisite for the development of a special system of accounts, accounting methods and indicators of financial and management reporting, which will allow the formation of databases that reflect the impact of modernization on the valuation of all major accounting objects and indicators of financial reporting in the framework of the capital circulation. The analysis of such databases, as well as their quantitative and qualitative assessment, will allow making timely and well-grounded management decisions to ensure the effectiveness of enterprise modernization in the interests of the owner, investors and the government.

## **Methods of the formation of a special subsystem of accounting and reporting on the process and financial and economic results of the effectiveness of enterprise modernization**

Management of modernization processes at the enterprise is impossible without unreliable information on the availability of sources of financing and objects of modernization. Qualitative, objective analysis, which provides a reliable result, can be built only on the basis of documented source data.

The national standard of accounting and reporting “Individual financial reporting” defines the following standard composition of financial reporting forms: Balance sheet reporting (mode №1); Profit and loss reporting (mode №2); Reporting on changes in equity (mode №3); Cash flow reporting (mode №4); Target financing reporting (mode №5). The current accounting and reporting system reflects generalized data on the valuation of assets, capital, liabilities, revenue and expenses of business entities. The use of traditional accounting methods does not make it possible to generate reliable information in the context of real-life business processes and types of activities of business entities. Analyzing the indicators contained in the financial statements, no conclusions can be drawn: regarding the volume of financing enterprise modernization; about the target use of resources allocated for and aimed at enterprise modernization; about the economic efficiency of enterprise modernization; about the profitability of products manufactured on modernized equipment; etc.

As a result, that considerable potential which is put in accounting and reporting, as in the most important information management system, remains to be vaguely involved, that finally reduces the demand for accounting and analytical functions in the system of making management decisions.

To solve this problem, there are methods of the formation of a special subsystem of accounting and reporting on the process and financial and economic results of the effectiveness of enterprise modernization. The basis of these methods is the principle of sequential sampling and grouping in the form of information tracks of accounting data by assets, liabilities, capital, revenue and expenses under the influence of business operations due to enterprise modernization as part of a closed accounting and analytical cycle of capital circulation.

The practical development of the methods is implemented on the basis of: 1) A systematic view of the complex of financial and economic relations of an enterprise between owners, managers, suppliers, buyers, the government and creditors; 2) The capital cycle of a typical industrial enterprise; 3) Accounting equality, reflecting the five main groups of economic indicators of a typical enterprise; 4) Classification of the main qualitative features, which allow identifying the business operations of business entities related to enterprise modernization; 5) Separation from the general stream of accounting data of those information tracks which describe the procedure for financing the enterprise modernization in terms of financing sources (equity and borrowed capital), objects of investment, the moments of its distribution by stages of the circuit and the assessment of the final financial results of the activities of enterprise modernization.

The whole set of numerous business transactions can be grouped in the context of 8 interdependencies of elements of accounting equalities (see Fig 1).

The methods imply the formation of analytical data based on the following typology of operations due to enterprise modernization: The 1<sup>st</sup> type of business transactions reflects the interaction of assets and capital of the enterprise (for example, the formation of the authorized capital by the owner in the form of cash). The 2<sup>nd</sup> type of transactions reflects the use of borrowed capital by the enterprise (the formation of assets through external borrowing and their repayment). The 3<sup>rd</sup> type reflects the redistribution of enterprise funds within assets at the stages of the capital circulation (transfer of raw materials to production, receipt of end products from a factory to a warehouse, etc.). The 4<sup>th</sup> type of transactions is associated with the sale of finished products, goods, works and services and a write-off of consumed assets for expenses of the reporting period. The 5<sup>th</sup> type reflects the formation of expenses due to accrued

liabilities (indirect taxes). The 6<sup>th</sup> type is associated with the redistribution and restructuring of the obligations of the enterprise (re-lending, etc.). The 7<sup>th</sup> type reflects transactions involving the accounts of liabilities and equity (for example - accrual of dividends). The 8<sup>th</sup> type shows the reflection of operations within equity (reservation of net profit, replenishment of the authorized capital at the expense of profit).

Types of business transactions	Balance			+	Profit and loss
	A	= L	+ C		R - E
1	←		→		
2	←	→			
3	←		→		
4	←			→	
5		←			→
6		←			
7		←			
8			←		

Source: in-house development

Fig. 1. Types of interdependencies of elements of accounting equality

The purpose of this typologization is the formation of an accounting and analytical information model of enterprise modernization in the usual format of the balance sheet, revenue reporting, cash flow reporting. The model is formed by means of a special sample from the general information flow of accounting and grouping information tracks (business transactions) into separate data arrays due to enterprise modernization (marked with letter “M”). This approach does not violate the information flow of the formation of accounting and reporting data of the enterprise and provides a methodological unity in assets valuation, liabilities, capital, revenue and expenses of the enterprise both in the context of its general economic activity as a whole, and in the form of business processes inquiry related to modernization in particular. As a result of the developed methods, sub-reporting forms are formed (sub-balance sheet, sub-statement of profit and loss, sub-statement of cash flows) within the framework of a unified methodology for generating typical enterprise reporting with a system-based reflection of the processes and results of enterprise modernization carried out at the enterprise for the reporting period (profit and loss reporting) and at the reporting date (balance sheet). This reporting contains a number of new economic indicators that have not been previously reflected on a systematic basis in accounting and reporting. The most significant indicators include revenue from sales of goods resulting from enterprise modernization, depreciation of modernized fixed assets, modernized fixed assets themselves, profit (loss) from enterprise modernization, modernization expenses, etc. These indicators are interrelated both with the general information flow, comprehensively reflecting the activities of the enterprise, and with the results of the enterprise in the field of production modernization. This methodological approach allows getting financial reporting (balance-sheet) of the enterprise, which fully and comprehensively reveals the processes of modernization that have been implemented at the enterprise and reflects its consequences of influence on the financial results (profit or loss), assets, liabilities, capital. The reporting obtained in this way will serve as an information base for calculating the performance indicators of enterprise modernization as part of the implementation of the concept of maintaining the financial and physical condition of capital.

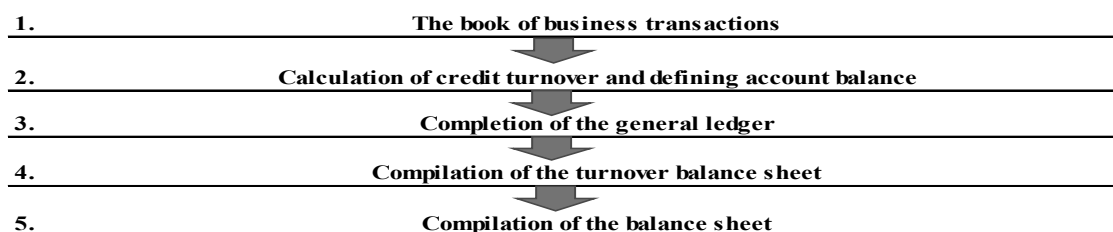
Thus, the prerequisites and the basic algorithm for creating a special information subsystem of accounting for production modernization will be as follows: a project and a set of special organizational, technical, financial and economic measures for production modernization; development of criteria for the recognition of business transactions related to production modernization; the system of primary documentation of business operations related to production modernization; development of a system of analytical indicative accounts to reflect business processes and business operations due to production modernization; development of a standard system of accounts in the form of correspondence indicative accounts in the framework of a single closed cycle of capital circulation due to production modernization; development of a system of analytical reporting on the progress and results of production modernization.

### The methods of reflection in accounting of hidden correspondences between modernization objects and sources of their financing

The methods of domestic accounting reflect the information on the generation of the volume of financing sources for modernization in separate accounts. However, the degree of analyticity and completeness of such information is insufficient to justify effective management decisions. Currently, the used accounts do not consider the investment resources themselves, but obligations on them. This leads to the lack of data on the size of the generated and used financing sources for the enterprise modernization and their intended use.

Two main levels of information hierarchies in the framework of accounting are usually distinguished - the level of analytical accounting and the level of synthetic accounting. The current practice of accounting does not allow us to establish the correspondence of specific financing sources of production modernization and investments into specific types of assets, as well as tracking the movement of value through the stages of the capital circulation. The correspondence between the accounting objects (for example, a loan received from a bank and monetary assets) which is recorded upon completion of business operations is static in nature, that does not allow tracking, for example, loan security as funds are used at the stages of the circuit (purchase of raw materials, equipment, etc.). Such a gap between the moment of recognition of obligations and their provision with assets, their subsequent movement within the framework of business processes, makes it impossible to track the target use and effectiveness of loan coverage. In this regard, there are methods for dynamic accounting analysis of the correspondence between assets, liabilities, capital, revenue and expenses as the implementation of business processes. This way, it seems appropriate to implement analytical accounting, within a separate information subsystem, by creating additional entries to reveal hidden correspondences between accounting objects (assets, liabilities, capital, revenue and expenses).

The algorithm for generating additional entries to identify hidden correspondences between accounting objects (assets, liabilities, capital, revenue and expenses) is based on the following logical reasoning. The modern system of processing economic information in the framework of accounting is presented in the fig. 2.



Source: in-house development

Fig.2. The modern system of processing economic information in the framework of accounting

From the diagram in Figure 3 we see that first all business transactions are recorded in “The book of business transactions” on the basis of primary documents (stage 1). Then all this information is allocated to accounts, i.e. debit and credit turnover and closing balances are calculated (stage 2). Then, the data is transferred from the accounts to the general ledger (stage 3) and a turnover balance sheet is compiled on its basis (stage 4), which serves to verify the correctness of the allocation of amounts to the accounts. Then, the balance sheet and other forms of financial statements are compiled (stage 5). Fig 3 presents a simplified form of the balance sheet.

Assets	Sources (capital, liabilities)
Asset1	Source1
Asset2	Source2
AssetN	Source N
Balance sheet total	Balance sheet total

Source: in-house development

Fig. 3. A simplified form of the balance sheet

We modify the form of the balance sheet by conducting two groups of its items: the 1<sup>st</sup> — assets by financing sources; the 2<sup>nd</sup> — sources by their assets provision, as follows, as shown in Figures 4 and 5. If we take a separate item from the modified forms of the balance sheet, we'll get the correspondence of a specific type of asset and its financing source and vice versa - a specific type of source, secured by an asset (Fig. 6,7)

Assets	Sources (capital, liabilities)	Balance sheet total
Asset1	Asset1	Balance sheet total
Asset 2	Asset2	Balance sheet total
Asset N	AssetN	Balance sheet total
<b>Total:</b>		<b>Common balance sheet total</b>

Source: in-house development

Fig. 4. A modified form of the balance sheet with a grouping of asset items by sources of financing

Source (capital, liabilities)	Assets	Balance sheet total
Asset 1	Asset 1	Balance sheet total
Asset2	Asset 2	Balance sheet total
Asset N	Asset N	Balance sheet total
<b>Total:</b>		<b>Common balance sheet total</b>

Source: in-house development

Fig. 5. A modified form of the balance sheet with a grouping of items by sources in the context of their assets provision

Asset	Source	Balance sheet total
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Source: in-house development

Fig. 6. An item of a modified form of the balance sheet reflecting the correspondence of a particular type of asset and its source of origin

Source	Asset	Balance sheet total
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Source: in-house development

Fig. 7. An item of a modified form of the balance sheet reflecting the correspondence of a particular type of source secured by assets

It would seem that these are correspondences between accounting objects (assets and sources). But taking into account the fact that from the moment when a business transaction is completed to its entering the balance sheet, there are many technical procedures for processing information, and those correspondences that may be there - are not factually correct. Moreover, the existing accounting methodology will isolate the assets movement without linking them to the financing sources and vice versa. It also does not solve the problem of identifying correspondences between accounting objects (assets and sources).

To solve this problem, it is offered to allocate a separate group of analytical accounts, which can be figuratively called compliance accounts. The basis for the formation of a compliance account will be items from a modified form of the balance sheet (Fig. 6,7). A characteristic feature of the encoding of this account is that it always consists of two parts. One shows its relation to the asset, and the other one shows its relation to the source of its asset (Fig. 8,9).

**Asset/ source (capital, liabilities)**

Debet Credit

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Source: in-house development



Fig. 8. Active account scheme by source of funding  
SOURCE (CAPITAL, LIABILITIES) /asset

Debet Credit

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Source: in-house development

Fig. 9. Passive account scheme by asset

We also finally modify the balance sheet form where hidden correspondences between accounting objects will be reflected. By analogy with accounts, let name it a compliance balance.

Balance sheet assets			Balance sheet sources (capital, liabilities)		
Asset	Source $\kappa$	Amount	Source	Asset	Amount
Asset1	Source1	Amount	Source1	Asset1	Amount
Asset2	Source2	Amount	Source2	Asset2	Amount
AssetN	SourceN	Amount	SourceN	AssetN	Amount
<b>Total:</b>		<b>Balance sheet total</b>	<b>Total:</b>		<b>Balance sheet total</b>

Source: in-house development

Fig. 10. The compliance balance form

The need for additional entries to identify hidden correspondences as a separate information subsystem of management accounting is caused by the necessity of tracking information flows between specific assets and their sources involved in the course of enterprise modernization. This approach allows you to get a complete picture of the consequences that modernization has on the financial statements. It is offered to apply the following algorithm: 1<sup>st</sup> stage: grouping of accounting information in the framework of accounting equality; 2<sup>nd</sup> stage: classification of business operations in terms of their impact on the balance sheet. 3<sup>rd</sup> stage: definition of correspondence between separate asset and liability accounts of the balance sheet and revenue statement.

As an example, we will analyze the distinctive features of the use of compliance accounts in comparison with existing ones. To illustrate the above, let us deal with a typical situation when an enterprise takes credit funds, buys equipment, places it in operation, and partially repays the loan. To explain it clearly, we will use a simplified encoding of accounts instead of the established one (C - cash, L - bank loan, AP - accounts payable, E – equipment, EC – equity capital). The block of business operations which illustrate this situation is presented in table 1.

Table 1

**Business situation**

№	Contents Of A Business Transaction	Debet	Credit	Amount
1	Registered capital is formed	C	EC	1000
2	A loan is received to the current account	C	L	800
3	Equipment is received from a supplier	E	AP	1200
4	The payment is made from the current account by means of the loan	AP	C	500

Source: in-house development

Hidden correspondences are formed when economic resources come to enterprises. At this moment, the intended purpose of the resource and the source of its origin are established, i.e. the asset account and the account of the financing source are determined. The first three business operations are of this very type. Accounting of hidden correspondences is reflected in compliance accounts as follows: the account of analytical data sheet "L" is opened to the account "C", and it is presented as C/EC. In the same way, together with the account "EC" the account of analytical data sheet "C" is opened and has the form EC/C (Fig. 11)

debet	credit	ammount
<b>C / EC</b>	<b>EC / C</b>	<b>1000</b>

debet	credit	ammount
<b>C</b>	<b>EC</b>	1000

Source: in-house development

Fig. 11. Formation of compliance accounts

For the second and the third business transactions, hidden correspondences will be reflected in the same way. Figure 12 schematically shows the compliance balance after the first three business transactions from table 1. It clearly shows the correlation between the assets and the sources of their financing.

Balance sheet assets			Balance sheet sources (capital, liabilities)		
Asset	Source	Amount	Source	Asset	Amount
cash	Equity capital	1000	Equity capital	cash	1000
	Bank loan	800	Bank loan	cash	800
Equipment	Account payable	1200	Account payable	Equipment	1200
<b>Total:</b>		<b>3000</b>	<b>Total:</b>		<b>3000</b>

Source: in-house development

Fig.12. The compliance balance after the first three business transactions from table 1

Then, economic resources are joined with the general circulation of capital, where their purpose and source of financing can change. This type will include the 4<sup>th</sup> business transactions from table 1. The fourth business transaction reflects the transfer of funds by the enterprise to the equipment supplier. The use of compliance accounts allows to determine the source of funds (C/l – credit funds) and what they spent on (AP/e - equipment). Besides, this business transaction affects both the structure of assets and the structure of sources of their coverage. The source of funds was a bank loan, therefore, when writing off funds, the loan coverage should also change. But such operations are not reflected in the current system of accounts. When using compliance accounts, an additional accounting entry is formed, which reveals the hidden correspondence of the financing source and its coverage. Instead of money, the loan was secured by equipment, which will be reflected in the entity (debet L/c – credit L/e, Fig. 13). After the company paid credit money to the equipment supplier, the paid part of accounts payable, which acts as a source of financing equipment, was replaced by bank accounts payable. This hidden correspondence is also reflected by the additional entity (debet E/l - credit E/ap, Fig. 13).

debet	credit	ammount
<b>AP / E</b>	<b>C / L</b>	500
<b>L / C</b>	<b>L / o</b>	500
<b>E / L</b>	<b>E / Ap</b>	500

debet	credit	ammount
<b>AP</b>	<b>C</b>	500

Balance sheet assets			Balance sheet sources (capital, liabilities)		
Asset	Source	ammount	Source	Asset	ammount
cash	Equity capital	1000	Equity capital	cash	1000
	Bank loan	800	Bank loan	cash	800
Equipment	Account payable	1200	Account payable	Equipment	1200
<b>Total:</b>		<b>3000</b>	<b>Total:</b>		<b>3000</b>

Source: in-house development

Fig. 13. The formation of additional entities in the system of compliance accounts.

According to the compliance balance (Fig. 14), it can be seen that the equipment is already financed from two sources - a bank loan and short-term account payable. On the other hand, the bank loan is covered by two assets - funds and equipment. Using compliance accounts enables us to track those correspondences between assets and sources of their financial coverage which are hidden and not obvious when using the standard system of accounts. Thus, it gives a possibility to obtain new data that cannot be obtained when using a standard system of accounts. The above-discussed

approach illustrates the possibility to synchronize the sequence of business transactions with the reflection of their impact on the financial statements through the accounting system as for the circulation of capital as a whole, and for each separate stage of the cost movement in the process of doing business.

Balance sheet assets			Balance sheet sources (capital, liabilities)		
Asset	Source	Amount	Source	Asset	Amount
cash	Equity capital	1000	Equity capital	cash	1000
	Bank loan	300	Bank loan	cash	300
Equipment	Bank loan	500		Equipment	500
	Account payable	700	Account payable	Equipment	700
<b>Total:</b>		<b>2500</b>	<b>Total:</b>		<b>2500</b>

Source: in-house development

Fig. 14. The compliance balance after all the business transactions from table 1

### Conclusions, Proposals, Recommendations

The results of this research made it possible to prove the feasibility of considering modernization as a separate accounting object with the need to highlight its inherent accounting records and cost estimation of those assets that are the direct subject of modernization, as well as the revenue and expenses that are generated at the enterprise in the course of using the modernized facilities.

Based on the research, a special subsystem of management and financial accounting was developed, which reflects the processes and final results of enterprise modernization. The basis of this technique is the proposed accounting and analytical model for restructuring a single information flow in the context of business processes due to enterprise modernization. The criteria are developed according to which the information tracks can be attributed to business processes of enterprise modernization. Special information media is also developed which is a form of separate analytical accounts and a system of their correspondence, which allows to provide a quantitative and qualitative cost estimate of the target use of financial resources, through which the enterprise is modernized on the basis of a synthesis of data in special management reporting.

The necessity was justified for accounting and reflection of hidden correspondences in management and financial reporting between modernization facilities and their financing sources. In this regard, a system of special compliance accounts has been developed that is designed to identify objectively existing hidden correspondences that arise between equity capital and a bank loan aimed at enterprise modernization and the corresponding modernizable assets that generate revenue, expenses and financial results. The developed management and financial statements will contain a much larger amount of information on the basis of which it will be possible to give an objective assessment of both the modernization process itself and its final financial results. This approach gives a possibility to conduct a comprehensive analysis of the effectiveness and quality of modernization carried out at the enterprise, taking into account the target use of allocated financial resources.

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## THE MOST EFFECTIVE MEANS FOR OVERCOMING EMPLOYEE RESISTANCE IN THE CONTEXT OF IMPROVING ORGANISATIONAL PROCESSES

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**Abstract.** The research problem is the identification of the theoretical principles of management of employee resistance to change, and finding the ways to manage employee resistance to change by improving organisational processes. The aim of the research is to suggest the most effective means for overcoming employee resistance to change which are oriented towards improving organisational processes. The main causes of employee resistance to change include fear whether an employee manages to adapt and master innovation, and anxiety regarding an increase in workload. When addressing the measures to overcome resistance, all respondents, identified measures related to the provision of information and mutual cooperation between employees and the management as the main denominator.

**Keywords:** *employee resistance, improvement of organisational processes.*

**JEL code:** M12

### Introduction

Although organisations may be functioning well, in order to be equally successful in the future, they need to continuously improve organisational processes. To achieve the organisational goals, there is a need to improve its management, a necessity to understand and apply the totality of processes based on process management and the procedural approach (Lodienė, 2008). Any improvement of organisational process causes change. Each change affects employees, triggers their positive or negative emotions, and hence influences employees' attitudes and further behaviour in the process of improving organisational performance.

Improvement of organisational processes is continuous planning and implementation of change in the organisation. Improvement of organisational processes faces a number of challenges, such as fundraising, sufficiency of equipment and infrastructure, training existing employees, recruitment, training and further maintenance of the appropriate people, planning of employee- and supplier servicing, expansion and migration via new channels of communication. The efficiency of organisational processes brings real benefit only if it is actually implemented in the company, and the main resource upon which the change implementation and benefit in the company depends is the employee.

Resistance to change is frequently cited as one of the most important reasons for difficulties in implementing change and the failure of change initiatives (Erwin, 2010). Therefore, instead of focusing on the technical elements of change, managers should not neglect the equally important human elements (Bovey, 2001). Change-oriented performance often fails not because of financial or technical factors, but rather because of psychological and organisational factors, which are considered by individuals as threatening their material and spiritual well-being. Taking this into consideration, in order to successfully improve organisational processes and implement the planned change, it is essential to properly manage employee resistance to change.

**The research problem** is the identification of the theoretical principles of management of employee resistance to change, and finding the ways to manage employee resistance to change by improving organisational processes.

**The research object** is management of employee resistance to change in organisations.

**The aim of the research** is, by investigating the main causes of employee resistance to change and the most effective means of eliminating these causes as well as by conducting empirical research, to suggest the most effective means for overcoming employee resistance to change which are oriented towards improving organisational processes. The research is limited to passenger transport service providers in Lithuania and Latvia.

To achieve the aim, the following **tasks** have been set:

1. To analyse the main causes of employee resistance to change as well as the means of management.
2. To conduct quantitative research in passenger transport service providing organisations in order to find out the causes of employee resistance to change and the means to overcome them by improving organisational processes.
3. Generalising the obtained theoretical and empirical data, to provide the most effective management measures for overcoming employee resistance to change by improving organisational processes.

**The methods of research.** A mixed method was chosen for the research to perform comparative analysis of scientific literature sources and to provide generalisations. In the context of discussion, the research works carried out by the authors have been presented. To address the tasks specified above, empirical research – semi-structured in-depth interviews with all levels of employees in two countries – was conducted.

### 1. Literature Review

Organisational processes can be continually improved in a systematic and consistent manner or, in the case of radical restructuring of the entire process (or of all main processes), drastic measures can be taken and, by making use of the principles and methods of business restructuring, a new process can be created, which is later incorporated into the continuous maintenance and improvement (Klimas and Ruževičius, 2009). According to Shankar (2009), the methodology of process improvement is based on the methodology of global quality management. There are many types of global quality management methodologies for different industries. For example, ISO / TS 16949 standard is for the automotive industry, AS9100 is applicable for the aviation and space industry, etc. In addition, there are many types of methods for continuous improvement, such as: “Plan-Do-Check-Act” (PDCA) methodology; Lean Manufacturing Principles or Toyota Production System (TPS), implemented in accordance with the principles of Kaizen system; “Six Sigma” is implemented using “Define – Measure – Analyze – Improve – Control” (DMAIC).

“Six Sigma” is one of the most powerful leadership tools that support business efforts to gain market share by reducing costs and significantly increasing the profitability of any size business. This process greatly contributes to simplifying operations and improving quality by eliminating defects / errors throughout the entire business process from the field of marketing / sales to product design and improvement, purchase, production, implementation, support, and funding. Improvement of organisational processes invariably leads to change. Such change can be technical, structural, and social.

Resistance to change is more commonly defined as a process rather than an event (Van Dijk and Van Dick, 2009). Generally, resistance to change is defined as a hidden or open expression of negative reactions, prevention of planned changes or constraining forces that resist the restructuring leadership and the acquisition of new competencies (Berna-Martinez and Macia-Perez, 2012).

Giangreco and Pccei (2005) define resistance to organisational change as a form of disapproval of the process of change (a series of activities), which is considered as unpleasant, inconvenient or burdensome due to personal or group judgement. This disapproval can take the form of a variety of individual or collective actions and can be expressed as ineffective, indifferent, passive or active behaviour. In all cases, the intention of resistance to change is in the best interests of the participant or the group to which he or she belongs.

Based on Piderit (2000) and Oreg (2006), the deeper analysis of the perception of resistance to change shows that there are three identifiable dimensions of resistance to change. Resistance to change is defined as a three-dimensional (negative) approach involving emotional, behavioural and cognitive components. These components reflect three different expressions of the object or situation evaluated by people. The emotional component evaluates how an individual feels due to change (e.g. anger, anxiety); the cognitive component encompasses what an individual thinks of change (e.g. is it necessary? Will it be useful?); the behavioural component covers the actions or intentions to act



in response to change (e.g. complaining about change, trying to convince others that the change is negative). All three components are not independent of each other, and what people feel about change often corresponds with what they think of the change and the future intentions of their behaviour. Nevertheless, the components differ from each other and each of them emphasises a different aspect of resistance.

Scholars focus mostly on behavioural resistance to change, as it is the only directly observed dimension (Lines, 2015). Managers have many ways to define specific behaviour that expresses employee resistance: “push back”, “non-buying”, “criticism”, “delay”, “bypassing”, etc. Such descriptions cover a wide range of behaviours, including delayed responses to requests, providing critical or negative comments, and agreeing to take actions but eventually refraining from doing so. Resistance includes almost any behaviour, ranging from “eye-rolling” to open sabotage (Ford and Ford, 2010).

Taking that into consideration, the causes of employee resistance can be found in emotional reactions that depend on the past and present practices of Human Resources, the policy within the organisation, tactics of influence used by the leaders, the nature of employee-manager relationship, individual psychological and personality traits of employees, etc. The emotional reaction of employees depends on rational, irrational, political and managerial factors. There are also three types of anxiety regarding change: anxiety related to the content of change, to the benefit of change, and concern about mastering the change. Factors to which employees resist are defined by scholars as some type of obstacles to the implementation of change or the causes of resistance, although, the essence of these factors is very similar. Identification of the causes of employee resistance by improving the organisational process can be the key to a successful implementation of change, because even when employees have a positive attitude to change, resistance can be caused by other reasons.

We propose to classify the causes of resistance presented by other scholars into internal, mixed and external causes. Internal causes are those that depend on the employee’s personality, character, experience; this type of causes can be hardly influenced by change managers. External causes are those that depend on the change and the nature of its management. Mixed causes are those that depend on the employee’s personality but may be influenced. The classification of causes is provided in Table No. 1. It is important to distinguish between the causes that can be influenced by managers through a variety of methods, and which are not directly dependent due to objective circumstances. The distinguishing between external and mixed causes allows the identification of the most effective solutions.

Table 1

**Causes of employee resistance to change**

Internal causes	Mixed causes	External causes
1. Previous experience related to change (Powel and Posner, 1978; Rafferty and Restubog, 2017). 2. Old habits, an unwillingness to lose something of value (Aladwani, 2001; Kotter and Schlesinger, 1979; Powell and Posner, 1978)	1. Distrust of the initiator of change (Powel and Posner, 1978; Moussa et al., 2018; Powell and Posner, 1978) 2. Cultural differences (Moussa et al., 2018) 3. Anxiety, fear (Berna–Martinez and Macia–Perez, 2012; Powell and Posner, 1978; Mittal, 2012) 4. Lack of knowledge (Berna–Martinez and Macia–Perez, 2012)	1. Insufficient information about change, failure to understand change (Powel and Posner, 1978; Kotter and Schlesinger, 1979) 2. Lack of employee engagement in change (Powel and Posner, 1978; Jager, 2001) 3. Unfavourable, outdated organisational structure (Das et al., 2018; Moussa et al., 2018) 4. Budgeting and planning problems, underpayment (Moussa et al., 2018) 5. Lack of training and instruction inaccuracies (Moussa et al., 2018) 6. Lack of problem- and conflict-solving skills and dialogue (Moussa et al., 2018)



		7. Too strict or unclear rules and regulation (Moussa et al., 2018; Powell and Posner, 1978) 8. Heavy workload (Moussa et al., 2018) 9. Inappropriate leadership style and management, aggressiveness (Moussa et al. 2018; Van Dijk and Van Dick, 2009)
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Source: Compiled by the author

The proposed theoretical classification of the causes of resistance clearly shows that most commonly employees resist change due to external or mixed causes, i.e. due to the causes that can be influenced by the leadership. Within the scope of scientific literature that we have analysed, the most frequently indicated causes of employee resistance to change were as follows: old habits, unwillingness to lose something of value, distrust of the initiator of change, anxiety, fear, insufficient information about change, failure to understand change, lack of employee engagement in change, too strict or unclear rules and regulation, inappropriate leadership style and management, aggressiveness.

Within the scope of scientific literature that has been analysed, Table No. 2 shows the most frequently identified means and methods for managing employee resistance to change. The most frequently specified methods are those that are directly related to employees. Less frequent are those that are related to the organisational environment in general. The least frequently specified methods are those that are related to extreme coercive measures. Taking this into account, we can divide the methods provided in Table No. 2 into basic, complementary and extreme.

Table 2

**Classification of methods to overcome employee resistance**

Basic	Complementary	Extreme
1. <i>Comprehensive informing of employees about the aim, importance, necessity of change</i> (Hay and Hartel, 2001; Weber and Weber, 2001; Welch and Mccarville, 2003; Proctor and Doukakis, 2003; Washington and Hacker, 2005; Lewis, 2006; Jimmieson et al., 2008; Georgalis et al., 2015; Kulkarni, 2016; Jiwon, Suh, et al., 2018) 2. <i>Employee engagement and participation</i> (Kotter Sclesinger, 1979; Hay and Hartel, 2001; Weber and Weber, 2001; Welch and Mccarville, 2003; Kavanagh and Ashkanasy, 2006; Fuchs and Prouska 2014; Georgalis et al., 2015) 3. <i>Assistance and support to employees</i> (Kotter Sclesinger, 1979; Welch and Mccarville, 2003; Fuchs and Prouska 2014) 4. <i>Material incentives</i> (Zwick, 2002; Saporinas et al., 2009; Krugel and Traub, 2018)	1. <i>In-service training</i> (Weber and Weber, 2001; Zakarevičius, 2003) 2. <i>Education, communication</i> (Kotter and Sclesinger, 1979; Weber and Weber, 2001) 3. <i>Transparency, honesty, fairness of change processes</i> (Hay and Hartel, 2001; Georgalis et al., 2015) 4. <i>Promoting positive open relationship between employees and managers</i> (Hay and Hartel, 2001; Georgalis et al., 2015)	1. <i>Continuous analysis of process</i> (Zakarevičius 2003) 2. <i>Manipulation</i> (Kotter and Sclesinger, 1979) 3. <i>Coercion</i> (Kotter and Sclesinger, 1979)

Source: Compiled by the author

Having summarised the insights of scholars, it is purposeful to empirically research the main causes and means for overcoming resistance which are considered to be effective by employees of different levels.

**2. Methodology of qualitative research**

**The research object.** Management of employee resistance to change in organisations.

**The research problem.** What are the ways to manage employee resistance to change by improving organisational processes?

**The aim of the research.** The research aims at identifying the causes of employee resistance to change, as well as identifying the means and methods for overcoming employee resistance by improving organisational processes.

**Methodology.** An individual partially standardised open-ended in-depth interview. This way we aim at reducing the bias of the research subjects and comparing the answers of informants.

**The sample.** The general set includes employees of two companies providing public passenger transport services. The number of employees interviewed is 12. The survey was conducted in Lithuania – in a company in Klaipėda that provides public passenger transport services, and in Latvia – in a company in Liepāja that provides public passenger transport services. To obtain the most objective results, two countries with similar historical experience have been deliberately chosen. The port cities of Klaipėda and Liepāja, which are similar in their population and size, have been compared. Two drivers, two employees of the administrative staff, and two employees in managerial positions have been interviewed in each of the companies. The selection of subjects with experience in different fields allows for more complete disclosure of the research object.

Based on M. Patton (1990), the classification of purposeful sampling techniques, the purposeful criteria-based selection of sampling units was chosen. The following criteria have been distinguished:

- An employee with at least 1 year of practical work experience in the company providing public passenger transport services;
- 2 drivers, 2 – employees of the administrative staff, and 2 employees in managerial positions in each of the companies have been selected for an interview.
- The survey sample includes 12 employees that meet the criteria above. We assume that such a sample allows collecting quality data, since informative data selection rather than the sample size is of greatest importance in qualitative research. The selection of research subjects with experience in different fields allows for more complete disclosure of the research object and systematic identification of problems.

The results of quality research have been analysed by applying the method of qualitative content analysis, looking deeper into the object and context, and analysing similarities and differences among the categories.

Interviews have been conducted with the employees in their organisations in Lithuania and Latvia; they were given interview questions in Lithuanian and Russian. The period of the research included February – May 2019. Conversations were recorded and later transcribed.

The reported qualitative content analysis was carried out in sequential steps. While reading through the informants' descriptions, 2 groups of information have been distinguished; the groups of information have been categorised, and the categories have been subcategorised. The statements that substantiate the identified subcategories have been picked. Then the data have been interpreted and general conclusions drawn from the entire category by relating them to the context of the entire research.

The provided questions can be divided into groups of information, each of which provides information for the research tasks that have been set. The groups are listed in Table No. 3 below. Groups of information.

Table 3

**Groups of information**

	<b>Type of information</b>	<b>Interview questions</b>
1	Assessment of the causes of employee resistance to change.	In your opinion, the most common cause of employee resistance is:
2	Methods and means to reduce employee resistance to change at different stages of employee resistance to change.	In your opinion, what actions should be taken by the management before planning change (identifying a problem, context, aims, timelines, resources) and seeking to avoid employee resistance?
		What actions should be taken by the management when collecting and analysing information about the process to be improved and seeking to avoid employee resistance?
		In your opinion, what means or decisions would cause less hostile reactions of employees when introducing change?
		How would you recommend controlling whether process improvement has been implemented and is working properly in your work activities?

Source: compiled by the author, based on the analysis of the interview responses

**Qualitative Research Data Analysis**

The distribution of employees by demographic characteristics:

1. Distribution of respondents by gender – 6 men, 6 women;
2. Distribution of respondents by the position held – 2 specialists, 2 Managers, 2 Administrative staff;
3. Distribution of respondents by age – 30 % aged 20-30, 30 % aged 30-40, 20% aged 40-50, 10% aged 50-60, 10% aged 60-70;
4. Distribution of respondents by education – 3 higher non-university, 6 higher university, 3 vocational;
5. Distribution of respondents by work experience – 1 over 25 years, 1 20-25 years, 3 15-20 years, 3 10-15 years, 4 5-10 years, 1 up to 5 years.

The data obtained during the research have been further analysed based on the identified groups of information.

Table 4

**Assessment of the causes of employee resistance to change**

Category	Subcategory	Confirmatory statement	Frequency
Causes of employee resistance	Fear of learning new things	“Afraid of innovation” “Afraid of innovation because employees have been working for a long time (20 - 30 years)” “I’m afraid I might not be able to adapt to that new thing” “Afraid that will have to learn” “Afraid of your own strength”	6
	Fear of losing a job	“Afraid of an increased workload, won’t be able to deal with that, and then they will be laid off”	3
	Personal character traits	“They are jealous that another can do more” “The human factor means a lot”	3
	Lack of information	“Lack of information, because the management themselves don’t know how to do that, and then all employees have to look for information”	2
	Fear of increased workload	“People are mostly afraid of increased workload” “Afraid of new requirements for quality” “Afraid that they will have to work more and won’t have time to sit”	4
	Inadequate wages	“The main reason is low wages”	2
	Disregard of employees’ opinions	“It is bad when the management disregard the drivers’ opinion”	2
	Feeling of injustice	“You get only thanks for good results, while bad results are fined, that’s unfair” “The management tells you to save, while they are driving luxury cars themselves, and the like”	2

Source: compiled by the author, based on the analysis of the interview responses

The main cause of resistance found in the research is fear. It is interesting that fear of losing a job is not the main type of fear. The main cause of anxiety is whether an employee manages to adapt and master innovation, and anxiety regarding an increase in workload. Causes such as personal character traits, lack of information, inadequate wages, disregard of employees’ opinions, and feeling of injustice have also been mentioned.

Table 5

**Means for overcoming employee resistance by improving organisational processes**

Category	Subcategory	Confirmatory statement	Frequency
Actions of the management, when starting	Consulting with employees	“Consultations with employees are undertaken” “It is necessary to consult with employees and to hear their opinion”	3

to plan changes	Goal setting for an employee		1
	Incentives	<i>“Incentives for goal implementation in order to encourage an employee to seek their goal”</i>	1
	Assessment of employee’s qualities and abilities	<i>“It is necessary to evaluate human qualities – the human factor is most important” “The team which will implement the change is of great importance”</i>	2
	Detailed information	<i>“Employees have to be acquainted with what is to come, they have to know exactly what to do” “To very clearly inform, to provide the vision as clearly as possible, this will make people calmer” “To inform orally before issuing a written order”</i>	10
The actions of the management when collecting and analysing information on the process to be improved	Communication with employees	<i>“Communication is the most important thing” “The staff must always be aware” “Employees’ opinion should be taken into consideration”</i>	10
	Collecting feedback from the third party		1
The actions of the management when introducing change	Informing	<i>“Talks helped to overcome resistance” “It’s important to inform about the benefits to the company and the system” “It’s necessary to clarify the requirements of the employer”</i>	12
	Material incentives	<i>“Money is one of the most important things” “Material incentives help, but only for a short time”</i>	9
	Communication and hearing the employees’ opinion	<i>“To communicate and it’s important to hear them”</i>	4
	Workshops, training, business trips	<i>“If something new comes up, they have to be prepared for that” “Training has to be continuous” “We took employees on a business trip so that they could inspect buses and express their opinion”</i>	10
	Monitoring of employees		1
	Moral determination and support		1
	Employee engagement	<i>“Each individual wants to feel important and get involved in the process”</i>	2
	Gratitude	<i>“Could say ‘thank you’”</i>	1
Team	<i>“Teamwork is very important”</i>	1	

The actions of the management seeking to control whether the process improvement has been implemented and is working properly	Employees' reports on the achievement of their goals, monitoring of results	<i>"A continuous analysis of the results achieved is very important"</i> <i>"We have a lot of control over the lowest-level employees, and we give the freedom of decision to the upper-level employees"</i> <i>"A possibility of control by comparing to other similar companies"</i> <i>"We have to keep track ourselves when implementing tasks"</i> <i>"It's necessary to monitor because people tend to forget"</i> <i>"Modern software should be used to track results and timelines"</i>	11
	Mutual informing	<i>"Employees should inform what they lack and need. Managers should inform what has been done and what hasn't been done"</i> <i>"To let the employees know how much has been done, whether it's good or bad for the company"</i> <i>"Talks with employees to clarify the causes of problems"</i> <i>"Employees have to know what to do every day, feedback is necessary"</i>	8
	Appropriate staff for change implementation	<i>"The responsible individuals who manage are important; their competence, motivation, leadership skills and authority"</i>	1
	Sanctions	<i>"If there are deviations from the results due to the fault of employees, they should submit explanations and, if needed, material sanctions are applied"</i>	2
	Material incentives	<i>"Material incentives based on the results achieved"</i>	5

Source: compiled by the author, based on the analysis of the interview responses

In general, respondents found it difficult to understand and identify different stages of improvement of organisational processes. They talk about the change process and actions taken during the process on general terms.

When talking about the actions of the management when planning change, respondents have identified very clear tendencies that the most important thing at that stage is detailed information provided to employees. Moreover, based on the respondents' opinions, consultations with employees and hearing their opinions should be taken into consideration. In addition, it is recommended to evaluate the human factor, i.e. the qualities of employees who will be affected by change and who will implement change.

At the stage when the management are collecting information about the process to be improved, respondents indicated communication with employees to be the most important factor. A bidirectional flow of information was emphasised, i.e. information provided by the management to the employees, and clarification and hearing of employees' opinions.

Respondents believe that the most important measure to reduce resistance when the management is introducing change is to inform employees; other very important measures include training of and material incentive to employees. In addition, hearing of employees' opinions would also be attributed to significant measures. Other measures, such as monitoring of employees, moral support and engagement, seemed to be of little effectiveness to the respondents.

At the stage of change implementation control, the following measures have been found and identified as the most frequent and named as the most important: monitoring of results, informing of employees and collecting information from employees, and material incentives.

In a few cases, the measure of employee engagement in decision-making processes was evaluated by respondents as inappropriate.

Summarising the results of empirical research, the following conclusion can be drawn:

The main cause of employee resistance to change is fear. There are two most clearly and frequently indicated causes of fear:

1. Fear whether an employee manages to master innovation; 2. Fear of increased workload.

When talking of measures to overcome resistance, all respondents, irrespective of their positions held or the stage of improvement of organisational process, identified measures related to the provision of information and mutual cooperation between employees and the management as the main denominator. This is consistently revealed in all four stages of improvement of organisational processes. Research results are very logical and consistently show which specific measures may be most effective in eliminating the main causes of anxiety. In practice, when planning change, analysing relevant information, introducing and controlling change, employees have to be informed purposefully. With respect to the main causes of resistance that have been analysed, informing of employees should be focused on information provision about the factors which reduce anxiety of employees regarding their abilities and workload. The anxiety of employees regarding their ability to master innovation can also be reduced by training – the second most frequently specified measure. The anxiety of employees regarding an increase in their workload would be reduced by fair material incentives – the third most frequently specified measure.

### **Discussion of research results**

Our research revealed the main causes of employee resistance – fear whether an employee manages to adapt and master innovation, and anxiety regarding an increase in workload. Concerns about anxiety and fear as one of the main causes of resistance are also discussed by Berna–Martinez and Macia–Perez (2012); Powell and Posner (1978); Mittal (2012). However, delving deeper into the content of fear, our research revealed the most important causes of fear on which the means of overcoming them have to be focused. In the theoretical grounding of the research, anxiety and fear have been categorised as mixed causes, which depend on the personality of an employee but on which influence may be exerted.

The results of quantitative research regarding overcoming resistance have revealed tendencies that are also mentioned in the works of other scholars. According to Hay and Hartel (2001), organisational environment with positive examples of employee-employer relationship, which is based on trust, open communication, engagement of employees in the process of change and understanding of procedural fairness, will reduce excessively negative emotional reactions. Georgalis et al. (2015) also emphasised the promotion of positive relationships with the employees in terms of integrity and respect. The practitioners of change implementation are recommended to focus on the activity that increases the awareness and understanding of change among employees as well as encourages their involvement. The research works revealed that resistance may be mitigated by engaging employees in the process of change, increasing the fairness and transparency of decision-making processes, ensuring appropriate explanations for the decisions made, respecting employees, providing timely useful and precise information regarding change. The findings of Weber and Weber (2001) showed that when employees become more aware of change, they can influence the change, and thus the support of employees for management and change increases. Open and early training and communication can help increase awareness of change among employees and allow them to move faster towards the acceptance of change.

More specifically, the importance of information and communication is grounded separately in a variety of research works (Jiwon, Suh, et al., 2018; Lewis, 2006; Proctor and Doukakis, 2003; Jimmieson et al., 2008; Washington and Hacker, 2005; Hay and Hartel, 2001), which suggest that innovation and internal communication are critical to any successful organisation. Jiwon, Suh, et al. (2018) found that internal communication has a positive impact on innovation in both for-profit and non-profit companies, since it has been noticed that a meeting with the Executive Director and the number of communication channels used in the organisation have shown to have a positive



impact on the implementation of innovation. When examining the impact of communication of change initiative on employee resistance, Lewis (2006) found that the higher the quality of information about the change initiative was received, the lower resistance to change was observed. Proctor and Doukakis (2003) emphasise the importance of internal communication in the organisation, assuming that internal communication is an important part of employee development practice, one of the main elements of implementing employee development. It is important to create an official, coordinated communication system throughout the entire organisation, which would facilitate the implementation and practice of employee development. The research carried out by Jimmieson et al. (2008) showed that employees who felt informed about their relocation and participated in decision-making regarding the relocation process expressed stronger intentions to get engaged in supportive behaviour. The results of Washington and Hacker's (2005) research revealed that the managers who understand the efforts of change are less likely to resist change. The better managers understand change, the more eagerly they are awaiting the change, and the less likely they are to believe that the effort of change will fail, and the less likely they express a wish that the change would never happen in the organisation. The findings of Kulkarni (2016) revealed that employees may not consider their actions as resistant and may justify their behaviour by means of ideological reasons or make excuses that they are acting for long-term interests of the organisation. Misleading communication may cause a negative reaction to change even if employees do not see the problematic nature of the change proposed. Hay and Hartel (2001) assume that Human Resources professionals can reduce the excessive tension caused by change initiative by providing timely and reliable information. A high level of participation in change and the support provided by the organisation and the manager make an impact on the established schemes and facilitate the change of employees, which results in a positive evaluation of change (Fuchs and Prouska, 2014).

Our research also justifies the undisputable importance of mutual cooperation and proper, comprehensive and consecutive information provision at all stages of development of organisational processes; on the other hand, the measure of employee engagement in the decision-making processes, more often than not was considered by respondents as inappropriate and it was not considered to be of major importance. In the theoretical grounding of the research, comprehensive information provided to employees was also attributed to the main measures for overcoming employee resistance. On the basis of theoretical analysis, employee engagement and participation were among the main methods; however, based on the data of our research, this method did not appear to be of importance and significance. The importance of material incentives was justified by both theoretical analysis and empirical research. Based on the empirical research results, in-service training should not be considered complementary but rather one of the main methods, as it can help eliminating one of the main causes of resistance.

**Research limitations and further research.** In order to obtain the most accurate research data, international research was conducted by selecting companies of a similar sector in two similar countries and similar cities. Respondents were selected from different levels of employees. The circumstance that only one specific sector – public transport service providers – has been investigated may be considered a limitation to the research. Qualitative research sample included only 12 respondents. Taking all that into consideration, it is appropriate to conduct similar research in other types of organisations. Moreover, to generalise the research results, not only qualitative but also quantitative research would be appropriate – questionnaires with large samples of employees, which would allow verifying the contradictory findings of the research, such as whether employee engagement can be an effective measure to overcome resistance, etc.

### Conclusions

1. The main causes of employee resistance to change include fear whether an employee manages to adapt and master innovation, and anxiety regarding an increase in workload.



2. The actions of the management when improving organisational processes, which would reduce employee resistance:
  - 2.1. At the stage of change planning: provision of comprehensive information to employees, consultations with employees, evaluation of the human factor.
  - 2.2. At the stage of information collection and analysis: communication with employees when providing information to employees and collecting information from them.
  - 2.3. At the stage of introducing change, based on the effectiveness: providing information to employees, training employees, material incentives, hearing employees' opinions.
  - 2.4. At the stage of change implementation control: monitoring of results, informing of employees and collecting information from employees, material incentives.
3. When addressing the measures to overcome resistance, all respondents, irrespective of their positions held or the stage of improvement of organisational process, identified measures related to the provision of information and mutual cooperation between employees and the management as the main denominator.

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## BUSINESS COMPANIES CONTRIBUTION TO IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT GOALS: SOCIAL ASPECT

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**Abstract.** Businesses are necessary and important participants in moving society towards sustainability through the SDGs because of their significant economic, social and environmental impacts. Business are playing a critical role in the fight to end social problems. There are many examples of good business practice in collaboration on issues relating to the SDGs. In the article is analyzed the reports of the members of the UN Global Compact in Baltic States (Latvia, Estonia and Lithuania). *The aim* of this article is to investigate business companies' contribution to social SDGs. The analysis is aimed at answering relevant scientific problematic questions: Which SDGs business companies contribute to? What activities business pursue for meaningful contributions toward the social SDGs? Quantitative research method – documents' content analysis – was employed in order to analyse (investigate) implementation of social SDGs in business organizations. Business companies report a lot of examples of contribution to ending of poverty, hunger, and assurance of good health and well-being, quality education, gender equity, implementation of peace, justice and strong institutions. However the practice of many organizations is limited to improving local social problems or internal structures of the organizations themselves. Typically organisations are not involved in the country's or foreign countries social problems meanwhile such activity would substantially strengthen the implementation of the SDGs.

**Keywords:** *sustainable development, social development, sustainable development goals, business organizations.*

**JEL code:** Q01, M10

### Introduction

Today's business landscape is characterized by an unprecedented, accelerating and complex mix of risks and opportunities. Entire market can be disrupted in a short time by innumerable factors, such as new technology or a sudden lack of natural resources. New markets are emerging rapidly due to megatrends such as population growth and aging, development of technologies, resource scarcity or global health risks. Meanwhile, consumers and investors are better informed than ever before – and they want businesses to take responsibility for the future of our planet and its population. There is growing understanding of societies and business sector that it is not enough for companies to concern themselves only with short-term profits because natural disasters, social problems or economic disparity can damage long-term prosperity. The businesses that understand this challenge and take action will be a step ahead (UN Global Compact, 2019). According to Kostoska and Kocarev (2019) sustainable development is critical to ensure the future of humanity. Therefore, the assessment and governance of sustainability becomes a central challenge our society is facing (Dvorakova, Zborkova, 2013). Sustainable development is a long-term development path for societies, states and the whole world. It is based on three pillars of equal importance: economic development, social development and environmental protection (Voluntary National Review..., 2018).

In September 2015, the United Nations (further – UN) General Assembly adopted 17 Sustainable Development Goals (further – SDGs) as an integral part of the 2030 Agenda for Sustainable Development (Bierman et al, 2017). Over fifteen years, with these new goals that are universally applied to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind (UN, 2015, UN Global Compact, 2019). According Robert et al (2005) sustainable development practice includes many efforts at defining the concept, establishing goals, creating indicators and asserting values. But additionally, it includes developing social movement, organizing institutions, crafting sustainability science and technology, and negotiating the grand compromise among those who are principally concerned with nature and environment those who values

economic development, and those who are dedicated to improving the human conditions. SDG agenda is perceived to be a valuable tool for assemblage; rallying the peoples of the world around a central vision for a better future. The intention of the goals is not simply to provide a shared guide, but to mobilize societal change and channel investments and strategies towards urgent global problems (Griggs et al 2013). The goals prescribed in the UN agenda (2015) highlight bold and transformative steps, which are urgently needed to shift the world to a sustainable and resilient path.

An essential component of the agenda's implementation is the role of the private sector and organizational SDGs action. The UN explicitly refers to this role of the SDGs agenda, stating that "the role of the diverse private sector, ranging from micro-enterprises to multinational cooperatives, and that of civil society organizations and philanthropic organizations in the implementation of the new Agenda" (UN, 2015, Grainger-Brown, Malekpour, 2019). Private business activity, investment and innovation are major drivers of productivity, inclusive economic growth and job creation (UN, 2015). Under the new SDG agenda, businesses, governments and civil society actors are equally called upon to pursue a more sustainable path forward. Literature (Lucci, 2012; Porter, Kramer, 2011 from Scheyvens et al, 2016) asserts that the private sector has particular strengths in delivering on the SDGs, including innovation, responsiveness, efficiency and provision of specific skills and resources.

Businesses are necessary and important participants in moving society towards sustainability through the SDGs because of their significant economic, social and environmental impacts. The focus of global nature of SDGs is on big business and multinational enterprises (MNEs), which possess the resources and power to have the greatest international impact through their action (Christ, Burritt, 2019). In "Corporate Social Responsibility (further – CSR) Europe white paper" (2019) it is noted that there are many examples of good practice on issues relating to the SDGs. They include the sustainability partnership in the automotive sector, collaborations in the financial sector on tax transparency, and initiatives driven by leading corporations to boost science and technology education and address the skills gap. Some companies are already recognizing the need for business to operate in stable economies, because growing inequality, poverty and climate and water risks are threats to almost any business model.

Scientists (Hak and et al, 2016; Albareda-Tiana et al 2018; Christ, Burritt 2019; Gupta, Vegelin 2016; Schmid, Gostin, Emanuel 2015; Scheyvens, Bank, Huges 2016; Grainger-Brown, Malekpur 2019; Kostoska, Kocarev 2019 and other) analyse various aspects and contexts of sustainable development. Meanwhile, companies are working to integrate sustainable development goals into their activities. There is growing number of tools available to help businesses assess and report their contributions toward the SDGs using shared indicators and metrics. Some companies provide non-financial reports (*Corporate social responsibility reports, sustainable development reports*) that outline how and what goals they implement in their activities. The article executes the analysis of the reports on sustainable development of the members of the UN Global Compact in Baltic States (Latvia, Estonia and Lithuania). The analysis is aimed at answering relevant scientific problematic questions: Which SDGs business companies contribute to? What activities business pursue for meaningful contributions toward the social SDGs?

*The aim* of this article is to investigate business companies' contribution to social SDGs.

*Tasks:* 1) To review social SDGs and their implementation in business organizations;

2) To investigate Baltic States business companies - UN Global Compact members' contribution to social SDGs implementation.

*Methods:* literature review, synthesis, qualitative research documents' content analysis.

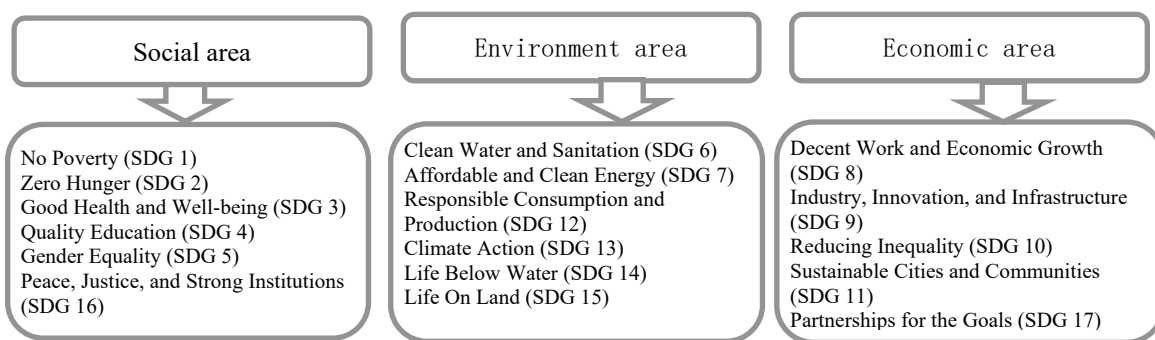
## **1. The review of social sustainable development goals (SDGs) and their implementation in business organizations**

Environmental, social and other modern challenges' boost understanding of societies and business sector that it is not enough for companies to concern themselves only with short-term profits. Scientists (Dvorakova, Zborkova, 2013) notice the necessary and inevitable change of traditional business approaches, thoughts and the hierarchy of the values. The businesses contribute very substantially to the sustainable development of the society and in the last decade. The increasing business performance today is assessed not only in terms of services, manufactured products and of profits, but also in terms of effects on human and social aspects.

The SDGs, also known as the "Global Goals", lay out a roadmap to end poverty, reduce inequality, and tackle climate change, among other ambitions. The 17 goals and 169 specific targets of 2030 Agenda for Sustainable Development set the world's sights on addressing the most critical environmental, social and economic issues world face today (Verles, Vellacott, 2018). The lofty aim of the SDGs in this relatively short time is to end all forms of poverty while protecting the planet and building economic growth (Christ, Burritt 2019). SDGs are unique in that they call for action by the whole world (developed and developing countries also) and their constituents making them bound to perform their level best to attain a considerable reduction of inequalities. Acknowledging that ending poverty is closely related to strategies that create economic growth and address a range of social and environmental needs, the SDGs comprise opportunities for all stakeholders (national governments, transnational companies, and civil society) to contribute to a more sustainable world (Kostoska, Kocarev 2019). Responsible business and investment is essential to achieve transformational change. Successful contribution to sustainable development and its' goals strengthen business companies and enable environment for doing business and building markets around the world (UN Global Compact, 2019). The companies began to realize the importance of a balance between its economic, environmental and social priorities. In order to keep successful development, they integrate the principles of sustainable development into their business processes (management; cooperation with stakeholders – suppliers, customers, local communities; planning and the course of production; marketing and sale of products, other) (Dvorakova, Zborkova, 2013). The SDGs encompass the three dimensions of sustainable development: the economic, social and environmental (see fig. 1). It is clear that achieving the SDGs will require much more than distinct solutions designed to address specific issues without considering other, related challenges. Entire systems must change in order to deliver dramatically improved outcomes for sustainability.

Social sustainability is about identifying and managing business positive and negative impacts on people and societies. The quality of a company's relationships and engagement with its stakeholders is critical. Directly or indirectly, companies' affect what happens to employees, workers in the value chain, customers and local communities. Therefore it is important to manage impacts proactively. Businesses' social license to operate depends greatly on their social sustainability efforts. Business actions to achieve social sustainability may unlock new markets, help to retain and attract business partners, or be the source of innovation for new product or service lines. Internal morale and employee engagement may rise, while productivity, risk management and company-community conflict improve (UN Global Compact 2019). Contrary, a lack of social development, including unconcern to poverty, inequality and weak rule of law, can hamper business operations and growth. The goals, which mostly contribute, to development in social area are: SDG 1; SDG 2; SDG 3; SDG 4; SDG 5 and SDG 16. Therefore, further the analysis will focus only on social area of SDGs.





Source: author's construction based on literature review

Fig. 1. Sustainable development areas connection to SDGs

It depends on the definition of social sustainability which aspects are considered to be elements of this dimension and which are not. According to Harris (2000), a socially sustainable system (organization) must achieve distribution of equity, adequate provision of social services including health and education, gender equity, political accountability and participation.. Social sustainability of an organization "... is the consciousness of responsibility for its own actions as well as an authentic and credible commitment (mostly long term) in all business activities and more, aiming to stay successfully in the market for a long time. Social sustainability is aimed to positively influence all present and future relationships with stakeholders" (Baumgartner, Ebner, 2010). Aspects of social sustainability are: education and training; equal opportunities and equity; labour practices; human rights; health and safety; quality of life; employment; human capital development; community involvement and development; no corruption and etc. Social sustainability aspects will differ within a range of companies. Social sustainability aspects will differ within a range of companies. In addition, outside stakeholders may consider it relevant to address with different social aspects for a specific company or product (Weingaertner, Moberg 2011).

UN Global Compact (2019) indicates the reasons why business should support social SDGs. Social sustainability covers groups of rights holders and encompasses issues that affecting them, for example, education and health. While it is the primary duty of governments to protect, respect, fulfil and progressively realize human rights, businesses can, and should, do their part. Businesses should undertake due diligence to avoid harming human rights and to address any adverse impacts on human rights that may be related to their activities. As a complement, not as a substitute for respecting rights, businesses can also take additional steps (UN Global Compact 2019):

- Contribute in other ways to improve the lives of the people they affect, such as by creating decent jobs, goods and services that help meet basic needs, and more inclusive value chains.
- Make strategic social investments and promote public policies that support social sustainability.
- Collaborate with other businesses, pooling strengths to make a greater positive impact.

Business can play a critical role in the fight to end poverty. Private sector funding often exceeds foreign aid to developing countries. Businesses can create decent sustainable jobs, foster economic activity through their supply chains, and contribute tax revenues for basic services and infrastructure. Businesses can take some actions to ensure they do not exacerbate poverty: respecting worker and migrant rights, implementing a zero tolerance policy for forced labour and child labour, paying a decent wage. Businesses can also apply innovation and creativity to proactively provide solutions to poverty where they operate. Particularly through inclusive business models by developing innovative products and services in order for better service of communities affected by poverty, and leveraging the unique perspectives of the poor as consumers, employees, entrepreneurs.

While fighting starving and hunger business can transform food and agriculture systems to make them sustainable, resilient and inclusive. These actions will deliver access to healthy and nutritious food, help to create livelihoods for



small-scale producers and processors, and help to protect ecosystems and combat climate change. In this context, business has become a critical partner in designing and delivering effective, scalable and practical solutions for food security and sustainable agriculture (UN Global Compact 2019).

Investment in education expands business opportunities, creates new markets and customer bases. This also results in a more skilled workforce, increasing productivity and driving business growth. A more educated workforce leads to better wages and more disposable income for consumer spending.

Gender equality is a fundamental human right. Yet despite progress, women and girls around the world do not fully experience equal rights. Companies, which focus on women's empowerment, experience greater business success. Researches reveal that investing in women and girls can lead to increases in productivity, organizational effectiveness, returns on investment and higher consumer satisfaction. A growing number of business leaders recognize the importance of women as leaders, consumers, entrepreneurs, workers and caretakers. They are adapting their policies, programmes and initiatives to create environments where women and girls thrive.

Companies can engage with the UN Global Compact on the three critical governance topics: anti-corruption, peace and rule of law. At the micro level, companies can enhance good governance by integrating corporate sustainability principles into their own operations and relationships, allowing for greater transparency, accountability and inclusiveness. At the macro level, companies can contribute to the development and implementation of international norms and standards.

Generalizing the review it can be indicated that the empirical research is pursuing to analyse business companies contribution to ending of poverty, hunger, and assurance of good health and well-being, quality education, gender equity, implementation of peace, justice and strong institutions.

## 2. Research methodology

The study is intentionally targeted to analyse UN Global Compact members-organizations, which is one of the biggest social responsibility and sustainable development networks and is joined by organisations from all over the world. This network helps organisations to implement the principles of the UN Global Compact and the Sustainable Development goals, and to promote partnership and cooperation between the different organisations in the countries and beyond. Thirteen thousand eight hundred and tree organizations are participating in United Nations Global Compact according to the data of November 2019. In order to abridge the research field it was chosen to analyse the experience of UNGC members' organizations from Baltic States: Lithuania, Latvia, and Estonia. These three countries have similar history, which makes impact on business development. According to UNGC there are forty organizations are participating in SDGs implementation from Lithuania, Latvia and Estonia (see Table 2). It was decided to select only business organizations therefore educational institutions and associations are not included in research sample. The survey sample also declined as some organizations have joint the Compact recently and have not submitted their reports yet. The research aimed to analyse the most recent report (the period 2017-2019 years). So, 20 Lithuanian (LT), 4 Latvian (LV), and 2 Estonian (EE) business organisations selected for the study. It should be noted that mostly exhaustively are analysed Lithuanian business companies' activities and examples.

Table 1

**Baltic States (Lithuania, Latvia, Estonia) organizations participation in UNGC**

Country	Lithuania	Latvia	Estonia
The number of UNGC members	29	8	3
The number of UNGC business organizations	20	5	3
Sample size	20	4	2
Total	26		

Source: author's construction based on UN Global Compact (2019)

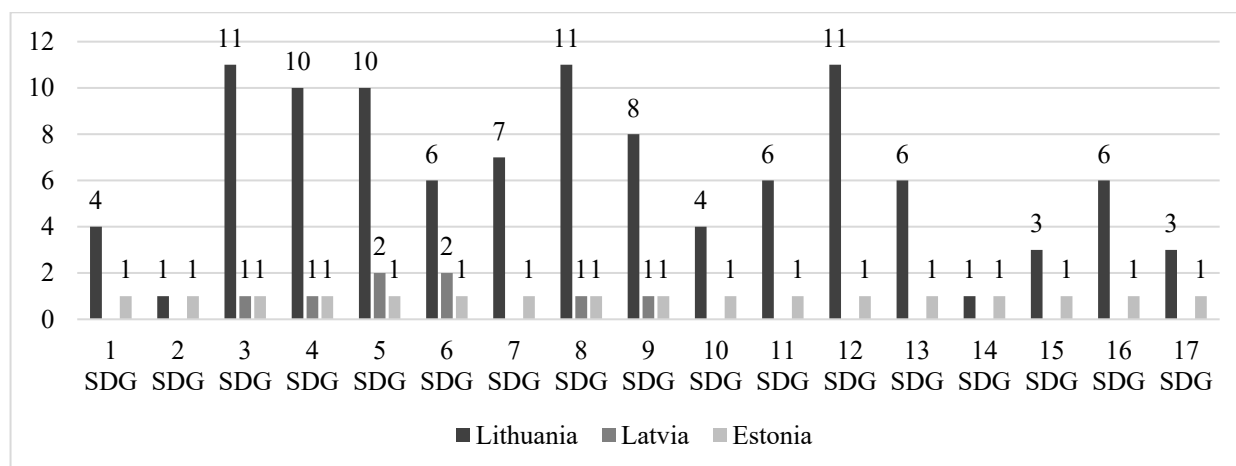
Quantitative research method – documents’ content analysis – was employed in order to analyse (investigate) implementation of social SDGs in business organizations. Baltic States UNGC members’ social responsibility (sustainable development) reports were analysed. “The UN Global Compact aims to encourage companies to act responsibly: not to harm the environment, the community, other businesses and to engage in joint efforts with the UN, authorities and NGOs to address social and environmental challenges, contribute to societal development and economic growth” (Lithuanian Republic Ministry of Social Security and Labour, 2019). Organisations, which have joined the UN Global Compact, provide social responsibility / progress reports publicly (UN Global Compact, 2019). Thus, documents are publicly available and the examination of the information contained therein does not infringe the rights of organisations. Business companies’ reports’ data was compared and grouped for analysing of experience and providing the examples. Such method was chosen in order to gather valuable and necessary information, reveal peculiarities of social SDGs implementation. Business companies’ SA reports information and examples of social SDGs implementation was assembled. In order to maintain the confidentiality of organizations, the organizations are coded. Lithuanian business companies coded as “LT1”, “LT2” and so on. Latvian business companies were coded “LV1”, “LV2” and so on. Estonian business companies were coded “EE1” and “EE2”. The essential criteria of SA reports analysis were: business companies’ identification of SDGs, which they contribute to; business companies’ examples of social initiatives and employee welfare provided in their sustainability reports; business companies indicated action in communication on progress reports.

### 3. Business companies contribution to implementation of social SDGs

As it was mentioned earlier, there are 17 SDGs (2015-2030 year period). Two ways of business companies’ identification of contribution to implementation of SDGs were analysed while empirical research: business companies noted SDGs on UNGC site; business companies sustainability reports.

Organizations, participating in UNGC network, identify their contribution by selecting SDGs, which they apply in their different activities. Business companies’ indicated SDGs, which are contributed by their different activities, are generalized in next figure (see Fig. 2).

The research data reveals that business companies mostly contribute to implementation of SDG3, SDG4, SDG5, SDG8 and SDG12. Only two companies (LT12 and EE1) noted that its’ activities contribute to implementation of SDG2 and SDG14. 8 of 26 organizations did not report that they have contributed to implementation of social development goals. Five organizations (LT6; LT11; LT13; LV1; LV2) did not indicated particular SDGs, which are contributed by their activities. Two organizations (LT12 and EE1) reported that its’ activity contribute to implementation of all social development goals.



Source: Data collected from UN Global Compact (2019)

Fig. 2. Business companies’ indicated SDGs, which are contributed by their different activities

Business companies' contribution to implementation of social SDGs is presented in second table. As research data reveal, mostly business companies contribute to assurance of better health and well-being (13 organizations), bringing quality education (12 organizations) and assurance of gender equality (2 organizations). Meanwhile poverty concerns (6 organizations) and peace, justice and strong institutions (7 organizations) are less contributed. The data analysis reveals that business companies least report about contribution to decreasing (minimizing) of hunger. So it might be assumed that analysed business companies do not consider that hunger is a problem, which needs to be solved.

Table 2

**Business companies contribution to implementation of social SDGs**

SDGs (social area)	Organizations	Number of organizations
SDG 1. No Poverty	LT1; LT9; LT12; LT16; LT20; EE1	6
SDG2. Zero Hunger	LT12; EE1	2
SDG3. Good Health and Well-being	LT2; LT4; LT5; LT7; LT8; LT9; LT12; LT14; LT16; LT17; LT20; LV4; EE1	13
SDG4. Quality Education	LT2; LT5; LT7; LT8; LT10; LT12; LT14; LT16; LT17; LT20; LV4; EE1	12
SDG5. Gender Equality	LT2; LT4; LT5; LT8; LT10; LT12; LT16; LT17; LT20; LV3; LV4; EE1	12
SDG16. Peace, Justice, and Strong Institutions	LT5; LT7; LT12; LT14; LT16; LT20; EE1	7

Source: data collected from UN Global Compact (2019)

Business companies' reports' analysis revealed that in their reports analysed business companies do not particularly indicate to which SDGs they contribute. Also the analysis allows arguing that in business companies' reports there are indicated different activities which contribute to more SDGs than companies mark in UN Development Goals network goals list. Further, it is appropriate to provide aggregated information from business companies reports on contribution to social SDGs. The analysis is complemented by examples of business companies' implemented activities. As companies "EE1" and "EE2" have not submitted the report but these organizations are provided good practice in UN Global compact website. No examples from Estonia are provided. Some business companies (for example, "LT8", "LT9" and "LT11") provide too little information in their reports, to indicate what particular activities they implement in social SDGs implementation.

While decreasing poverty (SDG1 No poverty) business companies create working places and employ local people, pay decent and transparent wages, assure employment people from different age's groups. Organisations collaborate with parities and create the conditions for everyone to contribute to improving the welfare of the community by supplying and sharing key needs. Organisations contribute, collaborate and organise UNICEF and other social projects which are aimed to help disadvantaged people. *Company "LT3" provided financial support to numerous initiatives in the public interest, and value-building community projects. Company "LT16" report that employees participated in a Maltese order action for socially supported children. The employees voluntarily donated school supplies and essential hygiene products to the lonely people, who are cared for by the Maltese order. The employees who are fond of animals donated products (animal food) to animal care organizations".*

While aiming to end hunger (SDG 2. Zero hunger) efforts are mobilized to achieve food security and improve nutrition and promote sustainable agriculture. In order to ensure the well-being of individual groups of society, organisations join the promotion of Lithuanian farmers' activities and organised support actions (events) such as "Food Bank", "Cake Day", Maltese soup and so on. Organisations participate and support various events, conferences and trainings of small and medium-sized farmers in Lithuania. For example, *company "LT14" want to enable a sustainable lifestyle for our current and future generations of customers, in the areas of food, mobility and living.*

One of social SDGs priority areas in Lithuania is to ensure healthy lives and promote well-being for all at all ages (SDG 3). Good health and well-being). Organisations are very active in promoting sporting activity by providing additional health checks and training on how to properly lead a healthy lifestyle. Strengthening of public health and increasing the quality of health care and accessibility of health services are inseparable from sustainable development. Public health is a national asset and capital which, if protected and fostered, provides opportunities to ensure the country's social and economic development. A healthy and capable to work population is the guarantor of economic growth and sustainable development. To ensure a healthier society, Lithuania has devoted great attention to alcohol prevention, healthy nutrition and morbidity reduction. While increasing the accessibility of quality and acceptable public health care services, Lithuania has developed and implemented integrated health care service models, analysed and assessed possibilities to provide public health care services that meet the new present-day needs of the population and increased the variety of services (Voluntary National Review..., 2018). In order to promote a healthy lifestyle, sporting activity, business organizations organize various sport teams, clubs, city fests with active leisure activities like: physical education, aerobics, table tennis, badminton, basketball, football, running and bike marathons, etc. *Company "LV3" provide a safe and healthy working environment at all sites and facilities and to take adequate steps to prevent accidents and injury to health arising out of the course of work by minimizing the causes of hazards inherent in the working environment.*

Other companies buy or compensate employees' subscriptions to the gym and swimming pool, exercise, and organise a week of sports and health. Some business companies organise first-aid training for staff, promote healthy lifestyles in the way to work, and use environmentally friendly transport – bicycles, offer safe store of bicycles in the office. *Business Company "LV2" report that it shows highest regard for the health care and safety of its employees. They offer a secure bicycle parking and implements HIV and Aids policy. Company runs a corporate canteen with special prices. The territory of the enterprise is non-smoking areas.*

In order to reduce the spread of infectious diseases, companies vaccinate workers against the flu, while employees, who are working outside, can also get vaccinated against encephalitis. Some organizations make every effort to promote the wellbeing of their customers and employees, respect the principles of a healthy lifestyle by motivating non-smoking workers. The organisations publish articles related to the health and safety of workers on their website, so that everyone is educated about the necessity of a healthy lifestyle. *Company "LT5" promote a healthy-lifestyle and sport activities. As part of commitment to this, company have helped to organize a wide variety of employee related activities including basketball and football teams, running and biking marathons, an active summer party for employees, yoga, and much more.*

*In the field of health and safety, company "LT19" provide ongoing training to employees, remind them of prophylaxis, and regularly organise check-ups. Company's people are particularly pleased with the additional health insurance and the possibility to take part in the country's major marathons on favourable conditions. Over the past few years, company have implemented a plethora of organisational and technical measures to improve job safety, establishing the management's functions and responsibilities in the area of safety, providing health and safety training to employees, focusing on raising employee awareness and understanding of the importance of safety matters.*

Organizations also encourage the principles of responsibility and volunteering in collective. *For example, "LT7" organized a blood donation campaign before Christmas in 2018: almost one fourth of the employees of the Company became donors.*

A lot of companies from Lithuania contribute to SDG 4 assure inclusive and equitable quality education and promote lifelong learning opportunities for all. In order to achieve this social goal, organizations assure their employees opportunities to choose different areas of study, provide opportunities for studying or internships in foreign

countries, combine studies with employment, choose different forms of studies (distance or continuous forms). The analysis of sustainability reports revealed that business companies purposefully developed employees and took care of their qualification upgrading, provided opportunities to participate in development of various types of work skills, new competences while participating in seminars, conferences, trainings, exhibitions or business forums. Organizations also encourage employees to study, develop and share new acquired knowledge, provide opportunities to work in free schedule and finance studies' costs. For example, company "LT1" *identify that qualification and technical improvement of employee skills is important, so the company promotes and support an annual programme of different types of course and training, seminars and conferences for employees to participate. Company "LT3" ensure inclusive and quality education for all and promote lifelong learning have considerably invested in the development of employees, their professional development by hosting external and internal training. By consistently improving the processes and enhancing the efficiency this company have created preconditions to reduce operating costs and achieve sustainable financial results. Employee development and improvement is a highly important value to company "LT5", and one in which company are constantly investing in. Company have more than 10 training programmes focused on solving emerging challenges in working situations, as well as external training courses, e-learning programmes, and the newly established Masters and leadership courses in partnership with University. Company "LT7" employees had a possibility to become more advanced in their special field as they participated in different professional seminars, classes and trainings organized by Lithuanian and foreign partners, and frequent international conferences. While companies "LT19" and "LT20" hold continuous employee briefings, qualifying training and other courses. Business companies participate in high education institutions career days, review term and final thesis, evaluate study programmes, and organize excursions and presentations for students and pupils. Part of companies closely cooperate with education institutions while organizing practical training; provide gymnasiums with a new generation textbooks; experienced consultant give free lectures for school children, students; implement contests and participate in their commissions.*

The goals of achieving gender equality and empowering all women and girls (SDG 5. Gender equality) are strongly reflected in the reports of all organizations. In all examined reports business companies indicated that they are aiming to eliminate recruitment and occupational discrimination on the basis of sex, race, religion, age or marital status. *The company "LT3" indicates that, because of technological nature of operations, most of the employees are men (76 per cent, while women represent 24 per cent of the staff). But similar distribution regarding gender is among the employees holding leadership positions: 77 per cent of senior managers in the group are men, and 23 per cent are women. The possibilities to select the nature of work at the Group are equally available to both genders, and that is specifically noted at recruiting employees. Although gender-based distribution is not very proportional in certain organisations, this distribution is due to the specificity of the activity / work carried out. Therefore, on the basis of data and reports, it can be stated that everyone is given opportunities for work, but not always the specifics of work are suitable for workers of different genders. In educational institutions students are educated about gender equality and are encouraged to participate in the debate on equality between men and women. Everyone, regardless of age or gender, is given opportunities to work and study. Company "LT14" aim to be the most attractive workplace in the trading sector. Equal opportunities, justice and non-discrimination are important principles that organization are determined to observe. Gender equality involves strengthening the rights and opportunities of women and girls throughout organization supply chain and improving women's opportunities to advance to management posts. Organizations aim is to increase the proportion of women in management. Company "LV3" offer equality of opportunity to all employees and not to engage in or support discrimination in hiring, compensation, access to training, promotion, termination or retirement based on ethnic and national origin, caste, religion, disability, sex, age, sexual*

*orientation, union membership, or political affiliation. Companies have zero tolerance for discrimination or harassment of any kind.*

Some organisations indicated that they have reduced the ungrounded pay gap between men and women. Business companies “LT5”, “LT6”, “LT7”, “LT20” and other organizations in the reports note that they ensure equal opportunities. Respects and values the individuality and diversity that every employee brings. Do not tolerate any form of discrimination on any basis: gender, age, race, nationality, religion, disability, place of origin, gender identity, sexual orientation or any other reason, and seek to create a positive and open working environment across all of sites and offices. For men and women doing the same level of work are paid equal pay. Organization “LT16” respects and upholds the right to equal opportunities and non-discriminatory behaviour, the right to human security, children’s rights, freedom of association and the right to collective bargaining. In its activities, the Company ensures that no forced labour is applied, that a safe and healthy workplace is provided and the employees are paid a fair wage, which no bribes are paid and the Company’s products are not being used for human rights abuses. Company “LT3” implement honest and transparent remuneration policy, complies with the laws and regulations governing overtime and working hours, objects to any discrimination (with respect to employees, or recruitment), forced or child labour, respects the rights of the employees to rest, and promotes work and family reconciliation. Companies’ leaders are involved in training on equality and diversity. Also companies offer opportunities for early or gradual return from parental leave. The issue of non-discrimination is scrutinized in public events, social media and media, and provides training on gender equality, involving more businesses.

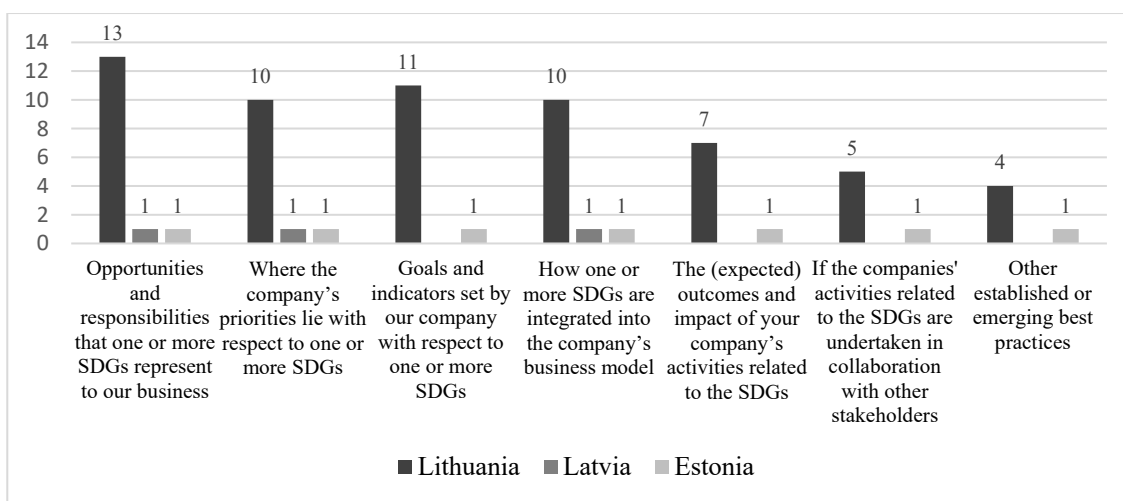
In order to assure Peace and Justice (SDG 16) business companies promotes a peaceful and inclusive society in organisations, allowing everyone to demand justice by creating responsible and effective institutions. Many organizations report the fight against corruption in their reports. Organisations carry out a corruption prevention programme and prevention of money laundering and terrorist financing; avoid signs of corruption and conflict of interest; organise training on corruption prevention. Some organisations have integrated corruption prevention systems, which allow company members to report anonymously and personally about cases of corruption graded. Companies “LT3”, “LT15”, “LT16” and other organizations does not tolerate any manifestations of corruption and supports fair business and transparent communication with state institutions. Company “LT14” indicate that key issues for this organization are transparency in sourcing and environmental care as well as extensive value creation throughout society. A great attention is paid for corruption researches and education on corruption, because such education is very important for value provisions. Business organisations choose to work with suppliers and partners whose approach to harmonious business coincides with their values and attitudes, striving for ethical behaviour, zero tolerance of corruption. Some organisations help national police to investigate cybercrime. Organisations are also intolerable to human rights abuses, conduct fair and transparent activities in accordance with the laws governing legislation, and do not tolerate any kind of violence or harassment. Organization “LT3” maintains a zero-tolerance policy with respect to any manifestation of corruption, and supports high ethical, integrity and transparency standards. It is important to organization to work in good faith, transparently and build reliable relations with customers, partners, suppliers and institutions. Similar ideas are noted in business companies “LV1” report. Company “LV4” raises employees’ awareness about company’s policies regarding anti-corruption and extortion (e.g. mailings, internet, internal communication, etc.). Organisations implement international agreements that ensure security and procedures preventing the proliferation of weapons of mass destruction. Analysed organisations ensure transparency of procurement and transparent fees; undertakes to do business only with reliable customers and suppliers involved in legitimate business activities from funds derived from legal sources.



In business companies activities social SDGs interconnect with economic SDGs. In reports companies indicate activities in assurance of decent work (SDG 8). *Company “LT2” ensure freedom of association or representatives without any interference from the company; provide employees representatives with appropriate facilities for proper representation; eliminate and prevent any forms of compulsory labour. Business Company “LV2” report that more than 600 employees are members of the trade union. In human right company “LV4” raise awareness for employees on Human Rights. Company’s human resources policies and procedures support Human Rights as well.*

Generalizing the analysis of reports it can be stated that the practice of many organizations is limited to improving local social problems or internal structures of the organizations themselves. Typically organisations are not involved in the country's or foreign countries social problems meanwhile such activity would substantially strengthen the implementation of the SDGs.

Also, companies participating in UNGC networking also can indicate what activities in companies are executed in order to implement SDGs. Such indication is marked in column Communication on progress (COP). The summarized data on business companies indication in COP is presented in next figure (see Fig. 3).



Source: Data collected from UN Global Compact (2019)

Fig. 3. Business companies’ indicated actions in COP

Data reveals that organizations are demonstrating their practices in achieving SDGs in different areas of the organization. Most Lithuania organizations identify that SDG represent opportunities and responsibilities to business. Organizations notes that company’s priorities lie with respect to one or more SDGs, goals and indicators set by company with respect to one or more SDGs. Also, companies' activities related to the SDGs are undertaken in collaboration with other stakeholders and so on. There are established practices in the most organizations implementing SDG.

**Conclusions**

Successful contribution to sustainable development and its’ goals strengthen business companies and enable environment for doing business and building markets around the world. In order to keep successful development, they integrate the principles of sustainable development into their business processes (management; cooperation with stakeholders – suppliers, customers, local communities; planning and the course of production; marketing and sale of products, other). The SDGs encompass the three dimensions of sustainable development: the economic, social and environmental. Businesses’ social license to operate depends greatly on their social sustainability efforts. There is no clear and united agreement which SDGs can be included in to social area. Literature indicates that social sustainability is about identifying and managing business positive and negative impacts on people and societies. A socially sustainable system (organization) must achieve distribution of equity, adequate provision of social services including



health and education, gender equity, political accountability and participation. The goals, which mostly contribute to development in social area, are: no poverty, zero hunger, good health and well-being, quality education, gender equality and peace, justice and strong institutions. While contributing to those SDGs businesses can: create decent sustainable jobs, foster economic activity through their supply chains, and contribute tax revenues for basic services and infrastructure; educate employees and communities and develop their competences with different means; adapt companies policies, enhance good governance by integrating–corporate sustainability principles into their own operations and relationships.

Lithuanian, Latvian and Estonian business companies, members of UN Global Compact members-organizations, contribution to SDGs were analysed in the empirical research. Research data reveal, mostly business companies contribute to assurance of better health and well-being (13 organizations), bringing quality education (12 organizations) and assurance of gender equality (2 organizations). Meanwhile poverty concerns (6 organizations) and peace, justice and strong institutions (7 organizations) are less contributed. The data analysis reveals that business companies least report about contribution to decreasing (minimizing) of hunger. Analysis of the examples of the activities that contribute to social SDGs revealed that while decreasing poverty business companies *provided financial support to numerous initiatives in the public interest and value-building community project, employees voluntarily donated school supplies and essential hygiene products to the lonely people, animal food to animal care organizations*. While aiming to end hunger organisations join the promotion of national farmers ' activities and organised support actions. Organisations participate and support various events, conferences and trainings of small and medium-sized farmers in Lithuania. In order to ensure healthy lives and promote well-being for all at all ages organisations *provide a safe and healthy working environment, improve job safety, prevent accidents and injury to health arising out of the course of work by minimizing the causes of hazards inherent in the working environment*. In order to achieve assure inclusive and equitable quality education organizations purposefully developed employees and took care of their qualification upgrading, provided opportunities to participate in development of various types of work skills, new competences while participating in seminars, conferences, trainings, exhibitions or business forums. The goals of achieving gender equality are strongly reflected in the reports of all organizations. Companies indicated that they are aiming to eliminate recruitment and occupational discrimination on the basis of sex, race, religion, age or marital status. Organisations carry out a corruption prevention programme and prevention of money laundering and terrorist financing; avoid signs of corruption and conflict of interest; organise training on corruption prevention. Typically organisations are not involved in the country's or foreign countries social problems meanwhile such activity would substantially strengthen the implementation of the SDGs.

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## EVALUATION OF THE ORGANIZATIONAL CULTURE IN THE CONTEXT OF SOCIALLY RESPONSIBLE ORGANIZATIONS

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**Abstract:** The authors of the article chose to evaluate organizational culture (OC) in the context of socially responsible (SR) organizations. Organizational culture and the corporate social responsibility, makes impact on the performance of an organization. The aim of the article: to evaluate the organizational culture of Lithuanian socially responsible organizations. Problem question of the research: How strongly socially responsible organizations use the organization culture? Quantitative research method was applied in the present article to make the organizational culture assessment in the context of socially responsible organizations. The performed quantitative research revealed significant differences between organizations. Conceptualizing the results of the research, it is maintained that socially responsible organizations pay more attention to organizational culture than the organizations that have not declared themselves as being socially responsible. Referring to the obtained results it is concluded that organizational culture is an important phenomenon in the context of social responsible organizations.

**Keywords:** *organizational culture, social responsibility, organizations.*

**JEL code:** M14

### Introduction

The organizational culture has been the subject of extensive research since 1980. Some of the most popular researchers of organizational culture of that time (Deal & Kennedy, 1982; Schein, 1984; 1990; Peters & Waterman, 1982; Wilkins & Ouchi, 1983; Cameron & Quinn, 1999; Denison 1984; 1990) are considered to be the originators of the OC concept. According to some researchers (Alvesson, 2002; Barbars, 2015), the issue of organizational culture is one of the key issues of academic research and management practice. Even organisations where culture issues are paid little attention are introducing the ideas and norms of socially acceptable culture. It is not an easy task to understand the phenomenon of organizational culture, although it has been a subject of increasing interest to many researchers. E. Schein (1984, 1990, and 2004) was one of the first to define the organizational culture and to offer a three-level model for its assessment, which has been still quite frequently cited and applied by other researchers. The authors maintain that over the last two decades the concept of organizational culture has been quite widely used by researchers and managers of organizations to define the common climate and practice which is being implemented by an organisation together with its employees is striving for the fostering of values.

The authors of the article chose to evaluate the organizational culture in the context of socially responsible organizations since, supposedly, the organizational culture and the corporate social responsibility (CSR), as well as their impact on the performance of an organization and on each of its individual members, makes an important part of the management of an organization. According to some researchers (Dobson, Starkey, Richards, 2004), the development and implementation of organizational culture in an organization is deemed to be the cornerstone of the contemporary management. It is emphasised that organizational culture helps to survive in the market, to acquire competitive advantage, to gain higher profit, to ensure long-term success (Švagždienė, Čepienė, Bradauskienė, 2011; Uddin, Luva, Hossian, 2013), to satisfy consumers' needs and the public interests in a better way (Rizescu, 2011), and to reduce social tension between an organization and the society. Organizational culture encompasses the efforts of all employees, stems from the shared values of people, and reveals the level of employees' identification with the organization (Barbars, 2015). Employees seek employment in organizations where they are fairly treated and their interests are respected. The ideology of corporate social responsibility encourages business companies to create an environmentally friendly social atmosphere. Socially responsible organizations harmonize labour relationships and

actively promote a social dialogue with the society and the employees of the organization. Corporate social responsibility (CSR) is believed to improve a company's reputation (Graafland, 2017). The possibilities for the CSR implementation may be limitless; however, for an organisation it is important to choose what is the most relevant to its operation and what helps to manage its reputation in a proper way. According to the authors of the article, the issues of creation and modification of organizational culture should be relevant to socially responsible organizations, as it would allow them to apply the CSR principles in their activities. There is not so easy evaluating organizational culture in organizations of complexity of this phenomenon.

The following research problem has been formulated in the article with research questions: how to evaluate organization culture in socially responsible organizations? What organizational assessment criteria we can use for evaluation of organizational culture?

The aim of the research: to evaluate the organizational culture of socially responsible organizations in Lithuania.

Research hypotheses:

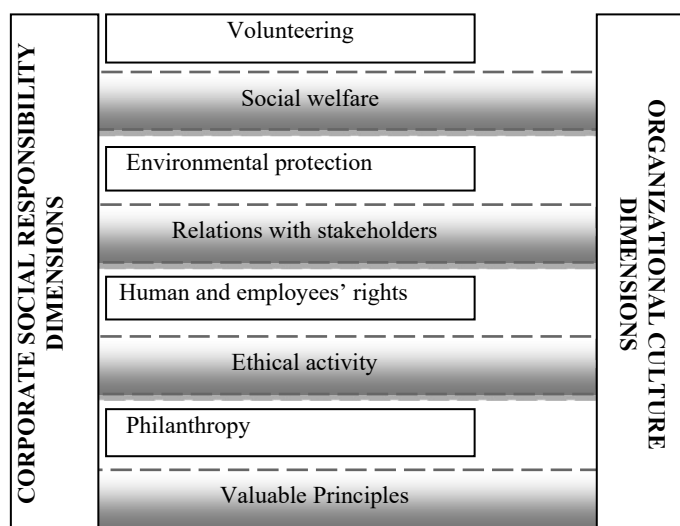
- 1) Organizational culture of socially responsible organizations is more strongly expressed than in organizations not declared themselves as being socially responsible.
- 2) Values are the most significant criterion in the context of socially responsible organizations.
- 3) The type of CSR organizations have a significant impact on the implementation of organizational culture.

The research is implemented through a two-stage process of literature review and empirical survey. For the empirical research, a method of questionnaire survey was chosen, and the respondents were the staff of social responsible organizations. For the statistical data analysis was used descriptive statistics and also data was processed by nonparametric Kruskal Wallis test. In the present article evaluation of the organizational culture is made in the context of socially responsible organizations.

#### **Corporate social responsibility and its links to organizational culture**

Some researchers describe corporate social responsibility as volunteering (Bagdonienė, Paulavičienė, 2010; Potašinskaitė, Draugelytė, 2013; Vitell, 2015) and business practices (Korschun and et al., 2014), which contributes to the (social) welfare of society (Vishnubhai, 2012; Korschun and et al., 2014; Vitell, 2015; Nwanne, 2016). Some scientist includes philanthropic responsibility in the definition of CSR (Lahdesmaki, Suutari, 2012). Today, CSR has become a part of the business paradigm, whereby many companies accept responsibility for the way they impact society (Supanti, Fredline, 2015). Corporate social responsibility refers to companies voluntarily going beyond what the law requires to achieve social and environmental objectives during the course of their daily business activities (European Commission, 2019). It can be argued that CSR is the management of business processes and processes in order to achieve a general positive impact on society. It is important to understand that CSR is not just an altruistic activity of organizations; it is a management mode, which means cooperation with stakeholders, i.e. with the public, customers, suppliers, governmental and non-governmental organizations, etc. Although CSR focuses on volunteering, organizations must nevertheless comply with international and national legislation, but it is volunteering because it seeks to contribute to the improvement of the quality of life of its employees and society, and the environment. In essence, this is a dynamic process in which businesses continuously change and improve in order to achieve sustainable development.

The content of the definition of CSR can distinguish the main dimensions: environmental, social, economic, ethics, volunteering, philanthropy, enterprise relations with stakeholders. Conceptualising the dimensions of CSR, it seems that some of the CSR dimensions are related to organizational culture (see Figure 1).



Source: author's construction based on literature review

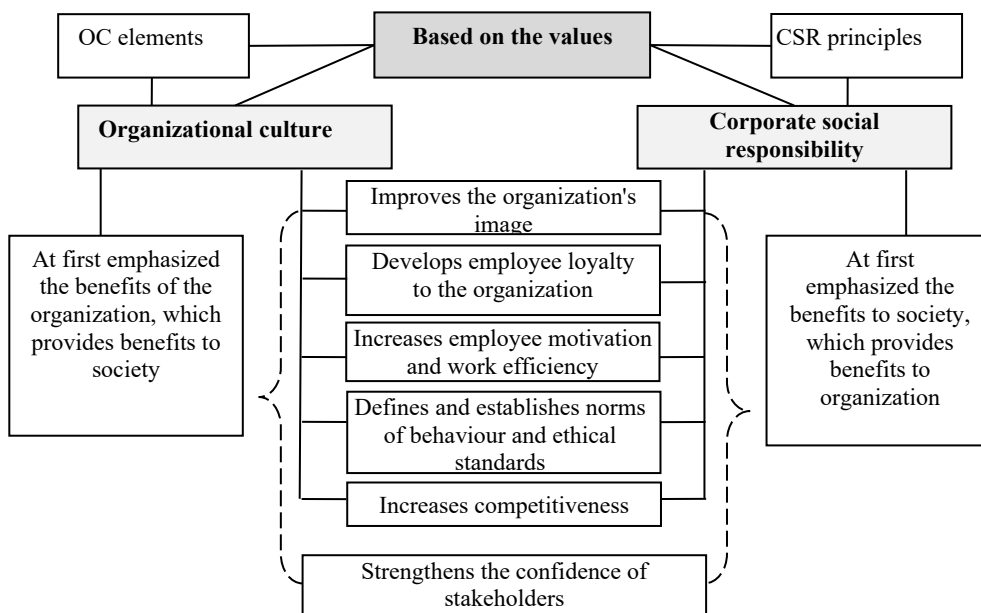
Fig. 1. Corporate social responsibility and organizational culture dimensions

Conceptually, CSR and OC include four dimensions that manifest themselves in social responsibility and organizational culture. However, it should be noted that organizational culture, as well as social responsibility, is not limited to these dimensions, Figure 1 shows the dimensions that most closely correlate OC and CSR.

The OC and CSR are the concepts of the mode of operation of organizations with reference to which the organizations include the social, ethical, and value-based dimensions into their performance and pay attention to the relationships with the stakeholders. The striving for the assumption of higher than required goals of operation contributes to the improvement of organizational performance by harmonizing labour relationships and actively participating in the social dialogue. In modern business, CSR and organizational culture make integral components of successful performance and are important aspects of corporate management (Ubius, Alas, 2009). A CSR-favourable environment is likely to be created in the organizational culture that features such characteristics as teamwork, has employee involvement programmes, and assumes organizational commitments to employees, or where flexibility, creativity, and ability to adapt in order to promptly respond to changes make important components of operation (Tauginienė, 2016). According to S.P. Saeidi and et al. (2018) developing CSR projects helps an organization build a better reputation amongst internal and external stakeholders, and through attracting talent, motivating, recruiting and retaining employees, also CSR can help satisfy a variety of organizational members' psychological or developmental needs (Gond, 2017). Gond et al argued that CSR can be directed towards employees as well as prospective employees and can be an appropriate tool for enhancing corporate image and reputation (Verčič, Corric 2018).

It is evident that the key focus of CSR and organizational culture is made on the welfare of employees and excellence of organizations. OC and CSR links are defined in Figure 2.

To sum up figure 2, it can be maintained that both CSR and OC improve the image of an organisation, develop the employee loyalty to the organization, define, establish, and embed the norms of conduct, ethical standards, etc. In this case, the image and reputation of a company mainly depends on the trust of the stakeholders. With reference to that approach, the stakeholders play an important role both in the OC and CSR initiatives.



Source: author's construction based on literature review

Fig. 2. Corporate social responsibility and organizational culture links

The performed analysis of the links between OC and CSR revealed that the organizations that implement the OC and CSR principles improve their image in the society, ensure the employee loyalty, and increase their motivation and trust in the organization. Purposeful integration of the CSR principles and elements of organizational culture into the activities of the organization can contribute to the strengthening of the relationships of the organization with its stakeholders.

### Research methodology

In order to address the research problem at the theoretical level, the following methods were used: analysis of research literature sources, systematisation, synthesis, generalization, and comparison. Scholarly literature and the research findings by both Lithuanian and foreign authors were analysed. Organizational culture can be assessed using either qualitative or quantitative research methods (Yauch, Steudel, 2003), Schur, Kruse, Blanch, 2005). But one of the most popular and commonly used methods of assessment of organizational culture is a questionnaire survey (Dugan, Maracine 2013; Janicijevic 2011). The research included quantitative research, i.e. a questionnaire survey. Questionnaire includes 12 criteria (*values; teamwork and collaboration; communication in the organization, heroes / leaders; symbols; histories; rituals (traditions, ceremonies); approach to the customer; vision, mission, goals; managing; innovations; social responsibility*) which have been identified for the organizational culture assessment, assigning 5 statements to each criterion. In the instrument for the OC assessment (a questionnaire), the questions are provided using a 5-score Likert scale (1 - completely disagree, five - completely agree). To improve questionnaire was performed expert research with the aim of finding out whether the identified criteria of organizational culture and the items attributed to each criterion are appropriate for the research of the planned type on the assessment of the OC in SR organizations.

The collected empirical data were processed using the SPSS (*Statistical Package for the Social Sciences*) programme. In the data processing, descriptive statistics was used. Also data was processed by nonparametric Kruskal Wallis test. To assess the reliability, or internal consistency, of a set of scale, Cronbach's alpha coefficient was used.

Validation of the quantitative research. In this case, the general population comprises Lithuanian organizations - members of the **United Nations Global Compact** that are involved in the corporate social responsibility initiative. The research sample includes three socially responsible Lithuanian organizations: large organizations (LO), small and medium business organizations (SMB), and academic institutions (AI).



Table 1

**The survey sample of the organizational culture assessment empirical research**

Survey sample	Large organization (number of employees)	SMB organization (number of employees)	Academic institution (number of employees)
General population	630	34	230
Survey sample	<b>248</b>	<b>30</b>	<b>144</b>
Survey error	±0,05	±0,05	±0,05
Validity	95 proc.	95 proc.	95 proc.
Survey sample of the socially responsible organizations	<b>285</b>	<b>29</b>	<b>152</b>
Survey sample of the control group organizations	<b>280</b>	<b>27</b>	<b>144</b>

Source: author's calculations based on research data

Altogether, 466 respondents from the socially responsible organizations participated in the survey: 285 respondents from large organizations, 29 from SMB organizations, and 152 from academic institution. 451 respondents from a control group participated in the survey: 280 respondents from large organizations; 27 from SMB organizations, and 144 from academic institutions (Table 1).

In the OC assessment research, the probability screening method was applied to select the employees in organisations. All the employees of the selected organizations were provided with the possibility to take part in an opinion survey. Everyone was included into a sampling frame. With the help of the administration of the organizations, each employee was sent a link to a virtual questionnaire; employees who did not use a computer were provided with the possibility to complete a printed form of the questionnaire. The data was gathered by the method of completing a survey questionnaire both in a direct (face-to-face communication with a respondent) and an indirect (sending the questionnaires by e-mail) form.

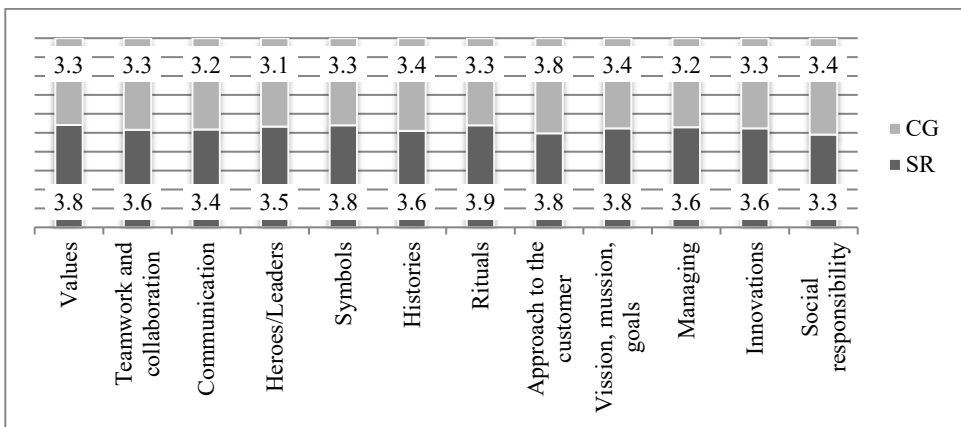
When screening the organizations that have not declared themselves as being socially responsible (hereinafter: the control group), their size and the type of organizations were taken into account. Similar numbers of persons were surveyed in the organizations in order to obtain comparable data.

### Research results

Six organizations took part in the survey, including three that have declared themselves as being socially responsible and have joined the UN **Global Compact** network. They were coded as *SR organizations*. Another three organizations were chosen as a control group (hereinafter: *CG organizations*), they are not participants of the UN **Global Compact** network.

For the assessment of the questionnaire scale internal consistency, Cronbach's alpha coefficient was used. In our case, the analysis of the questionnaire scale items obtained that Cronbach's alpha coefficient for all items varies from 0,75 to 0,90. This shows that the scale is properly prepared.

The analysis of the criteria of organizational culture revealed differences between SR and CG organisations (see Figure 3).



Source: author's calculations based on research data

Fig. 3. Implementation of the organization culture in the SR and CG organizations, mean (M) (where 1 - completely disagree, 5 - completely agree)

As seen in the Figure 3, socially responsible organizations pay more attention to the organizational culture criteria than the organizations that have not declared themselves as being socially responsible, except for the attitude to customer and social responsibility criteria, which are given similar attention in the CG organizations. SR organizations greatest attention paid to values (M-3,8), teamwork and collaboration (M-3,6), symbols (M-3,8), rituals (M-3,9), approach to the customer (M-3,8), vision, mission, goals (M-3,8), managing (M-3,6), innovations (M-3,6). Meanwhile CG organizations give less attention to these criteria, mean from 3,1 to 3,4. According the results, it seems that the SR organizations implement the organizational culture strongly than CG organizations. The hypothesis was proved.

The results were tested by Kruskal Wallis test, to check for significant differences between CSR and CG organizations (see Table 2). p value shows that there are significant differences between SR and CG organizations (p < 0,05). Significant differences were not observed only in the attitude to the customer criterion group, where p = 0,000 > 0,24, and the social responsibility criterion group, where p = 0,000 > 0,24. Kruskal Wallis test improve that organizational culture of socially responsible organizations is more strongly manifested than that of the organizations that have not declared themselves as being socially responsible, so the hypothesis was proved. (Table 2).

Table 2

**Kruskal Wallis test of OC assessment for SR and CG organizations**

OC assessment criteria	Organization	Mean rang	Sig. p
Values	SR	525,78	<i>p</i> = 0,000 < 0,05
	CG	384,54	
Teamwork and collaboration	SR	478,64	<i>p</i> = 0,000 < 0,04
	CG	430,10	
Communication in the organization	SR	480,49	<i>p</i> = 0,000 = 0,05
	CG	430,25	
Heroes	SR	508,22	<i>p</i> = 0,000 < 0,05
	CG	399,56	
Symbols	SR	518,53	<i>p</i> = 0,000 < 0,05
	CG	390,81	
Histories	SR	469,54	<i>p</i> = 0,000 < 0,05
	CG	432,25	
Rituals (traditions, ceremonies)	SR	521,78	<i>p</i> = 0,000 < 0,05
	CG	384,54	
Approach to the customer	SR	443,93	<i>p</i> = 0,000 > 0,24
	CG	467,56	
Vision, mission, goals	SR	492,55	<i>p</i> = 0,000 < 0,05
	CG	416,38	
Managing	SR	496,01	<i>p</i> = 0,000 < 0,05

	CG	412,37	
Innovations	SR	491,75	$p = 0,000 < 0,00$
	CG	417,37	
Social responsibility	SR	437,17	$p = 0,000 > 0,24$
	CG	471,88	

Source: author's calculations based on research data

The values of mean ranks provided in Table 2 show that mean ranks in the OC assessment criteria groups differ from 437,17 to 525,78. The lowest mean rank (437,17) is observed in the group of social responsibility criterion, the highest (525,78) – in the values criterion group. According to this statistical data it can be confirmed that values are the most significant criterion in the context of socially responsible organizations, so the next hypothesis was proved.

The performed dispersion analysis revealed significant differences among the analysed SR organizations, i.e. SR organizations of different types tend to differ in terms of their attitude towards OC (see Table 3).

Table 3

**Kruskal Wallis test of OC assessment criteria and organization type**

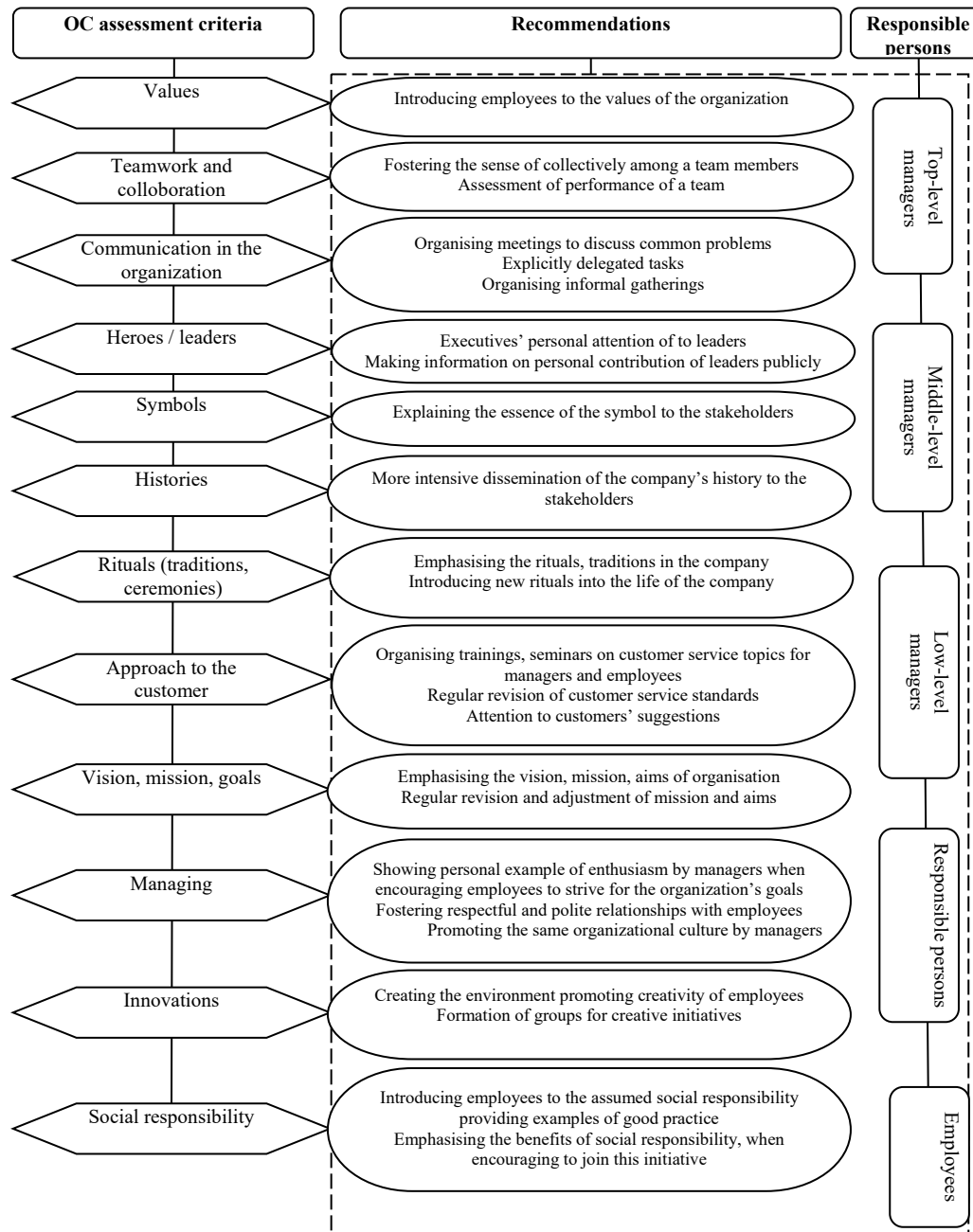
OC assessment criteria	Organization type	Mean rang	Sig.
Values	LO	264,27	$p = 0,000 < 0,05$
	SMB	224,14	
	AI	179,47	
Teamwork and collaboration	LO	238,95	$p = 0,220 > 0,05$
	SMB	272,19	
	AI	217,55	
Communication in the organization	LO	241,95	$p = 0,019 < 0,05$
	SMB	303,19	
	AI	206,07	
Heroes / leaders	LO	234,36	$p = 0,000 < 0,05$
	SMB	309,93	
	AI	218,93	
Symbols	LO	253,64	$p = 0,010 < 0,05$
	SMB	244,54	
	AI	195,48	
Histories	LO	253,04	$p = 0,405 < 0,05$
	SMB	241,37	
	AI	197,13	
Rituals (traditions, ceremonies)	LO	253,40	$p = 0,043 < 0,05$
	SMB	239,00	
	AI	196,89	
Approach to the customer	LO	240,60	$p = 0,050 = 0,05$
	SMB	256,66	
	AI	217,40	
Vision, mission, goals	LO	241,92	$p = 0,011 < 0,05$
	SMB	281,41	
	AI	210,26	
Managing	LO	234,18	$p = 0,028 < 0,05$
	SMB	272,79	
	AI	226,30	
Innovations	LO	218,03	$p = 0,010 < 0,05$
	SMB	256,12	
	AI	259,53	
Social responsibility	LO	229,98	$p = 0,111 > 0,05$
	SMB	241,23	
	AI	240,12	

Source: author's calculations based on research data

Insignificant differences between the types of the analysed organizations were observed in the assessment of the teamwork criterion, where  $p = 0,220 > 0,05$  and the social responsibility criterion, where  $p = 0,111 > 0,05$ . In all the other criteria groups, p value is statistically significant  $p < 0,05$ , therefore it can be maintained that the type of

organization has a significant impact on OC. Mean ranks show that large and SMB organizations pay more attention to OC than educational institutions. In this case, organizational culture manifests itself in educational institutions to the least extent, as shown by the provided mean ranks. Hypothesis was proved.

In the figure 4 are given recommendations for social responsible organizations or better organizational culture implementation.



Source: author's construction based on research data

Fig. 4. Recommendations for SR organizations implementing the OC

Figure no.4 shows recommendations to managers. There are given organizational culture assessment criteria with recommendations how to implement them to organization activities. In the last graph we can see responsible persons for different organizational culture criteria. The research carried out revealed that socially responsible enterprises and organizations are implementing organizational culture, but to some organizational culture criteria have too little attention. In order to strengthen organizational culture, organizational leaders should pay more attention to the criteria for which employees are rated to be the weakest. This would help employees to better understanding the benefits of organizational culture. In addition, it is likely that greater attention will be paid to the organizational culture and the

promotion of social responsibility will be better, improving the organization's microclimate, employees feel more comfortable when they are working in an organization that focuses not only on organizational goals, on clients, but on employees needs also. When managers are planning their activities, they take into account both the positions of the stakeholders and expectations of the society, thereby ensuring transparency in management and maintaining ethical relationships with partners, as well as contributing to a favourable general business climate in the country.

### Conclusions

Organizational culture is based on values, assumptions, or expectations which are difficult to understand and examine in an organization. It took some time until managers understood the importance of organizational culture for relationships among employees and its impact on the quality of performance. It took time to understand CSR benefit for organization also. The performed analysis of the CSR definition allows stating that the key CSR dimensions focus on the environmental (sustainability) aspect, social, economic and ethical environments, the relationships with the stakeholders, voluntariness, and philanthropy. Conceptually, CSR and OC include four dimensions: social, ethical, relationships with the groups of stakeholders, and the system of values. Purposeful integration of the CSR principles and elements in organizational culture of a company can help strengthening the company's relationships with its stakeholders.

The conducted research revealed the importance of organizational culture in the context of socially responsible organizations. The performed quantitative research revealed significant differences between socially responsible and control group organizations. Conceptualizing the results of the research, it is maintained that socially responsible organizations pay more attention to organizational culture than the organizations that have not declared themselves as being socially responsible. Organizations of different type tend to differ in terms of their attitude towards organizational culture. Differences between mean ranks revealed that large and small and medium business organizations pay more attention to organizational culture, while in educational institutions organizational culture it is not so important. Referring to the obtained results it is concluded that organizational culture is an important phenomenon in the context of socially responsible organizations.

On the basis of the suggested results each company will strengthen its organizational culture; therefore it would be relevant to conduct longitudinal research in order to re-assess organizational culture of these organizations and to compare the research findings.

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## METHODOLOGICAL PERSPECTIVE OF EVALUATION OF GREEN PUBLIC PROCUREMENT

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**Abstract.** Every year the European Union (EU) Member States collectively spend around 14% of Gross Domestic Product (GDP) on public procurement. In Latvia, public procurement accounts for 17% of GDP. The review of the new public procurement directives and their transposition process in Latvia plans to show new opportunities for green public procurement (GPP) application: the contracting authority will be able to reject, for example, an abnormally low bid, include environmental management system requirements in the selection criteria, use life cycle costing criteria, etc. GPP is the systematic integration of environmental criteria into all activities related to the procurement of goods or services, from the identification of needs, the development of appropriate specifications and evaluation procedures, to the monitoring of the results achieved. Solutions for the promotion of GPP proposed by the new Public procurement Law project and the Cabinet of Ministers' draft regulation "Requirements and Application of Green Public Procurement" will also be analyzed. The aim of the work is to explore the application of GPP to improve the quality of GPP.

**Keywords:** *Green public procurement, procurement.*

**JEL code:** H57, Q58

### Introduction

The European Commission has defined Green Public Procurement (GPP) as a process whereby public authorities strive to procure goods, services and works with lower environmental impacts throughout their life cycle than goods, services and works that share the same primary functions, but which would have been obtained by applying different procurement principles. Global economic output is projected to treble between 2010 and 2050 and resource use may double by 2030 (Reichel, A., De Schoenmaker, M., Gillabel, J., 2016) while the most recent United Nations forecast suggests that world population reached 7.7 billion in 2019 and the global population is likely to exceed 11 billion by the end of the 21st century (UNDESA, 2019). The planet is already struggling to meet humanity's demands for land, food and other natural resources, and to absorb its wastes (Reichel, 2016). While resource use in Europe has become more efficient in recent years, resulting in absolute reductions in emissions of greenhouse gases and pollutants, the continent's burden on global ecosystems remains considerable, particularly if pressures in the countries of origin of imported products and materials are taken fully into account (EEA, 2015). The consumption and production of products (goods and services) are responsible for adverse effects to the environment, encompassing effects on human health and natural resources (Antoine Beylot, Michela Secchi, Alessandro Cerutti, Stefano Merciai, Jannick Schmidt, Serenella Sala, 2019).

Sustainable consumption is a normative concept that calls for individuals, corporations, and nations to reduce their resource footprints in the interest of environmental protection and ecological integrity (Anantharaman, 2018). As the field of sustainable consumption has evolved and broadened, research falling under its ambit has moved beyond methodological individualism to consider the social, cultural, and systematic dynamics driving over-consumption, particularly in the developed world (Giulio, AD., Fischer, D., Schäfer, M., Blättel-Mink, B., 2014). GPP represents an increasing trend on sustainable lifestyles of green consumption, which is committed to addressing environmental problems by consumers' co-responsibility (Oosterhuis, F.; Rubik, F.; Scholl, G., 1996), and promoting sustainable consumption, eco-production and all together sustainable development by the enormous purchasing power (Gilg, A.; Barr, S.; Ford, N., 2005).

The object of the research is the methodological framework of GPP. The aim of the work is to explore the application of GPP to improve the quality of green public procurement. The methods of the research are analytical, graphical.

### **Literature Review**

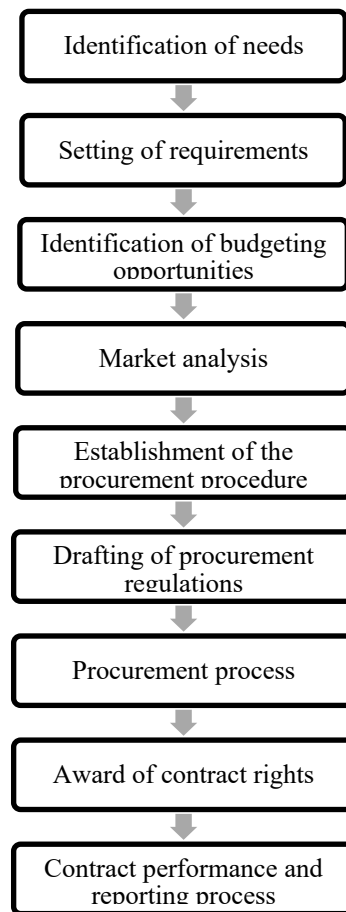
The green economy became a pillar of major European and international strategies: most notably in the Europe 2020 strategy adopted in 2010 by the EU to drive sustainable growth, and in the Rio+20 outcome. The incentive to use GPP is based on the fact that in many countries public sector spending amounts to a significant part of the economy, and that this purchasing power can be used to influence production and consumption to achieve desired reductions on environmental impact (Lundberg, S., Marklund, P.O., Strömbäck, E., Sundstrom, D., 2015). When public authorities go green, they make an invaluable contribution to environmental protection and sustainable development, setting a trend that often convinces other to follow suit (Day, 2005). The practice amounts to significant expenditure, excluding utilities and defence, across Europe, comprising 13% of European GDP in 2015 (Commission, 2016). In the last decade, the use of environmental criteria in public tenders has been increasing defusing (Testa, F., Iraldo, F., Frey, M., Daddi, T., 2016). The implementation of GPP is covering new sector in recent years, identifying new practices (Cheng, W., Apolloni, A., D'Amato, A., Zhu, Q., 2018). The challenges that the European municipalities face on a path towards sustainability were outlined, along with the undertaking of sustainable procurement and the active promotion of sustainable production and consumption, particularly, eco- labelled, organic, ethical and fair-trade products (Belgica, P.B., Jose, B.C.M., 2016).

GPP is defined in the EC's Communication as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared that would otherwise be procured" (EC (2008) 400, p.4). The basic concept of GPP relies on integrating environmental criteria for public products and services procurements (Evans, 2010). (Testa, F., Iraldo, F., Frey, M., 2011) found that effectiveness of GPP is strongly related to the investments in technological innovations and reputation. In addition to assessing environmental policy instruments in terms of objective effectiveness, the instruments are also assessed based on cost- effectiveness (Cheng, W., Apolloni, A., D'Amato, A., Zhu, Q., 2018). Moreover, among the EU countries, public procurement is implemented as the way to achieve both stimulating economic growth and solving social problems simultaneously (OECD, 2015) (McCrudden, 2004). On 26 February 2014, Directive 2014/24 / EU of the European Parliament and of the Council on Public Procurement (hereinafter - Directive 2014/24 / EU) and Directive 2014/25 / EU of the European Parliament and of the Council on Public Procurement active in the water, energy, transport and postal services sectors (hereinafter - Directive 2014/25 / EU), while repealing the previous public procurement directives (Directives 2004/18 / EC and 2004/17 / EC respectively). The general EU legal framework for public procurement is contained in the provisions of Directive 2014/24 / EU. These rules set out the procedures to be followed and oblige public authorities to treat all tenderers equally and avoid any discrimination in their procurement. Likewise, the functioning of the institutions and decision-making must be transparent. These basic rules and principles also apply to the water, energy, transport and postal services sectors, but Directive 2014/25 / EU takes into account their specificities.

### **Research results and discussion**

#### **Procurement process**

The nature of public procurement is matching supply and demand to supply them goods, services and works for which the public sector is responsible. In public procurement, it is essential to follow the steps of the procurement procedure so that procurement can be successfully realised, it's illustrate in Fig. 1.



Source: authors' summary

Fig. 1. Procurement steps in a cycle of constant improvement, designed by the authors

In order to apply the GPP criteria correctly, the procurer must be familiar with the regulatory and procedural context of the procurement process. Before procurement, it is important to know what are the requirements and needs for product/services and what is the market supply. The more precisely the customer is able to define his requirements at the initial stage, the easier it will be throughout the procurement process. Consequently, consultation with market participants (suppliers) is needed in good time. Consultation with market participants enables:

- suppliers to prepare for the terms of the planned procurement;
- purchasers to better assess the market situation and formulate their needs.

The basic principles of the Public Procurement Law (PPL) must be respected irrespective of the estimated contract value of the contract, also those procurements that are not subject to the PPL procurement procedures. The following principles have been incorporated into the Treaty establishing the European Community (Union, 2002):

- **free competition and equal treatment of suppliers.** This means that all bidders must be subject to the same conditions. The contracting authority must observe the principle of equal treatment of tenderers at every stage of the procurement procedure and must be on an equal footing both when preparing their tenders and evaluating them. The principle of equal treatment is essentially aimed at establishing effective competition between tenderers;
- **openness of the procurement procedure** (transparency). The main purpose of the principle of transparency is to ensure that there is no risk of unequal treatment between contracting authorities and to control the impartiality of public procurement procedures. This requires that all terms and conditions of the award procedure be clearly, precisely and unequivocally stated in the notice of intended procurement or in the specifications so that, firstly, all tenderers can understand and interpret the requirements set out and, secondly, the contracting authority can effectively verify, whether the tenders of the tenderers meet the criteria governing the relevant procurement;

- **proportionality of requirements** (proportionality). Respect for the principle of proportionality requires that restrictions on the free movement of goods and services do not go beyond what is appropriate and necessary in order to achieve the objectives pursued; be disproportionate to the objectives pursued;
- **mutual recognition**. Compliance with this principle also requires recognition of evidence of professional or other qualifications provided by other EU Member States in accordance with the requirements of Directive 2005/36 / EC.

It must be remembered that Latvia is an EU Member State, but the EU is a single market space, therefore the procurement conditions must be compatible in this space and not violate the basic principles mentioned above.

### **Green Public Procurement**

It is very important to incorporate the environmental requirements of green public procurement at an early stage in the identification of needs and in the context of consultation with market participants. The most recent literature (Ahsan, K., Rahman, S., 2017) identifies healthcare as one of the new most important sectors for its GPP implementation. Neto and Gama Caldas (2017) demonstrate how to include a green criteria in the provision of food productions and catering services (Neto, B., Gama Caldas, M. , 2017). The diffusion of green technologies is evidenced by Aldenius and Khan (2017), focusing on way which Swedish transport authorities promote the introduction on renewable fuels in their public bus services. The effectiveness of GPP as an environmental policy tool to reduce environmental impact and achieve environmental objectives is challenged by Lundberg (Lundberg, S., Marklund, P.O., Strömbäck, E., Sundstrom, D., 2015). The more timely the inclusion of GPP requirements in the procurement procedure and the quality of the procurement procedure, the more likely it is that the procurement will be completed in a positive way. Conceptually, GPP is concerned with life cycle analysis and life cycle costing. This approach becomes important not only in an effort to preserve the quality of the environment, but also because it also succeeds in reducing a true cost of goods or service when calculated from an aspect of a cradle-to-grave life cycle. Not only the widespread, albeit often misleading, perception that green goods and services cost more, but also a lack of information and technical support and resources, violate regulatory requirements, and the complexity of the verification process. In Latvia often procurement decisions are still made on a basis of a purchase price, but costs that may arise in the upkeep and disposal of many products and work can also be very significant, such as energy consumption, aggregation, and the disposal of relevant materials (Pelsa, I., Balina, S., 2019).

GPP is still largely voluntary in EU, the Member States have implemented it at different levels according to their political will, understanding and readiness. GPP is voluntary in Poland, Slovakia, Spain and Sweden, while in Austria, the Netherlands it is mandatory for central government and compulsory for selected product groups in France. The Ministry of Environmental Protection and Regional Development of the Republic of Latvia is responsible for promoting GPP. Along with the new Public Procurement Law, Public Service Provider Procurement Law and Cabinet of Ministers (CoM) Regulations No. 353 "Green Public Procurement Requirements and Procedures for their Application", the application of GPP in the public sector is now mandatory in Latvia in several groups of goods and services. In 2019 GPP

The main principles of GPP are as defined in the CoM Regulation. No. 353:

1. Greening of procurement: environmental (and human health) considerations as part of generally accepted public procurement practices;
2. prevention of pollution or harm: environmental (and human health) considerations from the outset of the procurement process;
4. life-cycle thinking: the environmental impact and costs of a product or service throughout its life cycle;
5. comparison of environmental impacts: major impacts by size, geographic scale and reversibility;

6. environmental information: precise, objectively measurable and verifiable (Cabinet of Ministers, 2017).

The introduction of a regulatory framework for GPP has led to an increase in its share, reaching 18.3% in financial terms in 2018 (2017 12%) and by number of procurements, reaching 11% (2017 7%). Directives 2014/24 / EU and 2014/25 / EU offer greater scope for applying GPP requirements and also clarify how to do it best. Furthermore, the provisions of the directives are formulated in such a way as to balance the possibilities they afford with the need to respect the fundamental principles of openness, equal treatment, proportionality of requirements and free movement of goods and services (competition) enshrined in the Treaty. Table 1 summarizes some of the new options for applying GPP requirements.

Table 1

**Opportunities created by the new EU public procurement directives to apply GPP requirements**

Parameter	The opportunity of the Directive to apply GPP requirements
Unreasonably low price	Unreasonably low prices shall also be rejected if they result from a violation of certain international social or environmental conventions (eg ozone depletion, hazardous substances or waste treatment).
Environmental management system	Evidence that the tenderer is capable of implementing certain environmental management measures in the execution of any contract may be required at the tender selection stage.
Technical specifications	Technical specifications may also be formulated with reference to the manufacturing process and method at any stage of the life cycle of the good or service. For example, organic production methods in agriculture or the bleaching process without the use of chlorine in the paper industry.
The evaluation criteria	The evaluation criteria may include references to the social and environmental aspects of goods, services or works. For example, electricity from renewable sources or goods that meet the requirements of fair trade.
Eco - label	The contracting authority may require the eco-label in the technical specifications, the award criteria or the contract performance conditions as evidence of the conformity of the works, services or supplies with certain standards of openness and transparency.
Life Cycle Cost	Life Cycle Cost (LCI) can be used to determine and compare the cost of bids submitted, including external environmental costs such as greenhouse gas emissions.

Source: authors' summary

**Application, evaluation and verification of GPP criteria**

When environmental issues are taken in procurement, the most common way to be clear in mandating specific technical requirements (Mellissen, F., Reinders, H., 2012) or eco – label criteria for the product or service. In the implementation of GPP, supplier selection is a core procurement activity to evaluate whether bidders have capacity and ability to perform the environmental requirements in the contract. Empirical studies show that the two classical criteria of the price and quality are the most frequent award criteria (Cheng, W., Apolloni, A., D'Amato, A., Zhu, Q., 2018). Environmental criteria seems to have little influence on final decisions in a selection of a supplier (Igarashi, M., de Boer, L., Michelsen, O., 2015).

Compliance with a high environmental standard for a product or service is not a minor factor in today's business, and there is no shortage of firms and companies that strive to present their products and services in an environmentally sound manner, accompanied by unjustified environmental statements. On the other hand, a number of standards, certification schemes and labels have been developed to distinguish a truly environmentally friendly product from a case of counterfeiting or "green-washing".

During the procurement process, the customer must select a supplier, evaluate the quality of the offer and compare the costs. It is not an easy task to accurately assess and verify the information submitted by tenderers against the environmental criteria, but the new procurement directives and regulations transposing them in Latvia in 2014 offer several options for doing so. Product or service compliance with high environmental standards today business is not

a minor factor, so there is also a shortage of firms and companies, which seek to provide their services as environmentally friendly, by adding to them unwarranted evidence of compliance with environmental requirements. On the other hand the Parties have developed a number of standards, certification system and labelling by which help can be distinguished between a truly environmentally friendly product and counterfeit or green in the case of “laundering” criteria “green – wash”. In the Table 2 Authors summarize the criteria of verification. During the procurement process, the customer must select a vendor, evaluate the quality of the supply and the costs must be compared. To accurately assess and verify information submitted by tenders in relation to environmental criteria is not easy the task, however, of the 2014 Procurement Directives and regulatory enactments, with for which they are taken over in Latvia, there are a number of possibilities for doing this. GPP possibility of verification of the eligibility of the criteria (verification) at the same procurement stages summarized in Table 2.

Table 2

**Opportunities for verification (verification) of GPP criteria at different stages of procurement**

Procurement phase	The type of GPP criteria	What evidence can be required
Selection criteria	Ability to apply environmental management (management) measures.	EMAS, ISO 14001 or other equivalent independent third party environmental management systems. Environmental management systems (action plans) developed by companies / organizations themselves may be accepted if they specify the implementation of environmental management measures that are relevant to the subject of the procurement contract. Under the new public procurement directives, it is for the tenderer to demonstrate that these measures are equivalent to those required under the applicable environmental management system or standard.
Technical specifications	Environmental standards, manufacturing processes, compliance with a particular technical or functional performance (eg energy efficiency level).	Certificates, test reports, technical reports, type I ecolabels or their equivalent.
Criteria for the evaluation of the tender	Compliance with a higher technical or functional performance than specified in the technical specification, life-cycle costs, environmental added value.	Where a specific marking is required, the applicant must prove that he was unable to obtain this or an equivalent marking for reasons beyond his control. Other equivalent evidence shall then be accepted.
Purchase agreement execution rules	Key performance indicators, incentives, penalties.	Eco-labels may be required under the same conditions as labels. Other forms of evidence are not covered by the public procurement directives.

Source: authors' summary

In the analysis of verification methods, one of the types is self – declaration which, in other cases, is not available or deemed necessary, an objective third – party validated proof. In such cases, signed self- declaration, such as compliance with certain environmental laws, may be considered acceptable. Such self – declarations must meet the requirements of ISO 14021 standard.

From the point of GPP, it would be desirable for the contracting authority to formulate the technical specification as being result oriented, without specifying the specific way to achieve this result. This saves both the customer's time spent preparing detailed technical specifications and the supplier's ability to innovate. For example, instead of specifying the required air conditioner specifications, the technical specification can simply state that the indoor temperature should be within the range of 18-20 oC. This allows the supplier to find the most efficient solution. Of course, this result-oriented approach to the formulation of a technical specification also has its limitations. The customer must be convinced that in this way any environmental aspect is not underestimated or, on the contrary,



overestimated. In addition, in some cases, the time saved to develop a more detailed technical specification is lost due to more complex criteria verification in the evaluation process. Such risks could be mitigated by pre-procurement consultation with potential suppliers and bidders.

In order to evaluate the benefits of green public procurement, the authors made a comparison of the two procurements taking into account several aspects, more details in Table 3.

Table 3

**Green public procurement compared to public procurement**

Criteria	Public procurement	Green public procurement
Environment protection	Environmental issues are not explicitly included in the procurement.	One of GPP's main objectives is to integrate environmental concerns into procurement, minimizing environmental damage.
Social aspects	Not directly integrated	GPP criteria are also defined taking into account human health aspects.
The most economically advantageous tender	Consider only the initial purchase price, not a long-term cost vision. So overpay for example on maintenance costs.	The life-cycle cost approach takes into account the purchase price, maintenance costs, and this makes the purchase financially more profitable in the long run. In many commodity groups, particularly in the construction, transport and electrical goods sectors, in order to: choosing the most economically advantageous offer is not enough simply to evaluate the initial investment.
Quality	Product / service quality is not always the goal of this procedure.	GPP requirements are used to evaluate the purchase of a high quality product / service.
Economic support	There are no such tools in the PPL.	Green procurement is also called "smart procurement" when you can support a local manufacturer or service provider by applying short supply chains.
Knowledge	Knowledge of the PPL procedure.	Knowledge of the PPL procedure and in-depth knowledge of GPP application, integration, market research.

Source: authors' summary

As mentioned in Table 3, GPP is a more comprehensive type of procurement that involves not only environmental considerations but also financial benefits in the long run, as it is important to consider not only the purchase price of the product or service but also the maintenance costs and services groups make up a very significant part of the total cost, such as construction, energy-using goods, vehicles. Knowledge is very important when doing GPP, as you need to know not only the procurement procedure, but also the green purchasing criteria, and market research to make sure the product / product is available on the market.

**Conclusions, proposals, recommendations**

1. In order to apply green public procurement criteria, the commissioning party must have knowledge of the procurement process as well as of the requirements and criteria that can be integrated into green public procurement.
2. Identifying all stages of procurement and carefully integrating criteria, requirements, verification methods to ensure that green public procurement principles, as well as the principles set out by the European Commission, are essential to the success of green public procurement.

3. One of the principles that promote the use of green public procurement and the evaluation of the most economically advantageous tender, not only taking into consideration price, but also factors such as environmental, social and quality criteria.
4. Applying life-cycle costing to overstate cost-effectiveness, not just the purchase price, but also other costs - maintenance, utilization, etc. - has a very significant impact on the application of green public procurement.
5. Companies, which seek to provide their services as environmentally friendly, by adding to them unwarranted evidence of compliance with environmental requirements. Parties have developed a number of standards, certification system and labelling by which help can be distinguished between a truly environmentally friendly product and counterfeit or green in the case of “laundering” criteria “green – wash”.
6. Green procurement is also seen as a smart purchase, which at the same time allows for the development and integration of environmental and social aspects, as well as opens up opportunities for innovative solutions and opportunities.

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## LABOUR TAX BURDEN AND WELFARE OF THE POPULATION IN LATVIA

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**Abstract.** In the time of open borders in the European Union, Western European countries, especially Germany, have become a popular destination for emigrants from Latvia. Salary and social contributions as well social guarantees that are mostly higher there than in Latvia are mentioned as the main arguments for this choice. The research highlights a detailed comparison of the labour tax burden on employees between Latvia and Germany. The theoretical framework for the research is based on the analysis of the national laws and other empirical research and statistical data. The hypothesis determines that the tax burden on employees receiving small and medium salaries in Latvia is significantly higher than in Germany, so having a negative impact on the welfare of population. The research employs quantitative and qualitative research methods, monographic method, cross-country comparison, mathematical statistical methods and analysis method. The results support the research hypothesis and allow to conclude that the labour tax burden on small and medium wage earners in Latvia is higher than in Germany. In order to increase the welfare of population in Latvia, it would be necessary for the governmental institutions to consider the possibility to increase the non-taxable minimum up to the level of the minimum salary and to restructure the MSSIC and PIT by promoting a long-term motivating tax model for employees.

**Keywords:** *labour taxes, tax burden, welfare, income inequality, Latvia.*

**JEL code:** H24, J31

### Introduction

The impact of labour taxes on net salaries in Latvia and other EU Member States varies, although to a large extent exactly the level of gross salaries in certain countries determines the level of welfare of the population. The welfare of population is characterised by good material conditions and prospects for a secure future as well as it is driven by the reduction of income inequalities among the population. Western Europe, especially Germany, due to the higher level of prosperity has become a popular destination for emigration among specialists leaving Latvia who refer directly to higher net salaries, lower tax burden and better social guarantees for employees (International Migration Database, [s.a.], Burzynski, 2018). The amount of income taxes is an important component of the labour tax burden; thus, significantly affecting the welfare level of population. Labour taxes essentially differ among the three Baltic States, besides the differences have increased over the last couple of years. The research reveals a more detailed comparison on the impact of labour tax burden on employees through the examples of Latvia and Germany.

The research hypothesis – tax burden on low and medium income in Latvia is higher than in Germany; hence, it negatively affects the welfare level of population.

The following research aim is set to prove the hypothesis – to assess the income tax burden differences in Latvia and Germany and its impact on the net salary level. Tasks identified to achieve the aim are as follows:

- 1) to characterise the theoretical framework of income taxes;
- 2) to evaluate labour tax trends in the Baltic States;
- 3) to assess labour tax burden differences in Latvia and Germany.

The research employs quantitative and qualitative research methods, monographic method, cross-country comparison, mathematical statistical methods and analysis method, where the information is mainly derived from the secondary data.

The research has the following limitations to obtain comparable data: the analysis of Latvia and Germany is based on the factor of migration, the Baltic States are evaluated in a comparative context; the labour tax burden is analysed only on employees paying taxes under the general tax procedure; personal income tax is analysed in terms of wage

tax; the research covers the years 2012-2019, considering that the year 2012 is referred to as the period when Latvia overcame the economic crisis.

### **Literature review**

Adolf Wagner (1835-1917) has stated in his theory that the state should balance social inequality through taxation (Gale, 2008). However, the present situation in Latvia is disputable from the point of view of this theory. On the one hand, progressive rates and a differentiated non-taxable minimum are introduced on labour taxes, in particular, on personal income tax (PIT). On the other hand, the introduction of tax reform has resulted in the situation that about one sixth of employees in Latvia received a minimum salary or less in 2018 (Central Statistical Bureau of Republic of Latvia, 2019); hence, it should be assessed whether raising the minimum salary would not be a more powerful tool to reduce inequality.

The current tax system is more similar to the one described by Sean Higgins and Nora Lustig (2016) in their study. Poorer people pay so high taxes that they become even poorer, while those who are already close to the poverty threshold cross over it after they have paid all taxes (Higgins, Lustig, 2016). This trend is particularly marked in the regions.

The tax reform that took effect in Latvia at the beginning of 2018 and included also changes in the legal enactments on labour taxes, mainly influencing personal income tax, was expected to achieve a competitive tax policy simplified both for employees and employers as well as the state institutions. However, uncertainty about the results of the reform continues to be highlighted in the public sphere. The main task of the tax reform was to achieve the priority goal of the Latvian National Development Plan 2014-2020 – an economic breakthrough. Subsequently this was followed by the tasks to reduce inequality, to increase tax revenues, to reduce the shadow economy etc. (Ministry of Finance of Republic of Latvia, 2017). Both the European Commission, which stressed in early 2019 that only 40% of households in Latvia have benefited from this reform, and the Ombudsman's Office in its study as well as other industry experts have confirmed the opinion that the tax reform objective had failed to fully achieve its primary goal (Ombudsman of Republic of Latvia, 2019).

The authors Bilancini and Boncinelli have emphasised in their study that disproportionate taxes on different levels of remuneration affect not only the level of welfare but also the moral and self-esteem of the population (Bilancini, Boncinelli, 2019). In Latvia, this phenomenon cannot be observed so strongly; however, the necessity to restructure taxes should be considered not to provoke it.

A study by Halina Mishchuk and co-authors (2018) on income inequality related to migration displays a significant problem in the context of Latvia (Mishchuk et al., 2018). Most emigrants are highly qualified specialists (e.g. in IT and medicine sectors) who do not receive remuneration corresponding to their knowledge and skills in Latvia. Western European countries are attractive for them as employees, not only in terms of income but also in terms of social security.

The tax burden on labour should be evaluated simultaneously with the assessment of the income level. Germany negatively stands out in terms of its tax burden among the OECD countries. This is the basis for repeated expert proposals to implement a comprehensive tax reform in the country. As part of the reform, it is recommended that a significant emphasis shall be put on changes in income tax – with the introduction of an even more progressive tax rate (currently tax rate ranges between 14% and 45%). The main objective of this recommendation is to raise the welfare level of the lowest wage earners, which is not currently driven by high social contributions and taxes; yet, at the same time it is essential to follow the amount of revenues not to result in the budget deficit (Rietzler et al., 2017, Bischof, 2018). It should be agreed that it is a favourable solution for the budget revenue from a national budget

perspective; however, the attention shall be paid to the upper limit of the progressive tax rate so not to reach the Laffer curve effect – decline in tax revenues.

Feld and Schneider (2010) in their analysis on the factors contributing to the shadow economy have mentioned the tax burden on income along with the burden of social contributions as one of the reasons to the development of the shadow economy (45-52% of cases). According to the authors' survey, 73% of respondents have recognised that too high labour taxes in Germany would encourage activities of the shadow economy. Nevertheless the research was conducted approximately 10 years ago, the opinion could not have changed dramatically. It is possible that a lower proportion of respondents would provide an affirmative answer, since the economy has grown compared with the period when the study was conducted – the end of the crisis. However, it does not significantly affect the overall opinion on the impact of taxation on the shadow economy, as it is also evidenced by the researchers' information campaign on the necessity for the tax reform (Feld, Schneider, 2010).

Gomes together with the co-authors emphasises a theorem advanced by Diamond-Mirrlees (1971) that social welfare might be enhanced by shifting workers to sectors not having high productivity; although the authors conclude that the application and operation of the theorem would be complicated nowadays. The authors recommend introducing tax differences depending on the business sector and they positively assess the practice of the UK levying differentiated taxes on wages (Gomes et al., 2018).

At present, income inequality is largely influenced by the wide range of employment opportunities available (Theveont, 2017). This means being not only an employee but also to be contracted or outsourced etc. These types of employment reduce the level of predictable and consistent income; thus, creating wealth fluctuations and income inequalities.

Gender income inequality is still high (Liao, 2016). This indicator is expressed not only in the post-Soviet countries but throughout Europe, including Germany. Males receive higher remuneration compared with females; hence, contributing to the increase in income inequality.

In 2019, Eurostat compared the minimum salaries among the EU Member States with those in 2009. The Member States were divided into three groups depending on the minimum salary. Latvia was ranked in the group of countries having the lowest monthly minimum salary (below EUR 500) alongside such countries as Lithuania, Rumania, Bulgaria and others. Though, the annual percentage increase in the minimum salary is highest in this group of countries – 5-7% per year on average. Germany, in turn, is in the group of countries with the highest monthly minimum salary (exceeding EUR 1 000) but the lowest annual percentage salary increase. In Latvia, the average annual minimum salary growth was 6.6% during this period, which is one of the highest among all Member States. However, it should be considered that these figures refer to gross salaries and the net salaries often do not reach such a significant growth from this increase. This is also evidenced by the purchasing power indicators – Latvia has one of the lowest minimum salaries in the EU with the second lowest price level in 2018, while Germany has the opposite situation – it has the second highest price level with higher minimum salary (Statista, 2018).

Social contributions, which are usually shared between an employee and an employer, are declining in a number of countries at certain gross wages (Alvaredo et al., 2017). There is no such a model either in Latvia or Germany but the latter tends to increase the burden of social contributions. Therefore, on the one hand, this impacts the income level of the population, while, on the other hand, this leaves a positive impact on the provision of social guarantees to the population in the long-term.

Authors who have already analysed the situation in Latvia emphasise the economic structures and business niches as significant aspects of income inequality (Sipilova, Baldi, 2013; Sipilova, 2015). The regions of Riga and Pierīga with higher concentration of service-sector businesses have a higher level of welfare of the population compared with



other regions with more pronounced concentration of agricultural sector companies. Agricultural companies ensure a relatively lower contribution to the national economy and the structure of GDP; thus, creating inequalities in the income of the population. The sectors of business activity either promote or hinder employment, thus, influencing the income level of the population (Mihnenoka, Senfelde, 2017).

## Research results and discussion

### 1. Analysis of the personal income tax revenue in Latvia and Germany

Factors influencing salaries and wages vary depending on the state and its regulatory enactments. The most important factors are the same in the majority of countries – minimum salary, non-taxable minimum, reliefs for dependents, PIT rate and object, rate and object of the mandatory state social insurance contributions (MSSIC). However, there are countries, such as Germany, where there are additional factors impacting salaries and wages – additional tax rates, the Bundesland (territorial unit in Germany, a region), marital status, spouse's income and other factors.

Based on the factors influencing salaries, the present research describes labour taxes as taxes (including contributions and fees) that are withheld from employees' remuneration or paid in addition to their remuneration from the employer's resources.

In Latvia, the progressive PIT rate ranges between 20% and 31.4%, while it is between 14% and 45% in Germany. The remarkable progressivity of PIT rates in Germany contributes to raising the welfare level of lower-income employees and reducing income inequality, with a significant impact on the highest wage earners as well.

The performed analysis evidences that the correlation between PIT and total tax revenue is  $r = 0.99$  for both Latvia and Germany between 2012 and 2018; thus, confirming the coherence that total tax revenue is growing at the same rate as labour-related income tax revenue (Table 1). The close correlation indicates the significant impact of PIT on the total revenue structure of the general government budget. The analysis of PIT revenue for 2018 in Latvia shows that the collected revenue is by 0.3% less compared with the planned revenue. The apparent increase in 2018 in absolute terms is not significant, where the explanation may be the application of the lowest tax rate of 20% to part of salaries and wages. The revenue from the highest progressive PIT rate may have not yet been paid in the budget in full amount due to the possibility of breaking down the PIT payment in several terms. Therefore, it will be possible to assess the real benefit to the state budget from the introduction of differentiated PIT rate only in 2020 by analysing tax revenue for the entire 2019. This fact encourages raising discussions on more pronounced PIT differentiation in Latvia as it is in the case of Germany. This would increase tax revenue from the highest wage earners, while lower wage earners would be supported by contributing to their welfare with lower PIT rates and/or tax objects (Tables 1 and 2).

Table 1

**Personal income tax and total tax revenue in Latvia between 2012 and 2019**

Period	PIT			Total revenue collected from taxes administered by the State Revenue Service, EUR mln	PIT of total taxes, %
	EUR mln	vs planned, %	Chain increase, %		
2012	1 234	102.14	-	6 474	19.06
2013	1 330	107.10	7.78	6 829	19.48
2014	1 389	101.96	4.44	7 084	19.61
2015	1 438	101.55	3.53	7 469	19.25
2016	1 520	99.30	5.70	8 015	18.96
2017	1 703	103.83	12.04	8 619	19.76
2018	1 724	99.70	1.23	9 407	18.33
2019*	1 362	110.23	x	7 291	18.68

Source: authors' calculations based on *Nodokļu ieņēmumi, 2019*

\* the information for 2019 aggregates data for the first nine months of the year

In Latvia, a faster growth of the average gross salary and the intensified fight of the tax administration against illegal employment and “envelope” wages may explain the most significant breakthrough in the chain increase of personal income tax revenue in 2017. The comparison of the years 2017 and 2018 shows that a more rapid increase in gross salaries and wages was in 2017, which was also reflected in a significant increase in PIT revenue, while net salaries grew faster in 2018 due to the increase in various PIT reliefs (non-taxable minimum, relief for a dependent etc.).

The PIT accounts for almost 20% of total tax revenue in Latvia during the entire reporting period. In the first nine months of 2019 this proportion exceeds the figure of 2018, which might be due to lower revenue in the structure of total tax revenue from other taxes, e.g. corporate income tax (CIT), which after the 2018 tax reform shall be paid only for distributed profit. This means the growth in the number of companies not subjected to the CIT payment. As a result, the tax revenue from CIT decreases, while the share of PIT in total tax revenue structure increases. Another reason for higher proportion of PIT is the increase in salaries and wages, and the fairer employers who choose to employ workers legally.

Table 2

**Personal income tax and total tax revenue in Germany between 2012 and 2019**

Period	PIT		Total tax revenue	PIT of total taxes, %
	EUR mln	Chain increase, %		
2012	189 891	-	600 050	31.65
2013	199 165	4.88	619 710	32.14
2014	208 690	4.78	643 620	32.42
2015	220 575	5.69	673 260	32.76
2016	227 441	3.11	705 790	32.23
2017	238 777	4.98	734 510	32.51
2018	251 056	5.14	713 590	35.18
2019*	142 568	x	446 717	31.91

Source: authors' calculations based on the data of *Kassenmaessige Steuereinnahmen nach..., 2019, Steuereinnahmen insgesamt in..., 2019, Steuereinnahmen in Deutschland..., 2019*

\* the information for 2019 aggregates data for the first eight months of the year

Nevertheless total tax revenue in 2018 has decreased in Germany (Table 2) compared with 2017, the PIT revenue has grown by 5.14%. This indicates that a differentiated tax rate allows generating higher revenue from certain taxes. It can also be concluded that the salaries and wages of employees have increased, as increasing amounts are paid into the state budget from PIT. In 2018, the PIT constitutes 35.18% of total budget revenue.

The proportion of PIT in state tax revenue in Latvia is by one-third lower than in Germany; hence, indicating the positive impact of differentiated PIT rates in Germany on the state budget revenue and the higher proportion of persons who have to pay the increased PIT rate.

## 2. Comparison of labour taxes in the Baltic States

In the context of free movement of labour and capital, it is also very important to assess the tax burden on labour in neighbouring countries. In early 2018, labour tax changes were introduced in all three Baltic States. The most significant tax reform was implemented in Latvia; though, the tax burden on employees remained the highest there among the Baltic States. In 2019, significant changes in the labour tax regulatory framework were introduced in Lithuania; thus, Latvia's position in the context of neighbouring countries only worsened (Table 3).

Table 3

**Differences in labour taxes in the Baltic States in 2018-2019**

Indicator	Latvia	Lithuania	Estonia
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	2018	2019	2018	2019	2018	2019
Minimum salary, EUR	430		400	555	500	540
Non-taxable minimum, EUR	up to 200	up to 230	up to 380	up to 300	up to 500	
Relief for a dependent, EUR	200	230	0		0	
PIT, %	20, 23, 31.40		15	20, 27	20	
MSSIC paid by an employee, %	11		11	22.50	1.60	
MSSIC paid by an employer, %	24.09		31.18	1.79	33.80	

Source: authors' calculations based on Estonia – Other Taxes..., 2018, Lithuania – Other Taxes..., 2018, 2019, Tax Reform in..., 2018, 2019

Although, in 2018, Lithuania had the lowest minimum salary among the Baltic States, in 2019 with its tax changes showing a 38.75% increase in the minimum salary, Lithuania has excelled Estonia, which has been a leader in salaries and wages in the Baltic States so far. Latvia shows a positive tendency to increase the upper limit of the differentiated non-taxable minimum; thus, contributing to the increase of net salaries of the lowest wage earners. Lithuania is doing exactly the opposite – lowering the upper limit of the differentiated non-taxable minimum despite raising the minimum salary. Such a solution maintains the level of tax revenue and provides employees with a minimum increase in net salaries, while employers incur higher costs, which are offset by a significant reduction of the MSSIC rate paid by employers from 31.18% to 1.79%. The example of Estonia with the non-taxable minimum approaching the minimum salary is a positive example, especially from the employees' perspective. This approach raises the level of income for the minimum wage earners as well as reduces the consequences caused by the submission of annual income tax returns and recovering PIT overpayment or paying the premium.

The example of Estonia should be viewed positively in the context of reducing inequalities. However, this is not a favourable solution from the point of view of the state budget. Therefore, the possibilities of balancing budget losses shall be assessed critically, in case such a model is introduced in Latvia.

### 3. Comparison of tax burden on labour in Latvia and Germany

Differences in the tax burden on labour and their impact on net wages and salaries of employees are measured based on calculations using Formula 1, which is offered by Kārlis Ketners, a researcher having the majority of publications on labour taxation in Latvia.

$$\text{Tax burden on labour} = \frac{(\text{PIT} + \text{MSSIC}_{\text{employee}})}{\text{Gross wage/salary}} \quad (1)$$

where PIT – personal income tax, EUR;  
 MSSIC<sub>employee</sub> – mandatory state social insurance contributions paid by an employee, EUR;  
 Gross wage/salary – gross wage/salary attributed to an employee, EUR (Ketners, 2018).

Calculations are made for different salary and wage levels and categories of employees to compare the tax burden on labour in Latvia and Germany. The annual rates in Germany are expressed on a monthly basis so that the data are comparable.

The example includes data for two calculations. The first calculation is done for the gross salary of EUR 1 060 per month, which is the average salary in Latvia in the first half of 2019 (Central Statistical Bureau of Republic of Latvia, 2019). The other calculation is done for the gross salary of EUR 3 000 per month, which is the average monthly salary of a highly qualified specialist (manager of IT services, Occupational Classification Code 2529 01) as of July 2019. The analysed employee was selected based on the typical profile of an emigrant from Latvia – single (the proportion of unmarried emigrants has constituted ca. 55% of all employees emigrated from Latvia in the past seven years), with no dependents, aged 25-29 years (slightly lower but similar proportion is also observed in the age groups 20-24 and 30-34 years) (Central Statistical Bureau of Republic of Latvia, 2018). In Germany, such an employee would fall under Tax Class 1 out of the existing breakdown of employees into six tax classes (Table 4).

Table 4

#### Calculation of salaries and tax burden in Latvia and Germany in 2019, on average per month

Indicator	Latvia (I)	Germany (I)	Latvia (II)	Germany (II)
Gross salary, EUR	1 060.00	1 060.00	3 000.00	3 000.00
Non-taxable minimum, EUR	-	764.00	-	764.00
Income tax, %	20.00	-	20.00, 23.00	12.22
Income tax, EUR	188.68	-	573.99	199.58
Solidarity tax, %	-	-	-	5.49
Solidarity tax, EUR	-	-	-	10.97
Church tax, %	-	-	-	9.00
Church tax, EUR	-	-	-	17.96
MSSIC paid by an employee, %	11.00	20.08	11.00	20.075
MSSIC paid by an employee, EUR	116.60	212.80	330.00	602.25
MSSIC paid by an employer, %	24.09	20.08	24.09	20.075
MSSIC paid by an employer, EUR	255.35	212.80	722.70	602.25
<b>Tax burden on an employee, %</b>	<b>28.80</b>	<b>20.08</b>	<b>30.13</b>	<b>27.69</b>
Taxes withdrawn from salary, EUR	305.28	212.80	903.99	830.76
<b>Net salary, EUR</b>	<b>754.72</b>	<b>847.20</b>	<b>2 096.01</b>	<b>2 169.24</b>
<b>Costs incurred by an employer, EUR</b>	<b>1 315.71</b>	<b>1 272.80</b>	<b>3 723.06</b>	<b>3 602.25</b>

Source: authors' calculations, 2019

In both calculations, the tax burden on employees is higher in Latvia compared with the tax burden on employees in Germany (by 8.72 percentage points in the first example and 2.44 percentage points in the second example). The leading position of Germany in the tax burden, which was mentioned in the literature review, stands out at higher gross salaries in OECD countries. In turn, if the salary in Germany corresponds to the average salary in Latvia, an employer and an employee in Germany have an equal tax burden, since they have to pay only the MSSIC. This is due to the fact that income tax is not calculated because the gross salary is below the minimum salary for full-time employment in Germany. Since the solidarity tax and the church tax are calculated from the amount of income tax, these two taxes are not calculated and withheld in the present case either. In Latvia, however, an employee is not subject to the non-taxable minimum if the monthly gross salary exceeds EUR 1 100 in 2019. As the non-taxable minimum is inversely proportional to the salary, then it is insignificant (constituting several euros per month) for a monthly salary of EUR 1 060. Therefore, it is not taken into account in the calculation. On the contrary, in Latvia, although the total tax burden on an employee is higher than in Germany, the proportion of social contributions and the net salary are lower, while the employer's costs per employee are higher than in Germany.

Considering the fact that the average salary in Latvia is earned by almost 20% of all employees, while 60% of employees earn less than the average salary, the net salary in Latvia is clearly highlighted as a worrying factor, especially if it is measured in the context of emigration and Germany as one of the target destinations for emigration. According to the calculations, the increase in the tax burden for an employee in Latvia, with the gross salary rising from EUR 1 060 to EUR 3 000, is insignificant (from 28.80% to 30.13%) and the tax system does not reduce inequalities. Positive changes in terms of reducing inequality, improving the welfare of population and reducing emigration could be forecasted by setting higher thresholds for the non-taxable minimum for employees and reducing the taxable base on PIT.

### Conclusions, proposals, recommendations

1. The research proves the hypothesis that employees earning low and medium salaries have a higher tax burden in Latvia compared with similar wage earners in Germany; thus, pointing to one of the reasons for differences in the welfare levels.
2. The examination of the legal framework, statistics and studies in Latvia and Germany leads to the conclusion that Germany better addresses the problem of inequality and contributes to the welfare increase of population. Nevertheless, experts consider the necessity for improvements in this area.

3. Despite the fact that it is not advisable to take over the experience of another country without further research and careful evaluation, it is recommended to assess the potential benefits and risks of the following scenarios in Latvia:
- raising the non-taxable minimum to the minimum salary level; thereby, contributing to the welfare of the lowest wage earners;
  - not imposing an obligation to pay PIT on the minimum salary; thus, reducing the tax burden on lower wage earners but ex-ante examining options for offsetting the revenue lost in such a scenario to municipal budgets;
  - restructuring of MSSIC and PIT by promoting a long-term motivating tax model for employees, for example, by lowering the PIT rate and raising the MSSIC; hence, providing higher social guarantees, which is one of the reasons for emigration to Germany. However, the emphasis when raising the MSSIC should be placed on the part of contributions paid by an employee; thus, curtailing the tax burden on employers to reduce the shadow economy and to motivate employers to pay higher salaries and wages. Another possibility could be raising the minimum salary.

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## USE AND DEVELOPMENT OF CONTINGENCY THEORY

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*Gundars Berzins, University of Latvia*

**Abstract.** There is no universal way to manage an organization. Contingency theory helps to develop organization's design using subsystems in combination with an environment. The present article analyses development of contingency theory since 1998. The study used componential and document analysis method - study was made based on semantic approach using publications in scientific journals included in Web of Science or Scopus database; publications were manually selected. One research proposition was developed to focus the study, it claimed – contingency theory continues to be used to analyse specific situational factors. Our research study showed that contingency theory during last 20 years was affected by internal and external situational factors and interacted with various systems.

**Keywords:** *contingency theory, management, system.*

**JEL code:** M00, M100

### Introduction

Design of the organization and its subsystems should be combined with the environment and be able to respond to various organizational situations. According to current literature, contingency theory focuses on creation of organizational knowledge, though in its early days focused on organizations' internal and external constraints. The key idea of the research was to develop pathway of contingency theory's development (concept map) thus identifying possible potential for further theory's development. At the same time one research statement was developed in order to concentrate the study. The statement or a proposition was the following - contingency theory continues to be used to analyse specific situational factors.

The study used componential and document analysis method and was made based on semantic approach using publications in scientific journals included in Web of Science or Scopus database. Around 230 publications were manually selected on the basis of the year of issue, keywords ("contingency theory", "contingency approach", "contingency"), content analysis and later sorted into four groups:

- Group one: years 1998 – 2002;
- Group two: years 2003 – 2007;
- Group three: years 2008 – 2012;
- Group four: years 2013 – 2018.

Whereas the semantic tool could not identify some of the selected articles, it was necessary to exclude them (especially related to years 1998 – 2002). This resulted in an average of 48 publications per group. During the next step semantic tool was used in order to identify the most commonly used words along with "contingency theory", "contingency approach", "contingency" and several visual materials were developed.

Delimitation of study was inherent to research design itself – study approach allowed us to use a specific number of publications. Despite the limitations of the study, the research is significant in the context of sustainable development – since contingency theory addresses flexibility, ability to analyse and adaptability to changing contingencies and sustainable development addresses social, environmental and economic aspects, research will contribute to the management, humanitarian and social studies.

### Literature Review

Given the specifics of the study, literature review (analysis) is developed based on key findings and research proposition (in this case semantic tool not used). Thus, provides closer synergy with research results and discussion.

**Group one: years 1998 – 2002**

Literature research shows that use of contingency theory is viewed in context of relative stability of the environment, with external factors (specific situational factors) that supports overall management process based on different tests.

For example:

- Ensign, P.C., (2001) examined research design problems implications for management;
- Walker, A. and Kwong Wing, C., (1999, p. 166) research work explained “the structuring and management of project organizations”;
- Silvestro, R., (2001, p. 254) research results showed “the most conducive environment for TQM implementation”;
- Tarter, C.J. and Hoy, W.K., (1998, p. 212) analysed “matching decision strategies to situations”;
- Alexander, E.R. (1998, p. 335) presented “the concept of coordination structures”;
- Kern, T., Kreijger, J. and Willcocks, L., (2002, p. 153) developed “propositions that customers should bear in mind when considering an ASP option”;
- Zhu, Z., (2002, p. 343) searched “for contingency approaches to information systems design”.

#### **Group two: years 2003 – 2007**

Distinct perspectives were resolved over this period. Contingency theory focuses more on structural model, various strategies, resources, including environment and pays attention to organizations behavioural design. For example:

- Eschenfelder, K.R., (2004, p. 463) studied how state agencies “organized the work of reviewing and approving textual content for publications on Internet Web sites”;
- Richard, O., McMillan, A., Chadwick, K. and Dwyer, S., (2003) explored racial diversity’s influence on firm performance;
- Jin, Y. and Cameron, G.T., (2006, p. 423) developed “a multiple-item scale for measuring public relations stance”;
- Wijbenga, F.H. and van Witteloostuijn, A., (2007, p. 566) examined “impact of environmental dynamism”;
- Hyvönen, J., (2007, p. 343) investigated “relationships between organizational performance and customer-focused strategies, performance measures un information technology”.

#### **Group three: years 2008 – 2012**

Period that we analyse shows contingency’s focus on human capacity regarding leadership, networking in external and internal environments. Special attention is paid to the organisational contingencies. For example:

- Kelleher, T., (2008, p. 300) examined “whether certain organisational contingencies .... lead public relations practitioners to choose more accommodating stances toward publics”;
- Sims Jr, H.P., Faraj, S. and Yun, S., (2009, p. 149) presented “research about situational leadership during resuscitation in a trauma centre”;
- Wong, C.W., Lai, K.H. and Cheng, T.C.E., (2011, p. 161) research results showed “that the performance outcomes of information integration are contingent on both external environmental conditions and internal operational characteristics”;
- Bechor, T., Neumann, S., Zviran, M. and Glezer, C., (2010, p. 17) developed research that “investigated the success of SISP as a function of its key success factors (KSFs) in different contexts and SISP approaches”;
- Choudhury, E., (2008, p. 586) developed study “by addressing trust as a relational fact, and then, identifying the dynamic conditions of its optimization”.

#### **Group four: years 2013 – 2018**

The literature review of the last group indicates that contingency theory is used to set a performance framework and to study general agent-systems. For example:

- Samagaio, A., Crespo, N.F. and Rodrigues, R., (2018, p. 351) focused their research on adoption of management control “systems by start-ups to internal and external contingency factors”;

- Burkert, M., Davila, A., Mehta, K. and Oyon, D., (2014) framework of the study was management accounting;
- Christ, K.L. and Burritt, R.L., (2013, p. 163) studied “whether organisational context could be used to develop a greater understanding of EMA use by Australian organisations”;
- vom Brocke, J., Zelt, S. and Schmiedel, T., (2016, p. 486) examined “contextual factors that influence BPM”;
- Yu, K., Cadeaux, J. and Luo, B.N., (2015) developed study that focused on operations management, marketing and chain management.

Before discussing research results using semantic tool, we offer insight into the “distribution” of contingency theory worldwide since 2004 (Fig. 1.). Geographical information on contingency theory’s search volume index covers<sup>1</sup> part of North America, several European countries, Asia and Oceania. The figure shows that search volume index for contingency theory in Africa region is higher than in other regions of the world. We conclude that countries, which are interested into contingency theory, represent countries of the largest advanced economies and least developed countries. On readers’ note, during analysis of words that are used mostly with theory, word “economics” was mentioned in all groups except one - group four: years 2013 – 2018.



Source: Google Trend search volume index by Google, obtained by authors in 29.11.2019  
(<https://trends.google.com/trends/explore?date=all&q=contingency%20theory>)

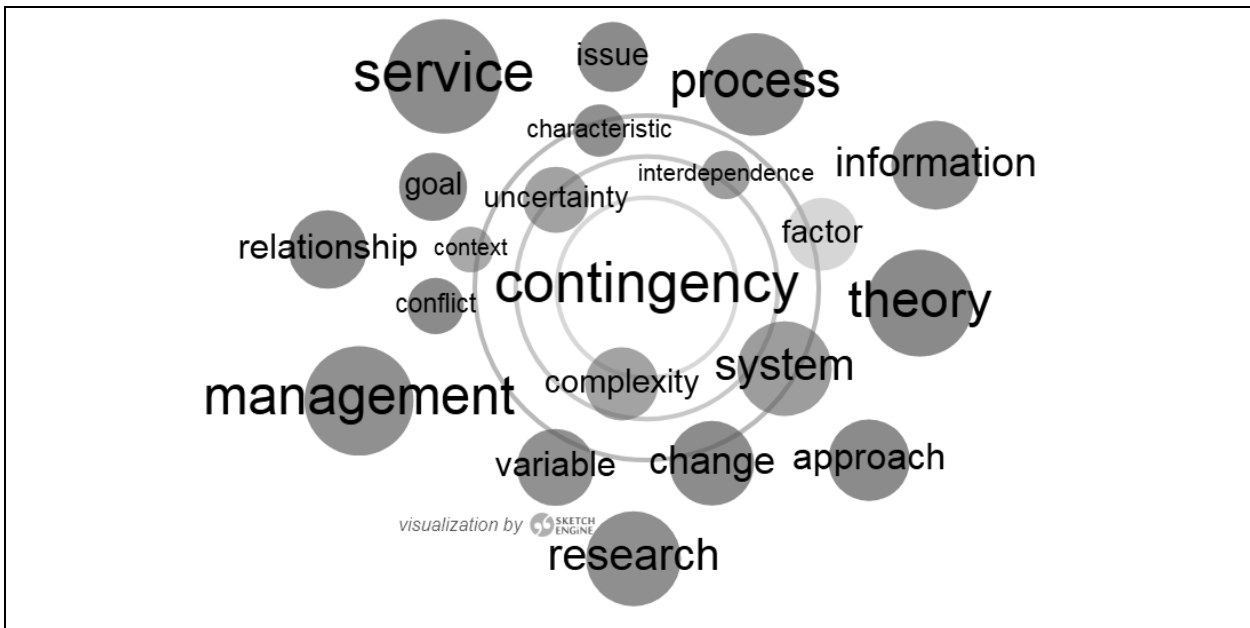
**Fig. 1. Geographical information on contingency theory’s search volume index (2004 – nowadays)**

### **Research results and discussion**

The following information offers research results based on semantic approach. Section is divided into four parts according to each group.

Group one: years 1998 – 2002

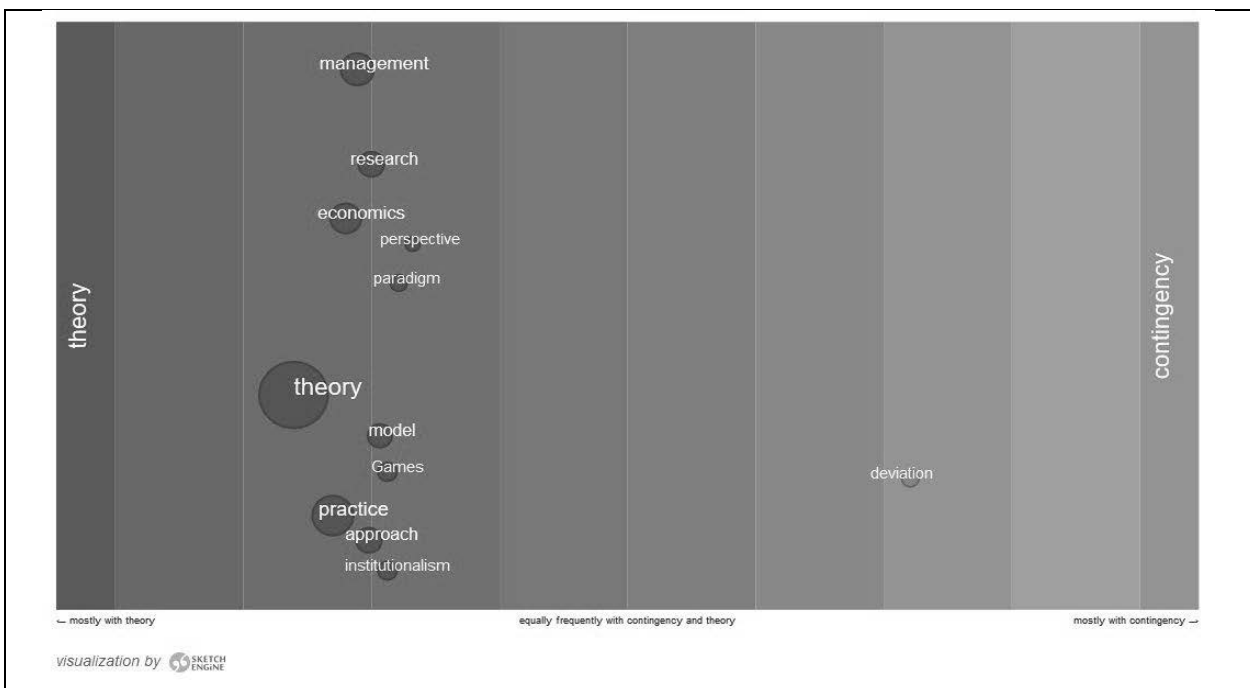
<sup>1</sup> Malawi (100), Zimbabwe (82), Jamaica (54), Ethiopia (42), Tanzania (39), Kenya (37), Ghana (37), Nepal (33), Nigeria (24), Philippines (15), Myanmar (Burma) (13), Pakistan (9), Singapore (9), Malaysia (9), New Zealand (9), South Africa (8), Ireland (7), Hon Kong (7), Bangladesh (7), Australia (6), Denmark (5), United Kingdom (5), USA (3), The Nederland (3), Sweden (3), India (3), Canada (3), China (1), Indonesia (1), Germany (1)



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

Fig. 2. Words referring “contingency” (1998 – 2002)

Word “contingency” mainly refers to “theory”, “management”, “service”, “research” and “process” (Fig. 2.). During the 1998 – 2002 period, based on literature analysis, contingency theory was seen as a structural performance in the system that encourages to try different approaches to handle external factors. Therefore, a causal relationship is apparent when we analyse equally frequently used words with contingency theory (Fig. 3.). Taking into account correlation between “external factors” and “deviation” have to conclude that contingency theory (during the 1998 – 2002 period) was most affected by uncertainty and complexity of the organisational system.



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

Fig. 3. Use of contingency theory (1998 – 2002)

Group two: years 2003 – 2007



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

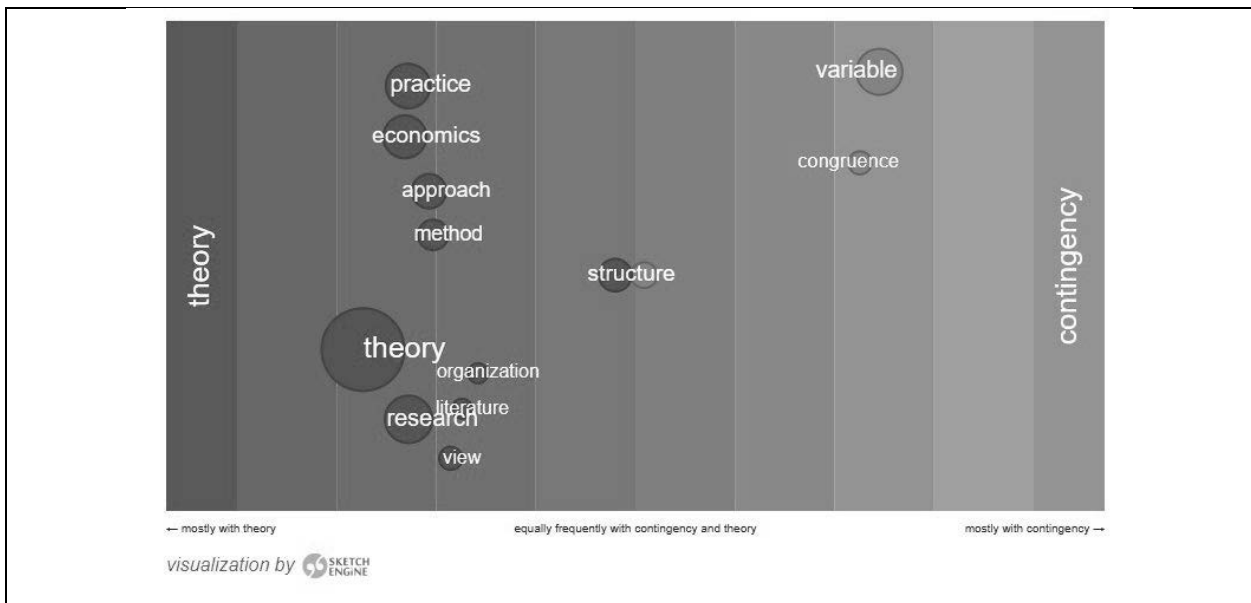
Fig. 4. Words referring “contingency” (2003 – 2007)

During the 2003 – 2007 period word “contingency” mainly refers to “strategy”, “management”, “theory”, “business” and “innovation” (Fig. 4.). Compared to previous group (years 1998 – 2002) among the most used words remains “management” and “theory” as well as new words appear – “leadership”, “business” and “innovation”.

In summary, analysing equally frequently used words with contingency theory (Fig. 5.), authors identify the following:

- a) mostly with theory are used words “theory” and “research”;
- b) word “structure” has the central role regarding contingency theory;
- c) words “variable” and “congruence” are new words that are used mostly with contingency.

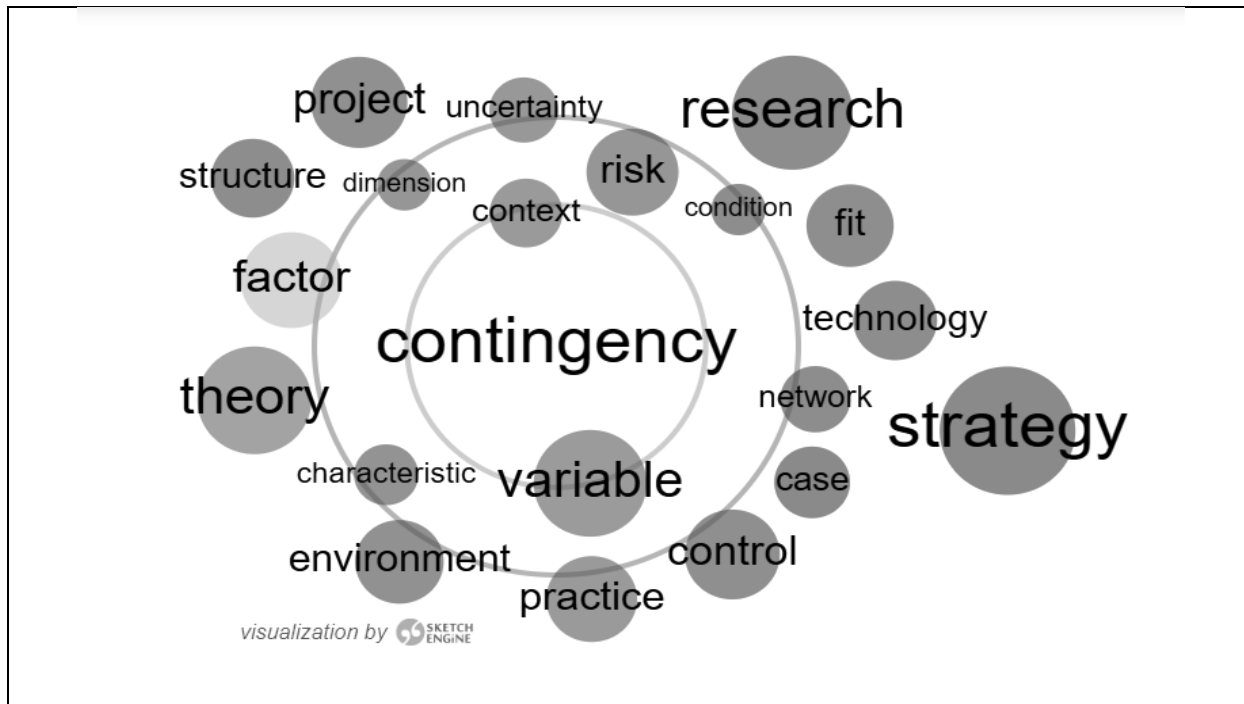
These factors allow us to make an assumption that during this period contingency theory focused on creating interactions between organization’s processes and available resources, which focuses, for example, on innovation or dynamism.



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

Fig. 5. Use of contingency theory (2003 – 2007)

Group three: years 2008 – 2012



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

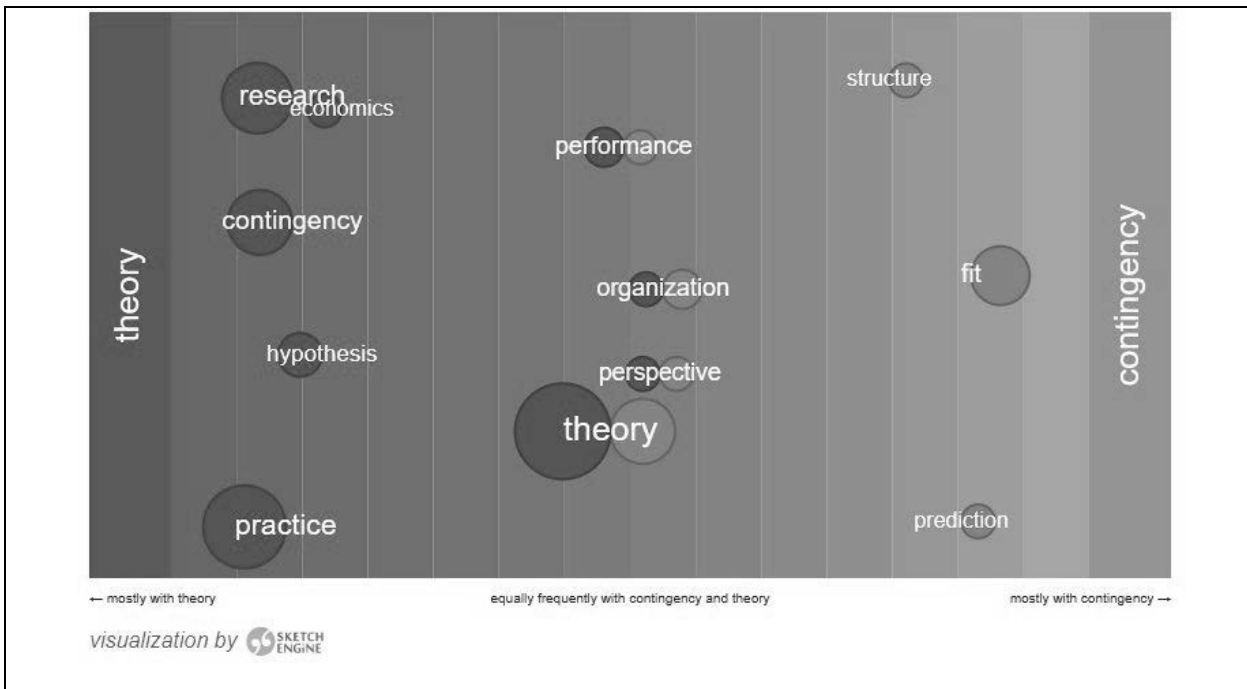
Fig. 6. Words referring “contingency” (2008 – 2012)

Word “contingency” mainly refers to “strategy”, “research”, “environment”, “project”, “control” and “technology” (Fig. 6.). Comparing group three with group one and two among the most used words remains “strategy” (group two), “research” (group one). Also new words appear – “technology”, “environment”, “practice”, “control”, “structure” and “project”.

Word “theory” has changed its location (Fig. 7.) compared years 1998 – 2007 when it had another role thus reinforcing its role in theory development. During the 2008 – 2012 period it is among words that are used equally frequently with contingency and theory (“performance”, “organisation” and “perspective”).

From the information given above it can be validly concluded that organisational contingencies during this period are viewed from condition, dimension, technology and environment perspective.

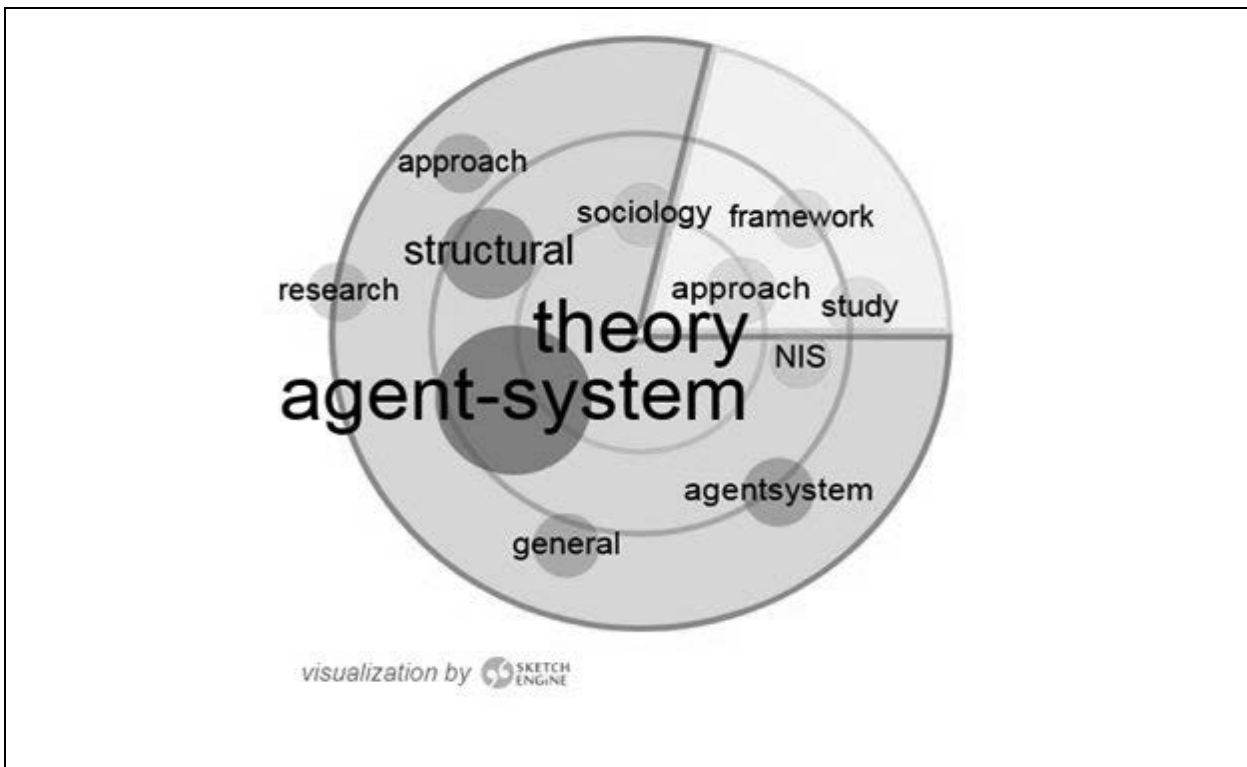




Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

Fig. 7. Use of contingency theory (2008 – 2012)

Group four: years 2013 – 2018



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

Fig. 8. Words referring “contingency” (2013 – 2018)

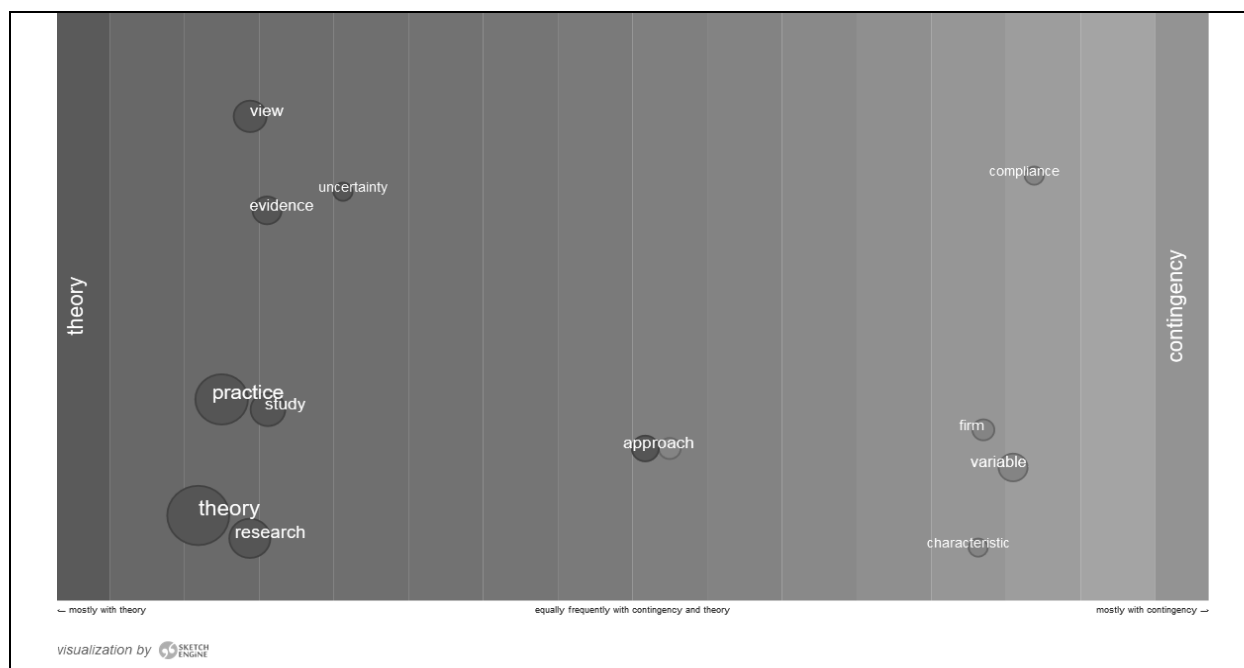
During the 2013 – 2018 period word “contingency” mainly refers to new words - “agent-system theory” and “structural” (Fig. 8.). Words “research”, “approach” repeats from previous sections (groups). This period differs – word “contingency” mainly refers to several words, while during the 1998 – 2012 period it refers to wide variety of words.

In summary, analysing use of contingency theory (Fig. 9.), authors identify the following:

- word “approach” is used equally frequently with contingency theory;
- mostly with theory are used words “theory”, “practice” and “research”;
- new words are “variable” and “congruence”.
- words “variable” and “congruence” are new words that are used mostly with contingency.

Unlike other periods, the central role is assigned to the word “approach”, which assumes that the approach is being revised not just for contingency itself but also for contingency theory (Fig. 9.). Word’s “approach” synergy with words “research”, “study”, “evidence”, “firm”, “characteristics” and “compliance” supports the statement, because synergy is necessary to continue to develop theory.

Taking into account the results of the analysis of this period we are able to deduce that focus on general-agent system has directed contingency theory towards internal and external factor analysis. Since this approach covers a much wider range features of system theory appear.



Source: obtained by authors in Sketch Engine software, based on literature review (the list of reviewed literature is available upon request from authors, because listing inclusion does not match particular articles' requirement)

Fig. 9. Use of contingency theory (2013 – 2018)

### Conclusions

- Our proposition – contingency theory continues to be used to analyse specific situational factors – confirmed. Observed dimensions of contingency theory during last 20 years showed that the theory is affected by internal and external situational factors and interact with various systems. Situational factors are related to stability of the environment, resources, organisational contingencies and system, performance framework, innovation and leadership.
- During the whole period the following words still remain more often (a) as words referring to “contingency”– “management”, “strategy”, “factor” and “theory; (b) as words that are used mostly with theory – “research”, “economics”, “theory”, “practice”; (c) as word that are used mostly with contingency – “variable”. Words that are used equally frequently with contingency and theory in every time period are different – “structure”, “theory”, “perspective”, “organisation”, “performance” and “approach”.
- It may be concluded – countries, which are interested into contingency theory, represent countries of the largest advanced economies and least developed countries.

4. Similar studies should be devoted to a deeper study of internal and external factors that are directly related to organizational structure. This would give an additional idea of the possibilities of an optimal organizational structure in a larger system and contribute to the development of contingency theory.
5. In addition, to indicate the potential for further development of contingency theory, the interaction of internal and external factors with organizational performance should be assessed. This will complement the laws of contingency theory associated with the classical theory of organization that focuses on the effective development of organizations.

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## A BANK SURVEY TO EXAMINE THE IMPACT OF DIFFERENT FACTORS ON CREDIT DEFAULTS OF REAL ESTATE LOANS

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**Abstract.** Financing of real estates was a trigger of the largest financial crisis after the “Great Depression” from the early thirties in the last century. One of the main causes of this 2007 crisis was poor risk management in real estate financing. The aim of this paper is to examine the impact of different classes of factors on credit defaults of real estate loans. The research should confirm an author's model that proves how strong the relationship is between different predictor variables such as interest rates, macroeconomic and individual factors on the response variable of credit defaults. The research approach is a survey of experts from various banks to compare and extend the results of a secondary market analysis. The novelty of the present study is the proof of the relationship model and the evidence that personal factors and macroeconomic factors have a greater influence on credit defaults than interest rates. The scientific research on this theme has led to nearly the same results in different markets: the unemployment rate and thus personal conditions are the most responsible predictors for the credit defaults, also in different markets.

**Keywords:** *Credit Default, Credit Risk Management, Financial Crisis, Financing Real Estate.*

**JEL code:** D12, E43, G21, H12, H63

### Introduction

*The Topicality of the Research.* Risk management came into the field of high interest because of the biggest worldwide financial crisis in the 1930s due to a lack of guidance and supervision in lending money for home mortgages (Brunnermeier, 2009). It seemed that the policy of giving mortgages under very mild conditions and at very low initial interest rates led to this disastrous situation of extreme increase of credit defaults especially in the USA real estate market (Mazumder & Ahmad, 2010). The topic is up to date even ten years after the crisis that started in 2007 because new findings and improvements of risk management for real estate financing are necessary at all times to protect the stakeholders from a financial crisis like this last one.

*The research object* is risk management for the process of financing real estates.

*The research subjects* are defaulted mortgage loans of private residential real estates.

*The aim of the research* is to investigate and compare the impact of different classes of factors as causes for credit defaults of private residential mortgages.

*The methodology* is aimed at ascertaining answers to research questions about the causes for credit defaults. Three research questions have been set within the framework of the present research:

**RQ<sub>1</sub>** Which impact do the interest rates have on the credit default rates?

**RQ<sub>2</sub>** Which impact do macroeconomic factors have on the credit defaults?

**RQ<sub>3</sub>** Which impact do individual factors have on the credit default rates?

These research questions should show the impact of different categories of factors on the ability of the borrowers to repay loans and to pay interest, because this ability of the borrowers is the basis for good repayments or for credit defaults.

*The research approach*, conducted with a banking survey, uses primary data to analyze the impact of interest rates, macroeconomic and individual factors from borrowers on credit defaults. Furthermore, there will be used secondary data from main statistical offices of the USA and Germany for analyses of the markets.

The research design builds the frame for the collection and analysis of data. A special aim of the research design is, e.g., to express causal connections between numbers of variables (Bryman & Bell, 2007). The so-called cross-sectional design is used for the market analysis. Furthermore, a quantitative research strategy is used. It means the researcher sets at first the theory or creates at first a model and then proves it by data collection and analysis. It is also called the

deductive approach (Collis & Hussey, 2009). The research should confirm an author's model (Fig. 1) that proves how strong is the relationship between different predictor variables such as mortgage interest rates, macroeconomic and individual factors on the response variable ability of the borrower to repay the loan that has a direct impact on credit defaults. Even though they are part of it, interest rates are viewed separately from the other macroeconomic factors, because, as already mentioned, some other researchers consider them to be key the factors of credit defaults.

For this relationship model, the following different types of interest rates for different types of mortgages are chosen: adjustable rate mortgages (ARM) and fixed rate mortgages (FRM), and the following macroeconomic factors: Gross Domestic Product, House or Home Price Indexes, Unemployment Rate, Stock Exchange Rates, and Consumer Price Index. On the side of the individual factors, the following variables are selected: the individual scoring factors, individual conditions, individually chosen type of mortgage (FRM or ARM), and the loan-to-value ratio.



Fig. 1. **Research Model for Credit Defaults (developed by the author)**

The limitations are given by the research about financing private real estates with mortgages in the markets of the USA and Germany especially for the time between 1998 and 2019. Commercial financing of real estates or other than the named markets or time periods are not the subject of the research.

**Literature Review**

In the view of the topic “financing residential real estates” it is helpful to use the New Oxford American Dictionary which defines “risk” as “a situation involving exposure to danger” or in economic terms “the possibility of financial loss” (Stevenson, 2016). The aim of financial risk management for the system of mortgage lending should be to



organize a situation for borrowers and lenders in which they are comfortable with their risks in financing. The main task of risk management is the diagnosis of the recent and future risks and the decision which risks are acceptable or which risks have to be managed by the organization (Hull, 2011).

Risk Management is a row of processes, which contains Risk Identification, Risk Measurement, Risk Analysis, Risk Handling, and Risk Controlling. These processes run dynamically. At the beginning of the risk management process, a financial corporation has to identify the potential risks of the company. The next step is to measure and analyze the outcomes of the risk. At the end of these two stages, the enterprise knows its risks and the financial value of vulnerability. The next process is to decide how to handle the risks. Therefore, a strategy has to be developed that clarifies, which instruments should treat the risks. Depending on the risk aversion of the corporation, there are different methods to minimize or to avoid the risks, but there will not be a complete risk avoidance without the minimization or elimination of returns, too (Maier, 2007). Afterwards, the kind of risk handling is defined, the implementation of the strategy has to be organized, done, and controlled (Pfalz, 2018). This paper is concerned especially with Credit Default Risks and uses quantitative and qualitative Risk Measurement and Risk Analysis as research methods. Quantitative methods of risk measurement are based on the determination of risk ratios. These are discovered by measurement of countable data of real estate financing and by using these data at stochastic equations to describe the risks (Pfalz, 2018). A banking survey is used as qualitative Risk Measurement and Risk Analysis. Credit Risks are the Credit Default Risk, the Interest Rate Risk, or the Pre-Payment Risk. In this paper, only the Credit Default Risk will be estimated.

According to the previous research (Pfalz, 2018), one of the most important financial decisions any household has to make is whether to own a home and, if so, how to finance it, and, depending on the fixedness of the interest rate during the contractual time, there are two broad categories of housing finance: Fixed (Interest) Rate Mortgages (FRM) and Adjustable (Interest) Rate Mortgages (ARM). *Fixed Rate Mortgages* have the same interest rate about the whole time of the mortgage contract. Usual contract times are 10, 15, 20, or 30 years. The longer the borrower is willing to have the time for repaying the loan (maturity time), the higher the interest rate set by the lender due to a growing interest rate risk for the lender. *Adjustable Rate Mortgages* have, in contrast to the fixed rate mortgages, a periodical change or adjustment of the interest rates during the time of repaying the loan. This adjustment could be done with shorter or longer intervals depending on the contract conditions. In the USA, the adjustment depends on the change of the interest rate (Federal Refund Rate) set by the central bank (US Federal Reserve Bank). The shorter the contractual time for checking and adjusting the interest rates, the smaller the interest rates for the borrower because of a smaller interest rate risk for the lender. In general, at the same time, the interest rates for ARM are lower than those for FRM due to a lower inherent interest rate risk for the lender. A study by Mills and Gardner from 1986 showed that the majority of the customers preferred more riskless fixed rate mortgages than the ARM (Mills & Gardner, 1986). In 2008, Bucks and Pence also described the adjustable rate mortgages, especially the part of the subprime adjustable rate mortgages, as more complicated than fixed rate mortgages (Bucks & Pence, 2008).

The *Credit Default Risk* is highly related to the default risk of the borrowers in case of being unwilling or unable to repay a loan (Pfalz, 2018). This kind of risk was the most important of all risks as a trigger of the financial crisis. Causes for credit defaults of the borrowers can be changes of interest rates for adjustable rate mortgages or at remortgaging, or in individual factors or in macroeconomic factors. Adverse movements in macroeconomic factors can potentially affect borrower's ability to pay and it threatens a foreclosure. *Foreclosure* means that the property rights go from the borrower to the lender, so the lender has the right to sell the property to use the money for its losses from payments. It is necessary for lenders to understand the relationship between macroeconomic factors and credit default risk and foreclosures in order to manage this risk (Nang et al., 2003). Levišauskaite and Varanauskine see

household income, housing prices, inflation and interest rates for stability of loans as the most important factors for credit defaults (Levišauskaite & Varanauskine, 2013). Rottke and Gentgen wrote that the gross domestic product and the unemployment rate were the strongest macroeconomic factors with the most implications not only on the German real estate market (Rottke & Gentgen, 2008). Diaz-Serrano found that the volatility of household income also triggered, e.g., from the employment status and other unforeseen events was the most relevant variable that influenced mortgage delinquencies (Diaz-Serrano, 2005). Danis and Pennington-Cross also stated that the probability of default was strongly related to the local labor market conditions, which was represented by the unemployment rate (Danis & Pennington-Cross, 2008).

Credit defaults directly lead to a change of the liquidity of the financial institution, which hold the mortgage in their balance sheet. If the amount of loan defaults exceeds a certain risk margin, the possibility of insolvency arises due to a lack of liquidity. The worst case of this led to bankruptcy of Lehmann Brothers (Pfalz, 2018).

As result from the literature review, the next assumptions explain the main causes for this crucial financial situation in the US mortgage market, whose effects are doubtless comparable to the “Great Depression” during the thirties of the last century (Krugman, 2009), (Iannuzzi & Berardi, 2010). Swidler wrote that the U.S. policy, which called with financial laws and regulations for more homeownership for people under all circumstances (Swidler, 2011). The same policy, which did not, organized enough control and safety for the new financial products and for the system of financing (Levine, 2010). Then, the banks together with the brokers, which developed and sold the subprime loans for big profits and high salaries (Bondt, 2010) even to people with bad credit worthiness and very often to customers, who mostly could not realize the risks with their mortgages (Foote et al., 2008). The US mortgage lending policy with very low interest rates at the beginning 2000-years, followed by very huge increase of subprime borrowers also beginning since the year 2000.

In addition, these were financial instruments in the second mortgage market and the huge increase in securitization of debt through subprime lending since 2000 with financial products such as MBS / RMBS, CDO, CMO, hedge funds and other derivative products. These things reduced the repayment risks of the originator banks and which shifted the risks away to the investment banks and their customers (Altman, 2002). The enormous securitization of these subprime mortgages on worldwide marketplaces combined with a missing and decreased control (Johnson & Neave, 2008). The human psychology especially greed in financial behavior combined with a poor risk management is another main cause for the crisis (Aalbers, 2009), (Jain, 2009).

## **Research Results and Discussion**

### **1. Analysis of the Markets**

The analysis of the markets is an empirical investigation of *Risk Identification*. One cause of this large crisis was the huge part of Adjustable Rate Mortgages (ARM) in the USA market. The number of ARM had a steep increase in the USA market between 2001 and 2004 from 12 % up to 34 %. The 2008 default rate of subprime ARM was 33.4 % vs. 3.0 % of prime FRM. The number of the subprime borrowers in the USA increased from 2001 to 2005 from 7.8 up to 21.3 % (Barth, 2009). From 2007 to 2013, more than 5.5 million families in the USA lost their homes due to foreclosures during the repossession process. More than 11 million borrowers around 23 % of households with mortgages got in trouble with their mortgages (Das, 2012). At least during 2007 and 2014 more than 15.5 million USA households had to open a foreclosure filing in the foreclosure process because of not fulfilling their financial duties to the banks.

In Fig. 2 and Fig. 3 one can see the development of the average interest rates and the credit default rates during the research period between 1998 and 2019. It is apparent that the average interest rates followed nearly the same course in both markets: the highest value in 2000, decreasing until 2005 then increasing in the USA until 2006, in Germany

until 2008 and then both markets had the decreasing interest rates until 2015. The US Market had again increasing interest rates from 2016 and the German market further on had decreasing interest rates till the end of the research period in 2019.

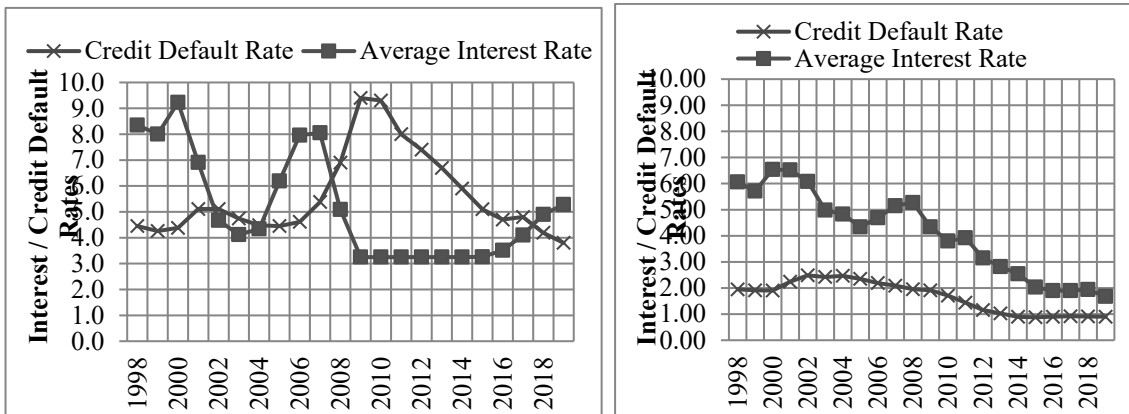


Fig. 2. Interest rates vs. CDR (USA) Fig. 3. Interest rates vs. CDR (Germany)

Sources: both Figs. by the author, based on data by (Statista, 2019)

During the research period, both markets had the lowest credit default rates around the year 2000, the time before the dotcom-crisis. After the crisis, a slow increase followed until 2002 in both markets. Then, the credit default rates were shrinking also in both markets: in Germany until the end of the research period, but in the USA only until 2005/2006, the point where the subprime crisis had its beginning with a sharp increase of credit defaults until 2009/2010 when the crisis calmed down again. During the phase, when the USA market had its worst time with credit defaults, the German default rates of mortgages were very stable on a low level. Since 2004, the delinquency rates of mortgages have been shrinking continuously from around 2.5 % to 0.9 % in 2014 (see Fig. 3). In general, the credit default rates in Germany were much lower than in the USA during “normal” time periods.

In Fig. 4 and Fig. 5, one can see the development of the gross domestic products and the credit default rates during the research period between 1998 and 2019 in the markets of USA and Germany.

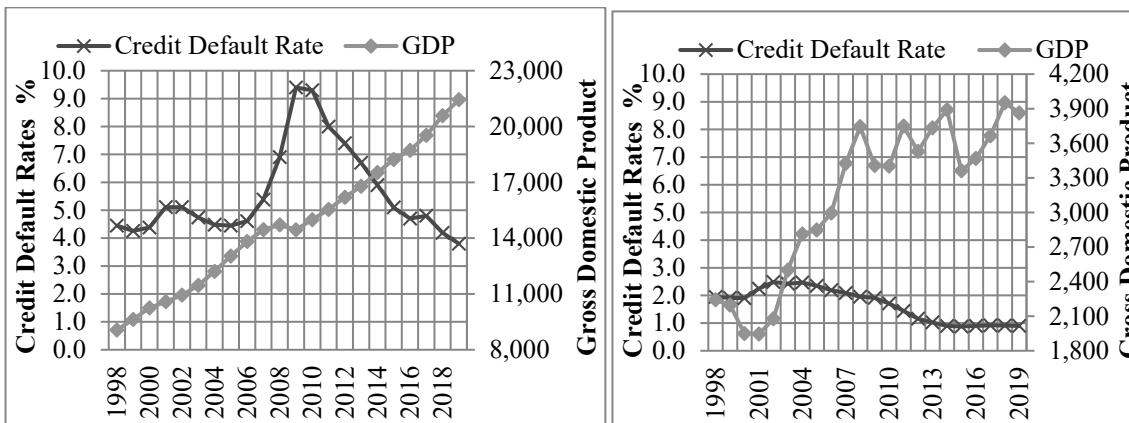


Fig. 4. Gross Domestic Product vs. CDR (USA) Fig. 5. Gross Domestic Product vs. CDR (Germany)

Sources: both Figs. by the author, based on data by (Statista, 2019)

In the USA, the GDP increased continuously from 1998 until 2008. Then a small decrease followed in 2009. This was the point where the credit default rate reached the top. From then, it followed again an increase of the GDP with nearly the same ascent and a decrease of the credit default rates. There is no relation between GDP and credit default rate visible. In Germany, from 1999 to 2001 during the time of the dot-com crisis, the GDP was fallen. After this time the GDP has an increasing period until 2008 the time of the financial crisis. From then, it was a yearly up and down situation. There cannot made assumptions from the relations between these two variables because there is not visible a situation where one can see a continuity or a clear relationship neither in the USA nor in Germany.

In Fig. 6 and Fig. 7, one can see the development of the unemployment rate and the credit default rates during the research period between 1998 and 2019 in the markets of USA and Germany. In the USA, it is visible nearly a parallel wave between credit default rates and unemployment rates with a minor shift. The unemployment rate as well as the credit default rate increased after the 2000 dot-com crises until 2002/2003. Then in the USA a down movement of both variables followed until 2006, the point where the mortgage crises started. From there it followed a sharp increase of both until 2010 and then again, a declining until the end of observation in 2019. In Germany, it is also visible nearly a parallel wave between credit default rates and unemployment rates with a minor shift and a great difference in the ascent of the lines. The unemployment rate as well as the credit default rate increased after the 2000 dot-com crises the credit default rate until 2002/2003 but the unemployment rate until 2005. From there on it followed a decrease of both until the end of observation in 2019. The lines of unemployment and credit default rate in the USA and in Germany show a great dependence and a clear relationship.

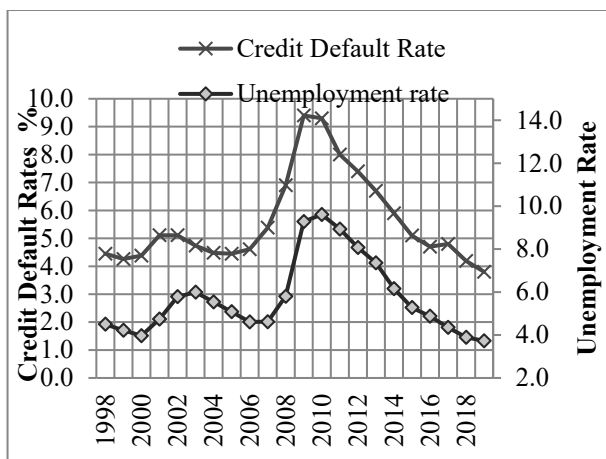


Fig. 6. Unemployment rate vs. CDR (USA)

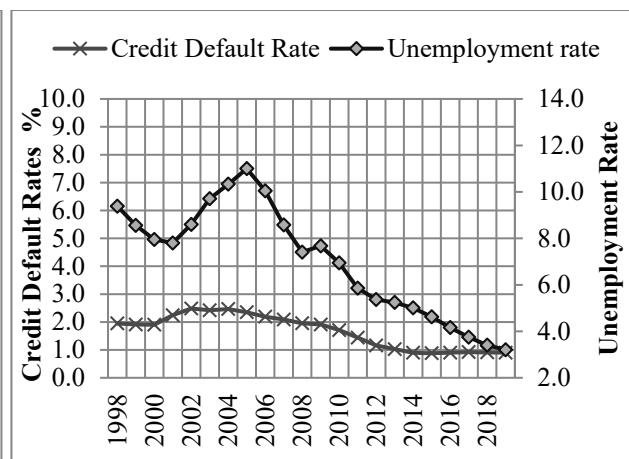


Fig. 7. Unemployment rate vs. CDR (Germany)

Sources: both Figs. by the author, based on data by (Statista, 2019)

In Fig. 8 and Fig. 9, one can see the development of the main stock market indexes and the credit default rates during the research period between 1998 and 2019 in the markets of USA and Germany. In the USA, it is nearly visible an inverse relation between credit default rates and DJIA. Beginning in 1999 (start of the dot-com crisis), the DJIA was shrinking whilst the credit default rates were increasing until 2002. Then there was an increasing of the DJIA and a decreasing of the credit default rate until 2006/07 followed by decreasing of DJIA and increasing of credit default rate until 2008/09 the top of the financial crisis.

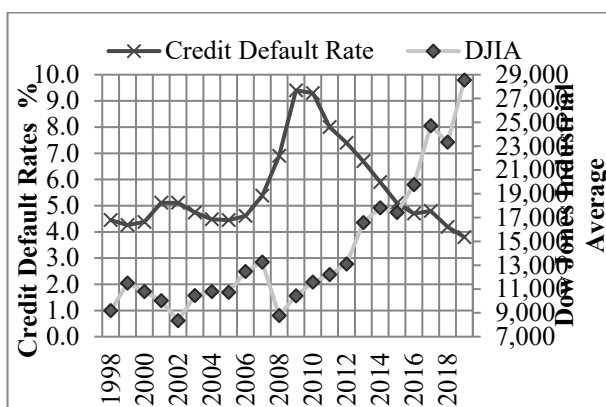


Fig. 8. DJIA vs. CDR (USA)

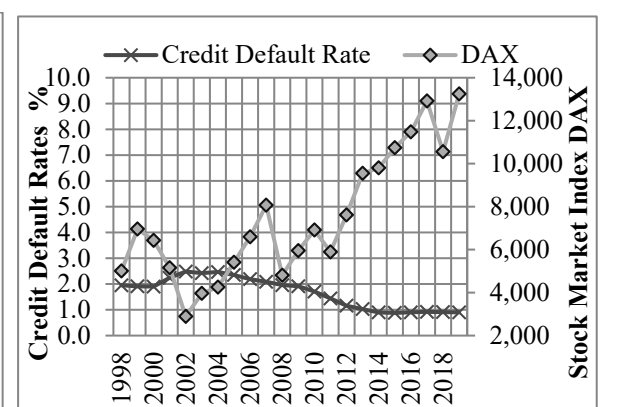


Fig.9. DAX vs. CDR (Germany)

Sources: both Figs. by the author, based on data by (Statista, 2019)

From then, both variables run with an inverse course the DJIA with an upward and the credit default rate with a downward trend until the end of observation in 2019. In Germany, during and after the dot-com crisis, the stock market

index DAX was shrinking from 1999 until 2002. In this time, the credit default rate had an inverse upward course. Then the DAX increased until the start of the mortgage and financial crisis in 2007. Then one year with sharp decline followed in 2008 and the again an increasing of the DAX until 2017. The credit default rates began to fall in 2005 until the end of the research period in 2019. The general trend of both variables is inverse same as in the USA.

In Fig. 10 and Fig. 11, one can see the development of the home price index and the credit default rates during the research period between 1998 and 2019 in the markets of USA and Germany. In the USA, from the beginning of the observation in 1998, the house prices were increasing until 2006, the start point of the mortgage crisis. Then the prices were fallen until the bottom of the house prices in 2011. From there, the prices rose again. There cannot made assumptions from the relations between these two variables, even if it looks like an inverse relation between 2002 and 2019. In Germany, until 1998 and 2010, there is nearly not visible a change of home prices. Starting in 2010 the house prices rose steeply until the end of observation in 2019. There are not visible clear relations between the home price index and the credit default rates in the German market.

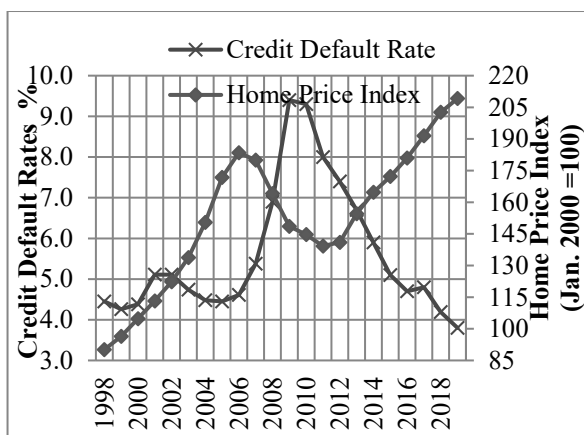


Fig. 10. Home price index vs. CDR (USA)

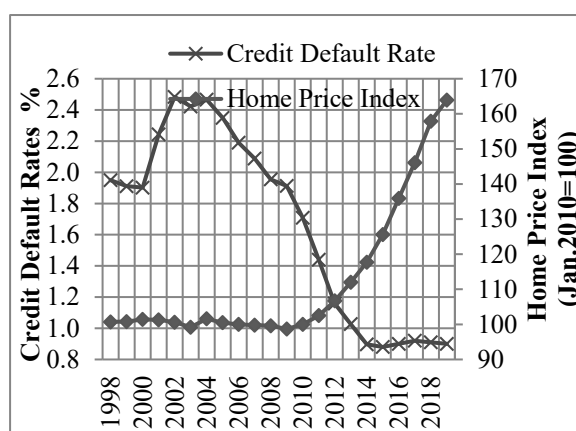


Fig. 11. Home price index vs. CDR (Germany)

Sources: both Figs. by the author, based on data by (Statista, 2019)

## 2. Bank Expert Survey

The *research approach* is a bank survey from 2019 with risk management experts from eleven German financial institutions (FI). Knowing that written surveys offer many benefits, the impersonality of the method can be a disadvantage and requires clear instructions to prevent the answers from being erroneous (see Mathur & Evans, 2005). For this reason, the written survey was tested in advance with experts from the University of Latvia, the Technical University Rosenheim (Germany) and the Bavarian Bankers Association (Germany).

The first part of the survey was concerned with collecting data about the financial institutions: name of the institution, name and job position of the expert and the shareholder structure of the financial institution (private, cooperative or public). The structure of the experts involved corresponds to the landscape of German banks (Fig. 12).

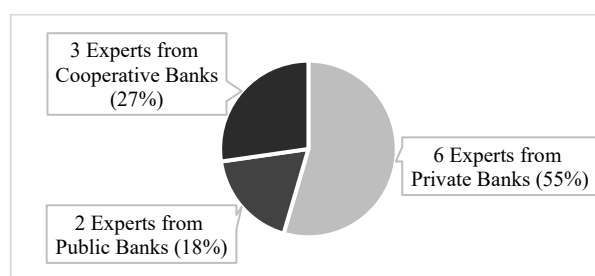


Fig. 12. Shareholder structure of the participating experts in the study (developed by author)

The second part gathered data about the types of mortgages offered by the bank and about their credit default rates for ARM and FRM? The average of the credit defaults is 1.39% for ARM and 1.14% for FRM (Fig. 13).

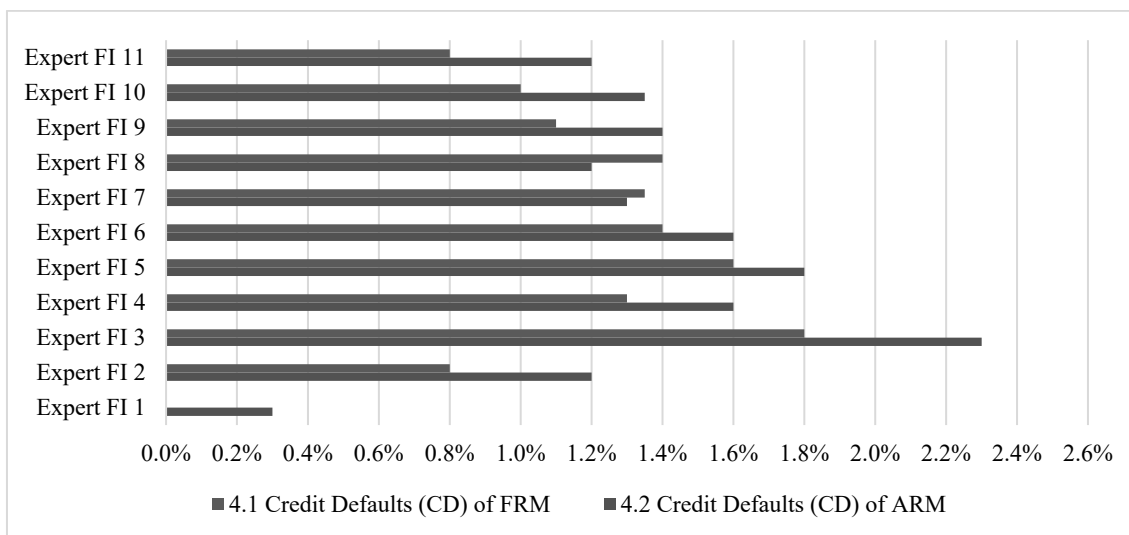


Fig. 12. Credit default rates of the participating banks (developed by author)

The third part of the survey contained questions about the financial institutions’ statements:

- to the main factors for credit defaults: macroeconomic factors, level of interest rates and personal situation of the borrower
- to macroeconomic factors for credit defaults as a change in gross domestic product, unemployment rate, inflation rate of consumer prices, stock market index and house price index
- to borrower factors for credit defaults: type of the chosen mortgage, loan-to-value ratio of the loan, scoring-factor of the borrower
- to the financial institutions’ behavior in case of a credit default: prolongation of the maturity time, start foreclosure process.

For the evaluation of the questions above, the experts were asked to state whether they agreed with each statement. Therefore, it is recommended to use the so-called five-point Likert scale with a range from strongly disagree (1) to strongly agree (5) (Babbie, 1990). Raab-Steiner and Benesch wrote that *data obtained from a 5-point Likert scale can be treated as continuous data during statistical analysis* (Raab-Steiner & Benesch, 2012). Moreover, Babbie recommended using a five-point Likert scale, if the respondent was able to give a short answer within a questionnaire (Babbie, 1990). Further on, there are open questions, where the respondents should write about things like other macroeconomic factors for credit defaults, other borrower factors for credit defaults, or other types of financial institutions’ behavior in case of customers credit default. Respondents of the bank survey were asked to comment on the most responsible factor for credit losses: macroeconomic factors, level of interest rates or personal situations of the borrower. The answers in Fig. 14 show that six of the eleven experts strongly agree and further on the rest of five agree that the personal situation of the borrowers has the most influence on credit defaults.



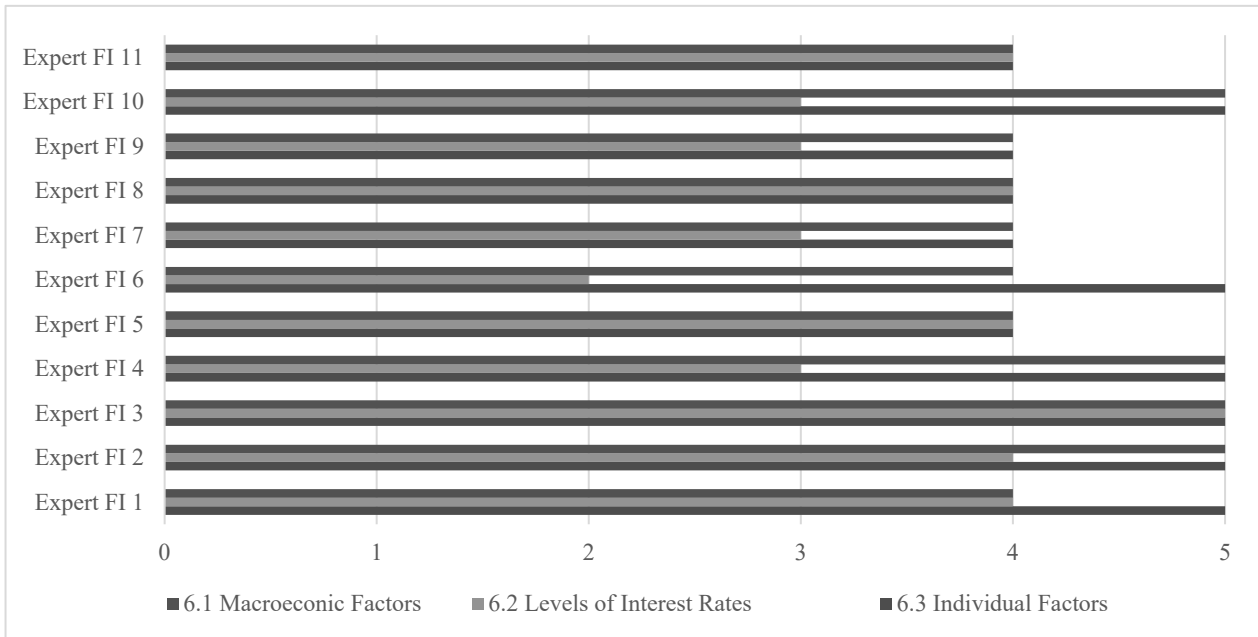


Fig. 14. The Major Factors for Credit Defaults (developed by the author)

The mean of their answers to the personal situation of the borrowers is 4.545 and that indicates this factor as the most responsible factor for credit defaults followed by macroeconomic factors (mean 4.364). As the factor with the lowest influence on credit defaults, they see the level of interest rates (mean 3.545).

Fig. 15 is related to the macroeconomic factors for credit defaults. Six of eleven experts strongly agree and further on the rest of five agree that the unemployment rate is that macroeconomic factor with the highest influence on credit defaults. It is evident that the unemployment rate with a mean of 4.545 is seen by the experts of the financial institutions as the most responsible macroeconomic factor for credit defaults followed by a clear difference of one point by gross domestic product (mean 3.545) and house price index (mean 3.545). Stock market index (mean 3.273) and inflation rate of consumer prices (mean 3.182) have an average value as an answer to this question. This order of answers seems rational. The unemployment rate is the most important macroeconomic factor, as it is well known that people have great difficulties repaying mortgages when they lose the job. The next place is taken by the gross domestic product and the house price index together because they are also closely related to credit defaults of real estate loans, but on a lower level than the unemployment rate.

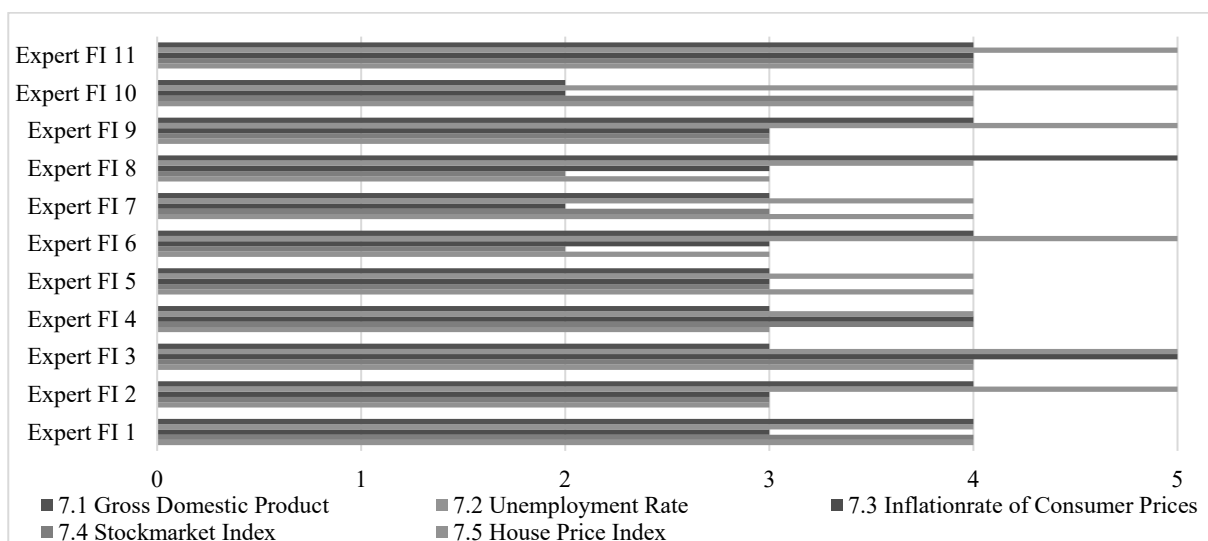


Fig. 13. Macroeconomic Factors for Credit Defaults (developed by the author)

Concerning the borrower factors, four of the eleven experts strongly agree and further on the rest of seven agree that the scoring factor of the borrowers has the highest influence on the credit defaults from the view of the borrower factors. The scoring factor of the borrower (mean 4.364) is of high importance for the banks (see Fig. 16).

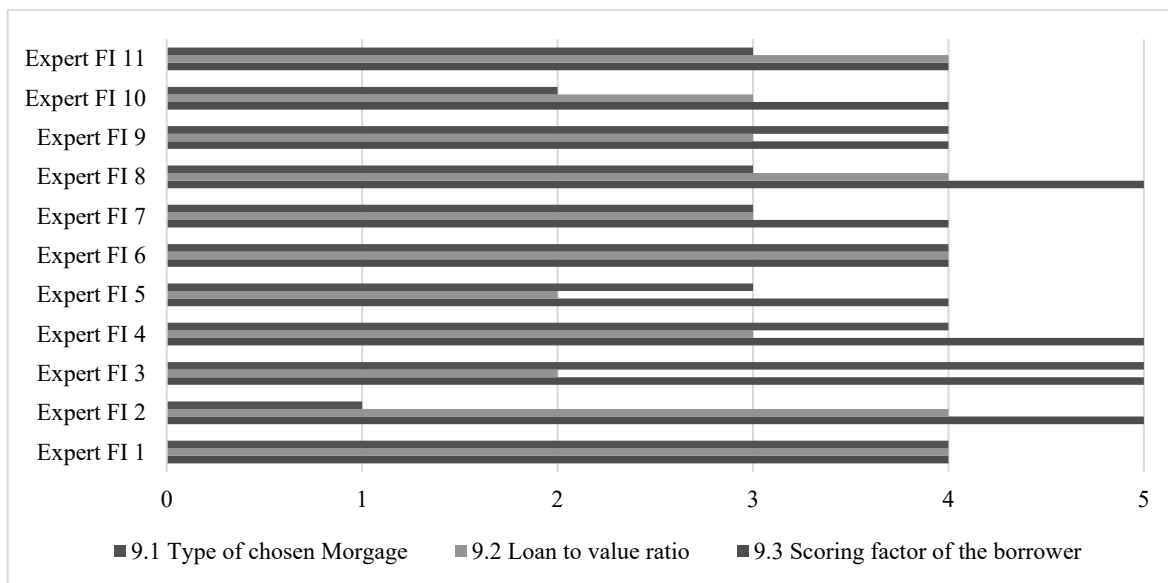


Fig. 14. Borrower Factors for Credit Defaults (developed by the author)

With a gap of more than one point, the type of chosen mortgage (mean 3.273) and the loan-to-value ratio (mean 3.273) follow together. These variables are of average importance to financial institutions. In general, the experts answered that borrower factors (mean 4.364) and especially the borrowers’ scoring (mean 4.273) had a great importance in their banks' risk management.

Three of the eleven experts strongly agree and further more five agree that in case of a loan defaults the German financial institutions rather prefer a hard foreclosure process (mean 4.000) for a defaulted loan than a prolongation of the credit maturity time (mean 2.273), see Fig. 17. This behavior is only possible because there is a high probability of selling houses from foreclosure processes with good results.

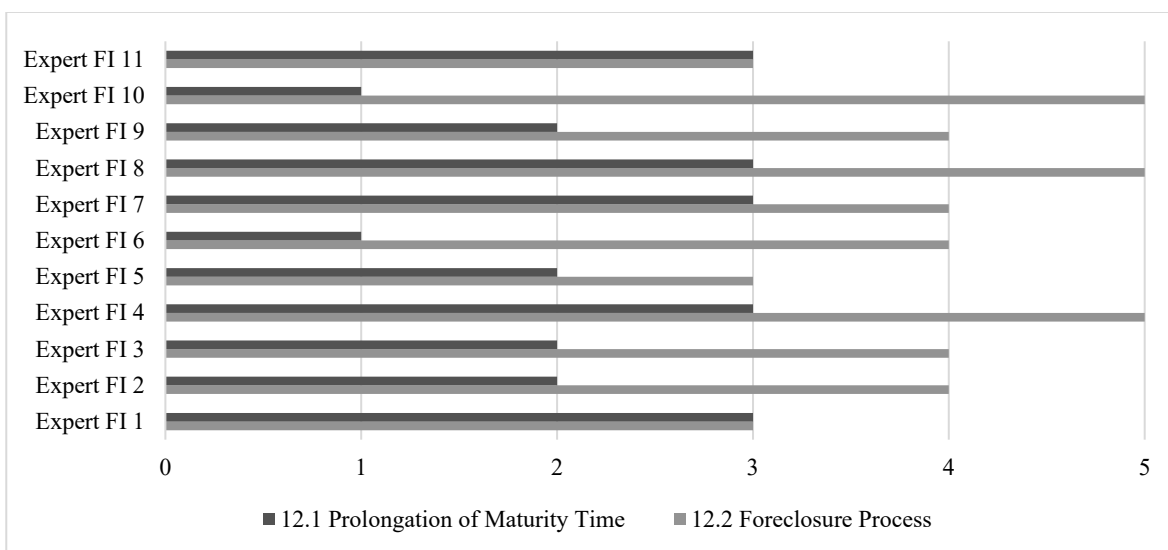


Fig. 17. Behaviour of Banks in Case of Credit Defaults (developed by the author)

The questions of the fourth part of the questionnaire are concerned with the risk management practice of the financial institutions:

- Which method do you see as the most efficient measurement of financial risks from credit defaults?

- How do you measure financial risks, using the Value-at-Risk model or other measurements?
- Which types of problems in terms of real estate mortgages do you see for risk management at your financial institution?
- How does your financial institution manage risks from credit defaults?

Related to the bank risk management, nine of the eleven institutions questioned perceived the Value-at-Risk (VaR) Model as the most effective one. A further result is that 91 % of the banks use a risk management model, and the use of the VaR model by 82 % of the investigated German financial institutions is a great success. Further on, more than 50 % of the bank's experts do not see relevant problems with their real estate loans. It is a sign for an unproblematic German real estate market. Nearly 40 % of the financial institutions see problems, especially when borrowers come in trouble with repayment of the loans mostly caused by changing of their personal family status. The question, how do the financial institutions manage risks from credit defaults, is answered by 82% of the involved experts that their banks have a permanent view on the risk-factors. One answered to use an own risk-management system. Two wrote they use an own risk-manager. It is visible that all of the financial institutions are concerned with risk-management, use risk-management systems, and have a view on risk-management factors. This is a very good situation and a good basement to be protected from credit defaults.

The main findings of the research for research question 1 are as follows:

The influence of the level of interest rates of the mortgages on the credit defaults is clearly existent with a mean of 3.545. This is behind the personal situations of borrowers and behind the macroeconomic factors.

The main findings of the research for research question 2 are as follows:

- The influence of the macroeconomic factors on the credit defaults is high with a mean of 4.364. This is only behind personal situations of borrowers. The unemployment rate is that macroeconomic factor with the most significant influence on the credit defaults with a mean of 4.545.
- The order of the following macroeconomic factors for credit defaults in the German market is home price index (mean 3.545), gross domestic product (mean 3.545), stock market index (mean 3.273), and at least inflation of consumer prices (mean 3.182).

The main findings of the research for research question 3 are as follows:

- The personal situation of the borrower has the greatest impact on the credit defaults with a mean of 4.545. The scoring factor of the borrower is that borrower factor with the most significant influence on the credit defaults with a mean of 4.364, which is followed by the type of chosen mortgage and loan-to-value ratio, both with a mean of 3.273.

Fig. 18 presents the graphical overview of the results of the banking survey.

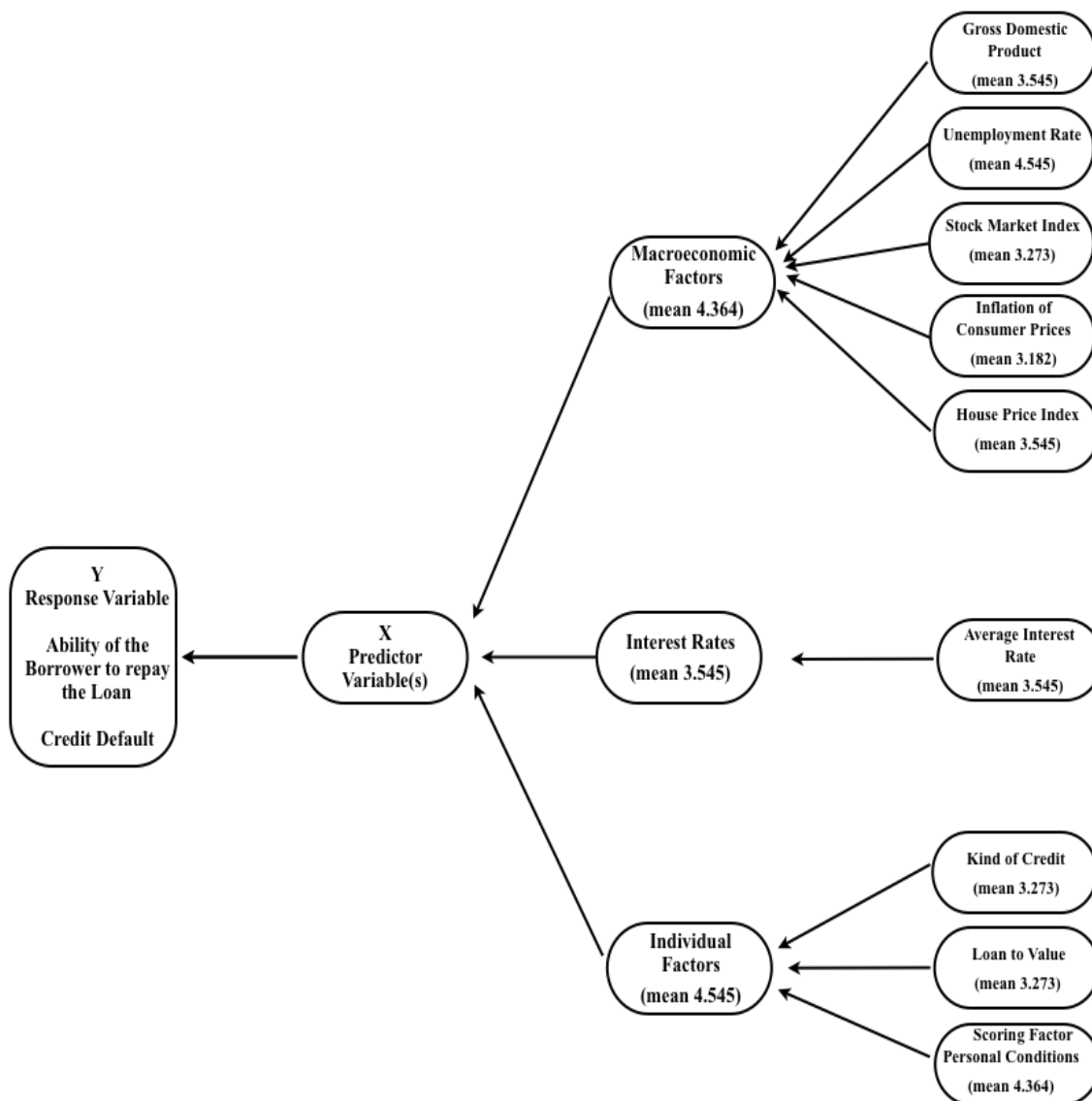


Fig. 15. Results of the bank survey for the German market (developed by the author)

**Conclusions, Proposals, Recommendations**

1. The research model (Fig. 1) is confirmed by this research. All involved experts agree with the author's opinion that interest rates, macroeconomic and individual factors have a significant influence on credit defaults!
2. The *novelty of this paper* and the *main finding of the research* is the evidence that interest rates are not the catalyst for credit defaults. The level of interest rates is one of the most important instrument of the monetary police, to boost the economy in critical times, however, there is no essential causality for the amount of credit defaults. A change of the interest rate level is only of interest for borrowers with Adjustable Rate Mortgages and in case of remortgaging a loan, because in these cases interest rates have an impact on the individual ability to repay mortgages.

The factors with more causality to credit defaults are individual situations such as personal circumstances and the scoring of the borrowers, as well as the key macroeconomic factors, such as the unemployment rate. These factors also have a great impact on the individual ability to repay mortgages, and as mentioned before, the willing and the ability of the borrowers to repay their loans have an essential and direct impact on the credit default rate. Credit institutions do not have to pay too much attention to the level of interest rates but rather to the personal situation of their borrowers and to the unemployment rate in the market, to avoid credit defaults.

3. The subprime mortgage crisis of 2007–2010 was a result of what would happen if there were an *immense failing*

of risk management. None of the four phases of risk management, which were described, did work effectively before and during the crisis, especially in the USA market. *Risk Identification*. At first, the risks with subprime loans were not identified correctly and the loss of diligence to check borrowers' credit worthiness before giving loans was a massive fault and led to a massive misidentification of the risks. The examination of the borrower's credit worthiness is an extremely necessary point to prevent such huge numbers of credit defaults. In this point, the markets of the USA and Germany worked completely divergent. Such a strict check of the borrowers' credit worthiness in Germany stands in connection with very small loan defaults. This is also confirmed by the results of the expert survey of the financial institutions. *Risk Measurement and Analysis* have to be enhanced as well by improving the risk management models, such as the value at risk model, which was used before, during and after the crisis. *Risk Handling* before this crisis was very careless and partially fraudulent in the USA market because it was not only a question of fairness to sell unchecked mortgages in the second mortgage market, but it was also a question of fraud and, therefore, should be corrected immediately. Risk Controlling has gone wrong on the part of all stakeholders: from the lenders' part, to the internal and external controlling of financial institutions and furthermore to the governmental part.

4. The Financial Crisis Inquiry Commission of the US Representative House concluded in their final report from 2011 that this crisis was avoidable. This statement was confirmed by this paper and will be added by: It would be avoidable by just a simple risk management method: checking of the borrowers' credit worthiness! This is the most necessary recommendation to all lending institutions.

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## CHINA'S PIONEERING ECONOMY: KEYS TO FUTURE GROWTH

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**Abstract.** China has been able to raise venture investments for its new development plan. Though since 2016, economists equate the way of such behavior to avalanche. Today in the studies on China, terms like "bubble" or "overheating" are commonly used. The goal of this research was to evaluate the real scenario of heating the market to a new crunch. The second purpose was to analyze the current state of Chinese venture capital.

As a result, the author proved that the main reason for the avalanche-like acceleration of growth in the Chinese venture capital market was miscalculations in the actions of the Big Government addressed to pay off the problems in the domestic stock market in 2015 that led to the development of new risks. Possible risks and reference points of Chinese venture have been analyzed in this article.

The article proved that, despite overheating signs in the market, it is still premature to forecast the "bubble" in the venture capital market. The article concludes with a discussion that China is transforming itself again and that the next wave of innovation and private entrepreneurship will be the wave of the future, with substantial global consequences.

**Keywords:** *Venture capital, Entrepreneurial firms Performance, R&D, China, start-up.*

**JEL code:** O25, O38, O53

### Introduction

Today the traditional sectors that spurred Chinese economic miracle have become weaker - a trend reinforced by increasingly more expensive labor. The Chinese government hopes that both the private sector (SMEs for the most) and innovation will become the new drivers of the economy. Like so many trends in China, big government is the driving force behind this.

Moreover, again, that might work. China has a labor force of 800 million, among whom 170 million have received higher education or possess high professional skills (Agten, 2017). Moreover, there is a considerable number of students educated abroad who come back home to live and work there. The effects of political actions resulted in modern innovations and entrepreneurial spirit. In 2017 Chinese companies increased by 14 times their R&D expenses in comparison with 2000. In comparison, today, only US companies spend more on R&D (Agten, 2017).

The internet sector is the leading Chinese industry: as for Y2017, there are more than 730 million internet users and approximately 467 million smartphones in the country. Such tendencies for growing e-commerce market forecast that in 2020, China will have the largest share among Japan, France, Great Britain, Germany, and the United States combined (Agten, 2017). Well-known online-platform WeChat that counts about 900 million users is a Chinese app for payments, communications, marketing, and e-commerce all in one. However, it is not the only product that endeavors the world. Xiaomi, Tencent, Baidu, and Alibaba conquer the world with products, ideas, and services, about one-third of all startups today come from China (Agten, 2017).

Now China is a source of inspiration even for Silicon Valley. Shenzhen is a business hub with its 30 000 innovative startups and companies with a turnover of more than \$200 billion.

In 2017 Chinese National Innovation System (NIS) achieved the championship results at the computer and material science, engineering, and mathematics (Lewin, Kenney, Murmann, 2016; Shuyan, Fabuš, 2019). There is a serious reason to believe that by 2020, it will lead in the field of particle physics. In 2018, China launched the world's largest charged particle accelerator. The amount of both government and private financing for its construction exceeded \$6 billion. The success of Chinese specialists in the development of AI is impressive. Only in 2017, the government agencies spent \$ 48.9 billion on R&D in this area, which is 18.6% higher than in 2016. It should be noted that in the USA, the expenditure growth was only 8% due to real budget cuts for R&D and S&T, which began after President Trump has taken office (The 2017 Global CVC Report, n.d.).

These successes of China are admirable. Over the past 20 years, its economic and innovative development has been the undoubted driver of growth, as they say, the “white stork” of the global economy. The rapid flapping of its wings created the growth pattern of the world economy.

Unfortunately, since 2014, there are some concerns about the Chinese economy. The government coped with the turbulence in the stock market in 2015, but today there are risks that it might spread to the venture capital market.

According to the global analytical agencies, the warming up of the Chinese innovation market is rapidly increasing. This situation creates the possibility of a "bubble," which at any moment can burst and leave investors without profits and invested money. Moreover, this will have a catastrophic effect not only on the innovation sector but also on the whole economy of China, as today it is driven by innovation.

The purpose of the research is to analyze the current state of China's venture capital market and identify the reasons for its avalanche-like growth. The article includes an introduction, research methodology description, two sections, results interpretation, and a conclusion. In the first section, the author examines the causes and consequences of the “bubble” in the Chinese stock market and the ways that helped to prevent the crisis. This attention is drawn by the fact that, according to the author, it was the big Government that caused the increase in investments that led to overheating. The second section is devoted to China's venture capital investment market and identification of possible risks and indicators of development.

### **Literature Review**

Companies that want to look at the future of innovation must look not only at Silicon Valley but also at China (The Economist, 2016). Consequently, since its reform and opening up about four decades ago, China was mainly regarded as a country that imitates (Lewin et al., 2016, Augier et al., 2016). For a long time, it was widely recognized that China having a transition economy model lacks many relevant legal and socio-cultural institutions, which nevertheless contribute to entrepreneurship and Schumpeter's innovation (Abrami et al., 2014). The paradox is that China lagged behind Western Europe in the field of technological innovation at the dawn of the industrial revolution, despite the aggregated human capital and record inventions in the past. The most frequently cited explanations for this situation include weak domestic markets, as well as a lack of property rights as an incentive for entrepreneurs. This paradox, combined with the long Chinese history of totalitarian control and centralization of power, has damaged freedom, ingenuity, and the creation of new enterprises that embody technological and economic development (Ahlstrom, 2014). Despite the difficulties today, China has an accent on human capital, innovation, and entrepreneurship (Li Hongbin et al. 2017) as the primary growth factors in the economy (Woetzel et al., 2015). This is facilitated by low labor costs and high capital investments (Liu et al., 2017).

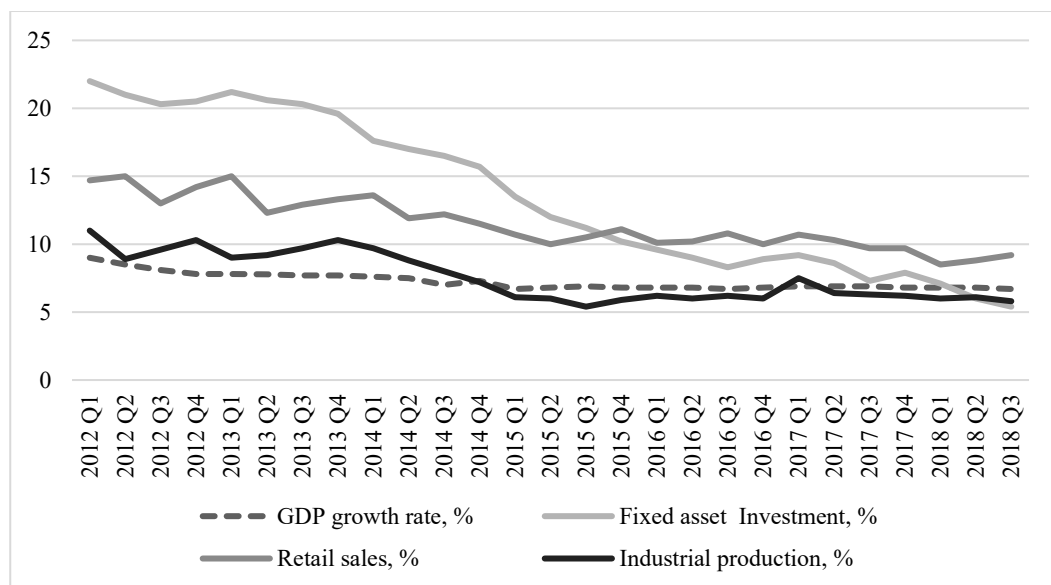
According to McKinsey, China needs to increase annual gross domestic product (GDP) by 2–3 percent directly from innovation and new enterprises in order to maintain annual GDP by 5.5–6.5 percent in the next decade (Woetzel et al., 2015). This forecast explains the Chinese government's decision to encourage "Mass Entrepreneurship and Innovation by All" policy and support the primary strategy for improving, reorganizing and reducing contradictions between traditional government practices and the urgent need to promote innovation and new ventures in China.

There are also questions whether small and medium-sized enterprises (SMEs) in China can use their knowledge opportunities developed as a result of internationalization to compete domestically, in the face of a downturn in developed markets (Tachia et al. 2015). Unlike other monographs on the topic "Innovations in China," "Innovation and Industrial Development in China" argues that the effectiveness of the organizational system in the field of technology and innovation links to the structure of the distribution of its strategic resources, the mobilization of organization members and the institutionalization of knowledge accumulation (Feng, 2019). However, the question

of China's progress toward global technological leadership remains an open and hotly debated subject (Zhou et al., 2016).

### Research results and discussion

Globally the world economy has some problems that lead to its slowdown. It is reflected in China's economy, too. Economists notice that since 2012, it has been in a hidden recession. Furthermore, since Y2014, we can observe a decline in practically all economic indicators. Industrial production, investment contribution, manufacturing, retail sales, consumption, and money supply growth squeezed. For ease of comparison, all indicators present on the chart below: a six-year minimum has been detected (Fig. 1). The model of extensive growth, based on the alternation of waves of import substitution and export orientation with a gradual performance increase in the production chain, is on the verge of collapse. This occurred at a time of falling solvent demand (The 2017 Global CVC Report, n.d.). Besides, continuing massive internal investments in infrastructure projects are not sustainable mainly because the most productive projects have already been completed, resulting in diminishing returns (or even no returns at all).



Source: Compiled by the author based on web-resource Trading Economics, 2018

Fig. 1. Chinese economy slowdown indicators

Since 2014 consumer and industrial activities cool down globally. Even though 50% of China's GDP falls on foreign market deliveries, nowadays it is becoming more reveal that it has nowhere to sell its products. Moreover, about 50% of China's GDP is made up of revenues from deliveries to foreign markets. It turned out that, despite all the efforts of the big Government, domestic consumption could only draw out a third of the Chinese economy by 2017, and this is not enough to maintain the previous growth rate at 14%.

To prevent a recession, the PRC State Council suggested substituting export deliveries with domestic demand. The idea of redistributing consumer savings to finance internal investing seemed like a way out. To this end, China has strongly liberalized the domestic financial system: the stock market, the opening of personal accounts, trading, the lending system. The results were unexpectedly sad (KPMG Venture Pulse: Global analysis of venture funding, 2018).

Similarly, the rise of companies such as Alibaba, Baidu, Netease, Sina, Sohu, Tencent, and Xiaomi have identified the digital service economy as a powerful new engine of economic growth. China has the most successful startup ecosystem outside the United States. However, it is essential to recognize that in many innovation-related industries, the Chinese government has closed its market to international competition.

Shanghai, Shenzhen, Beijing, and Hangzhou have a robust dynamic environment for startup development that could lead to successful innovations and entrepreneurial capabilities opening and will foster the Chinese economy (Frietsch, Schüller, 2010; Yang, Černevičiūtė, 2017).

It was evident that the Chinese government recognizes the necessity of developing an innovative economy. Since 2005, China has aggressively increased its domestic expenditures on R&D at a compound annual growth rate of approximately 20% (from \$55 billion in 2005 to \$257.8 billion in 2013) (National Bureau of Statistics, 2018). However, China still needs to break down some institutional obstacles to innovations and entrepreneurship as well as transform its university-based science, technology, engineering, and mathematics (STEM) teaching and research.

### 1. Internal loans and the stock market "bubble"

By 2014 in China, the amount of private loans has reached \$20 trillion. This is the most significant indicator of all QE in the world markets. (KPMG Venture Pulse: Global analysis of venture funding, 2018; Xu et al., 2018). Of these, in the aggregate, the population was given about \$ 2.8 trillion. One of the reasons was the liberalization of private equity and hedge funds registration that was launched by the Government in February 2015. Simplified registration rules supplemented by raising investor funds through brokerage offices and banks.

The minimum investment to a typical Chinese hedge fund is \$ 161.000 (from Western funds from \$ 1 million), and the minimum investment period is 12 months. By June 2015, 56 out of 12.285 registered hedge funds managed assets for over \$ 1.6 million (KPMG Venture Pulse: Global analysis of venture funding, 2018). The most substantial part of the money revolving in the stock market related to the short duration loans and unqualified investors. However, unfortunately, these investments called "portfolio investments" were used for short-term profit – stock speculation and not for real sector development.

It was this money that fueled the "bubble," supporting the insanely overbought and bloated stock quotes of Chinese companies. The cost of the stock market by the end of 2015 exceeded \$10 trillion. Without some reason, a spasmodic growth of capitalization of the decaying Chinese economy began. The index on the Shanghai Stock Exchange, in less than nine months, rose from 2.000 to 5.200 points (KPMG Venture Pulse: Global analysis of venture funding, 2018). The size of the entire Chinese stock market (market capitalization) exceeded five times the American one on the eve of the 2008 crisis. For comparison, in Japan, the ratio of financial leverage to capitalization of company shares traded on the stock exchange is less than 0.5%, in the US – 2.2 -2.7%, in South Korea – 0.8%. In China, this ratio exceeded 9% (Zhaohui, Yongbo, 2013).

According to the author, the economic crisis was inevitable. By the middle of Y2015, the Shanghai Composite collapsed by 28.5% and closed at 3 725.56. The profits of industrial companies in China fell by 0.8% in June compared with the previous year (Zhaohui, Yongbo, 2013). It was apparent that the "bubble" in the stock market began to explode. Moreover, the government did not recognize these signs and took unpopular measures in order to stop this process. From 2016 short speculations were limited, the exception concerned only the high-tech sector.

### 2. Bubble Stock Effects on China's venture investments

Special attention during the analyzed period should be paid to quality indicators in the stock market of China (Table 1).

Table 1

**Changes in quality indicators in the Chinese stock market from 2013 to 2018**

Means of financing	2014	2015	2016	2017	2018
Bonds and shares	50%	60%	60%	48%	55%
Direct investment	36%	25%	30%	20%	32%
Venture fund	9%	10%	15%	27%	8%

Other funds	5%	5%	5 %	5%	5%
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Source: author's calculations based on OECD Reviews of Innovation Policy. China, 2018

Analysis of the data presented in Table 1 suggests that since 2014, there has been a steady increase in the number of venture capital funds. Their growth has especially increased after the exclusion of high-tech companies from the prohibitive "weekend" measures taken by the Government in 2016 (The China Effect on Global Innovation, 2015; China Engineers Innovation Index, 2015).

In the first half of 2016 alone, Chinese venture capital funds invested a record \$ 37.2 billion in local startups, which exceeds this figure for the entire 2015. As a result, in 2016, the size of the venture capital market in China reached a level of \$ 338 billion (Global Innovation Index, 2018). By 2017, this rise resembles an avalanche. It is all about growth by the end of 2017: total China's venture investments increased by 18% compared with the previous year; the transaction number increased by 19%. The number of transactions made by these funds over the same period increased by 19% (National Science Board. Science & Engineering Indicators, 2018).

This is the biggest bag of money allocated for startups, and it is intended to invest only in Chinese companies. It is the scale and volume of venture investment that causes excitement among the world's leading economists. Moreover, the author of the article considers there is a need for a more in-depth analysis to understand whether a new "bubble" is maturing.

### 3. China's venture investments

A Chinese innovation system is changing quickly because of huge funds inflow and the leading roles assigned to the private capital. The Ministry of Science and Technology budget for five years until 2021 will be evaluated as \$ 1580 trillion (Ahlstrom, Ding, 2014).

By 2017, China's venture capital market is a complex multi-step mechanism. The basis of it is 780 public venture capital funds. By 2016, their financial volume reached a record level of \$ 2.3 billion.

Besides, since 2015, private venture capital funds are increasingly coming into play. Only in 2015, investors created 597 of them. Their newly formed capital amounted to \$30 billion. In 2017, there were 2800 of them (more than 1000 at the investment stage) with assets of \$700 billion (Jiang et al., 2014). Private capital is playing an increasingly active role in China's venture capital market. Confirmation is the analysis of the data presented in tables 2 and 3.

Table 2

#### Five biggest venture capital funds, Y2015

Investor	Finance stage	Management assets, \$ million
China Construction Bank	Venture investment (later stages)	29.7
Postal Savings Bank of China	Venture investment (later stages)	18
China Investment Corporation	Venture investment (later stages)	8
Ping an Insurance Group	Venture investment (later stages)	7.8
State Administration of Foreign Exchange	Venture investment (later stages)	4.7

Data collected by the author. Sources: National Science Board, Global Analysis of Venture Funding, KPMG Enterprise, Preqin special report: Asian private equity, and Venture Capital.

Table 3

#### The five biggest venture capital funds, April 2017

	Management assets	Stage of financing
GSR Ventures	\$2 billion	All Stages
Tencent	\$ 71.8 billion	All Stages
Morningside Venture Capital	\$1.7 billion	All stages
Bertelsmann Asia Investments	\$2 billion	All Stages

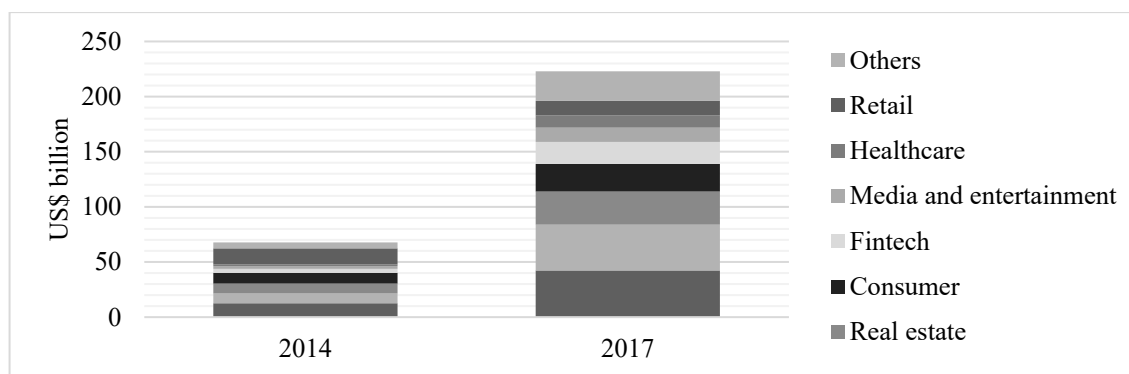
ZhenFund	\$3.8 billion	Seed
Shenzhen Capital Group Co	\$4.3 billion	All Stages
Qiming Venture Partner	\$2.6 billion	All Stages
Sequoia Capital China	\$5.8 billion	All Stages
IDG Capital Partners	\$20 billion	All Stages
SB China Capital (SBCVC)	more than \$2 billion	All stages

Data compiled by the author. Sources: National Science Board, *Global Analysis of Venture Funding*, KPMG Enterprise, *Preqin special report: Asian private equity, and Venture Capital*.

Data from Tables 2 and 3 indicate a specific transformation in 2017 in the Chinese venture capital market. Government measures to curb the growth of the stock market have prompted an avalanche of private investment in venture capital. A large flow of money only in private equity funds brought China into the lead. The peculiarity of the Chinese venture capital market is that the most generous investors are not funds, but the largest technology companies.

In addition to the above, it should be noted that the investments of business angels in the venture capital market of China are becoming more visible. By 2017 the number of so-called HNWI's exceeded 1.2 million people (Reshetnikova, 2018). Like everything else in China, the angel investment market has specific national characteristics, mainly in the form of its organization. The dominant role in the market belongs to the communities of business angels, which reduce risks, unite investors, and investment objects. In 2016, the number of such communities was more than 350, of which 150 were actively investing, and their assets totaled more than \$ 9 billion. The total volume of their assets exceeded \$ 9 billion. The most significant volume of all venture capital investments, namely more than 50%, goes to the growth of Internet solutions, IT, and telecommunication technologies (Fig. 2). So, in 2017 only in the high-tech SME sector, 5812 angel transactions were registered, with a total investment of about \$ 4 billion disclosed (two times more than in 2015) (Guo, Jiang, 2013).

The most favorable sectors for PE/VC in 2017 were media and entertainment, healthcare, high technology, consumer, and real estate.



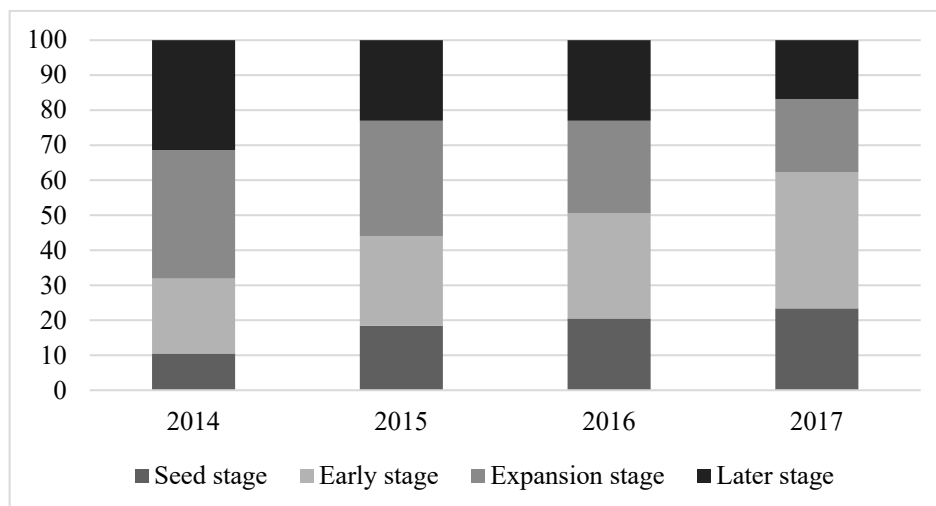
Source: author's construction based on ChinaVenture and PwC analysis *China Private Equity/Venture Capital Review, 2017*

Fig. 2. China's venture capital investment reflected in Top 10 main industries

Here are the realities of China's venture capital market. In 2015 private investment of different sizes and scale came into play. The growth trend of the number and scale of business angels, private venture capital funds, and agencies cannot but worry. Rescue, according to the author, might be hiding in the national characteristics of China's venture capital investments, which are already becoming apparent today.

Chinese national features of the venture capital market are characterized by volume, size, and of course, by investment through the different project stages (Dauterive, Fok, 2004). Investors are most interested in early-stage startups, and this interest continues to grow (Fig. 3).





Source: author's construction based on: ChinaVenture and PwC analysis China Private Equity/Venture Capital Review, 2017 and Prequin special report: Asian private equity and venture capital, 2018

Fig. 3. Changes in venture capital investments by project maturity from 2014 to 2017

The volume of investment made at seed and early stages was 44% in 2015, whereas already by 2017 amounted to 63.2% (China Engineers Innovation Index, 2015). This situation happened, although the global market witnessed a cooling interest in these stages by 2017. In the US, for example, the number of seed investments decreased by 30% (Global Innovation Index, 2018). The median size of the transaction in all early rounds of venture financing is also growing in China. According to the author, the main guideline for most Chinese investors (public and private funds, business angel clubs) is the "spray and pray" strategy: they want to invest in as many startups as possible in the early and seeding stages, to not miss the next unicorn. So, for these tactics, there are specific reasons.

So-called seed investment is a common thing in China. Their cost ranges from a few million to tens of millions of dollars. That is why today, the time for a startup to elapse from idea to exit in Zhongguancun can take from 3 to 6 months (Reshetnikova, 2018). In 2017 in China, over 5 million companies registered and above 300 000 involved in the IT industry. Add here companies in the field of biotech, additive technology, and rapidly developing AI technologies. The scale of the high-tech sector of the Chinese economy has grown enormously, and it is the main beneficiary of the venture capital avalanche.

It seems that nowhere else, but China, there is an opportunity for such a quick start for business. However, the author believes that not everything is so simple. Chinese startups make money on the basic needs of the local customers that are not as sophisticated as western clients.

In 2017, the average time for Chinese start-ups to go for IPO increased by about 20%. According to statistics, 90% of them did not live up to round C (China Engineers Innovation Index, 2015). Many of them enter the market after the acceleration program, which Microsoft Ventures Global Accelerators has in China. After successful IPOs, they are absorbed by older comrades like Baidu and Alibaba.

The Chinese economy is growing and sponsoring its so-called "unicorns" (unicorn is a company with over \$1 billion capitalization). By 2017 the number of such companies reached 55, which is about 30% of the total number of such companies. Such a market situation attracts investors' attention. They take high risks in order not to miss the next "unicorn." As a result, there are categories of investors that do not core for the venture capital market, and the volume of financing for venture projects is growing. The circle on the Chinese venture capital market has closed. Its current reality: the warming up and the beginning of pumping a new "bubble." Moreover, this, of course, is a new risk.

Venture capital Chinese market analysis helped to identify the causes of the "bubble." The main reason is the Y2015 government's strategic failure in solving the stock market problems. The decision to limit short sales, IPO, sale

of securities to high-tech companies' shareholders showed ambiguous results. However, also, it boosted the high-tech company's development and helped the economy to avoid falling into recession. Also, everything would be fine if it were not for the Chinese scale. To offset losses, investors had to redirect their resources (recently borrowed) to the high technology market.

Hedge funds and asset management companies have increased their investments in start-ups in search of better returns, and corporations to maintain and improve their position in the market. Investors took risks consciously to believe that at least one genuinely successful start-up will cover all their investment.

Since 1978 China has experienced the most significant rise in the economy in comparison with other countries in modern history and the fastest growth in all major economies. According to the World Bank criteria in several decades, China was able to pass the way from a "low-income economy" to a "high-income" country. Unique "Chinese characteristics sometimes explain this extremely rapid development. Although the combination of global forces driving economic growth is unique in China and provides unique "Chinese characteristics," they can operate throughout the global economy. China's political response to the international financial crisis was much more effective than in other large economies (Ross et al., 2016). According to the author, the idea of the Chinese government to redirect the vast savings of consumers to finance innovative domestic companies and projects and bring them out of the shadows was not bad.

The author agrees that today, the volume of venture investments is avalanche-like. Investors invest money earlier than usual, and less time elapses between successive rounds of investment. Unicorns unjustly devour food. However, the situation in the venture capital market cannot but cause concern. According to the author, beating the signal drums is premature. Instead, this situation is more like a "mania to open a business" in response to weaknesses in government actions.

These innovations influenced the Chinese economy in the right way: increased efficiency and reduced transaction costs. It is, in whole, improve the life quality of Chinese people (Y. Ling Lo et al. 2019). Some of China's economic researchers suppose the growth is "incentive dependence" (Yuanchun Liu et al. 2015).

Venture capital is a crucial tool for entrepreneurship and innovation. Chinese venture capital expansion has links to the fast-growing Chinese economy and domestic market since the 1990s. China showed unexpected growth of internal funds and venture investment, but there are risks to getting a mixture of American financing and Chinese corruption. Chinese economic activity growth rate and technical potential are much bigger than in the US and OECD countries (Deutch, 2018). This point of view correlates with the opinion about the importance of separate power and harmony through mistakes, experiments, and diversity (Zhang and Zhong, 2016) while others disagree with this fact and look at different institutions through the prism of encouragement and innovations obstacles (Ahlstrom and Wang, 2018).

In April 2017, the China Daily surveyed students on venture capital investments. The result is that about 90% of them wanted to be entrepreneurs. Everybody dreams about startup ideas, and like the fact, it is reflected in educational principles: complete obedience to the leader (senior). Chinese entrepreneurs are more operators than innovators; it is perhaps their main difference from Western more creative colleagues. The government is trying to assess the problems of Chinese entrepreneurship. Taking into account the removal of restrictions on short sales, IPO, foreign investment, and security sales situation does not guarantee a permanent stabilization on the stock market. Venture investment remains very risky, and these measures may lead to a slowdown in their growth.

The author has not considered the scientific cooperation of China with the innovative leaders in this research work, which is a drawback of this article and determines the goals for further study of the Chinese experience in the development of innovative entrepreneurship.

## Conclusion

For more than 20 years, China has been called "the white stork," pushing the world economy forward. The innovative breakthrough and rapid growth of China's economy have become a point of growth for the entire economy of the world. The main reason for the growth since 2014 belongs to venture capital investment and the development of an innovative economy. Such volumes and such rapid growth are unprecedented in history. However, since 2017, there are more opinions that the "white stork" turns into a "black Swan." How to answer the question of whether there is a threat of heating the bubble? According to the author, now we are dealing with the onset of overheating. One can only hope that the measures taken by the Chinese government will help to extinguish the overheating as it did in Y2015.

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## BUSINESS VALUATION: CLASSICAL AND ADVANCED METHODS

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**Abstract.** The topic chosen by the authors implies a qualitative rather than quantitative research approach. The aim of this paper is having assessed the value of a particular company using classical and advanced approaches to analyse the evaluation results obtained using different approaches and give recommendations to company managers. To achieve the aim, the following objectives were set: explore different views on the interpretation of the company as a subject of evaluation; analyse the major methods of assessing the value of companies; having gathered empirical data, assess the value of the particular company using classical and advanced methods; conduct a sensitivity analysis by considering factors that influence the valuation of the company.

In the framework of this research, we used the key methods of assessing the value of company's business, based both on classical approaches, such as income approach and comparative approach (market approach), and on more advanced and less studied methods, such as EVA and ROV.

As a result, the possibility of using advanced methods based on economic added value and real options was demonstrated. The results obtained in the framework of various methods are comparable, and the differences indicate the need for further research in this field.

**Keywords:** *business valuation, company's value, EVA method, real option value.*

**JEL code:** G32

### Introduction

In the modern economy, valuation activities are an important and often mandatory addition to business accounting, analysis of company activities, as well as to all legal transactions with property. Valuation of a company is therefore a highly relevant question.

In the current economic situation, where competition between companies is quite high, the issues of managing the value of companies are becoming especially urgent. Companies seek to develop, and management is increasingly concluding that it is possible to maximize the value of the company, taking into account the interests of all stakeholders. These are all persons related to the company: investors, creditors, suppliers, etc. A generally accepted definition was proposed by Freeman back in 1984 (Freeman, 2010a, b). The interests of stakeholders can be divided based on three groups of capital: financial, intellectual and social. The stakeholder approach means that the main goal of the company is to generate profit not only for owners, but also for other stakeholders. Freeman believes that the theory of stakeholders is inextricably intertwined with the theory of entrepreneurship, since the entrepreneurial spirit itself involves the task of figuring out how to satisfy the needs of customers (Radionova-Girsa et. al., 2019), suppliers, employees, society and financiers, which indicates the common interest of the parties involved. Thus, the issues of determining and monitoring the value of the company are quite relevant and require attention both from practicing business appraisers, and from the part of researchers in valuation theory.

### Literature Review

Analysing scientific papers, the authors stated different views on the interpretation of the company as a subject of evaluation.

On the one hand, a company can be considered as a property complex, and then all property on the books and intended to carry out its production activities is subject to valuation; on the other hand, the company can be considered as a business that represents a certain value for its owners and is also capable of generating some cash income. In their already classical article, Modigliani and Miller (1958) proved that the value of any firm is determined only by its

future earnings, and therefore does not depend on the structure of capital. The authors of the paper believe that there is a difference between business valuation and company valuation, since business is a specific entrepreneurial activity organized within a certain structure, the economic and organizational form of which is the company (Saksonova and Kantāne, 2016). In practice, business evaluation often covers several companies that are owned by a business entity with all of its aggregated rights and obligations, taking into account existing permits and licenses. In his book, Roche (2005) also distinguished two categories: on the one hand, there is an assimilation of the business valuation of firms with the valuation of property of these firms; and, on the other hand, the valuation of “business lines” as a set of property rights, technologies and assets that provide expected with some probability future income is considered. This suggests that there is no single true, well-defined definition of this concept. Individual aspects of the valuation are subject to consideration, which act as the subject of research in various works. After analysing the opinions of various authors, the authors of the paper believe that assessing the value of any object is a process of determining the value of the object in monetary terms for a specific purpose, taking into account real or future income generated by it in a particular market at a certain point in time.

The valuation of companies or facilities is successfully carried out using three traditional groups of methodologies - income, comparative and cost approaches, each of which involves the use of certain methods. These methods have already become classical. In an ideal situation (i.e., in a perfect market), all three approaches should give the same value for the company, but the real situation is that the markets are mostly imperfect, information can be asymmetric, many market factors can be misinterpreted, as a result of which one or another approach can give a valuation that differs from the valuation obtained in other ways. At the same time, there are various approaches to building the information support necessary for analysing the efficiency of the company in the field of sustainable development (Lvova et. al., 2016)., determining its value, which more or less fully reveal aspects of the organization's economic, social and environmental activities, for example, the guidelines of the society of investment professionals in Germany (DVFA, 2010), European academy of business in society (Grayson et. al. 2009), European accountants (FEA) environmental, social and governance indicators in annual reports (Européens, 2011), UNCTAD guidance on corporate responsibility indicators in annual reports (2008).

The most popular, multifaceted from a practical point of view is the income approach, since it can be easily adapted to analyse various factors that can affect market value. In addition, practitioners consider it the most reliable and accurate. Among its shortcomings there are: labour consuming nature of calculations; probabilistic nature in the results; the difficulty of obtaining information for calculations; high risk; subjective evaluation.

The authors suppose that in general, it can be said that the market value of a company is determined by both financial (growth in sales, investment, cost of capital and operational and financial risks) and non-financial factors (human capital, client capital, communications, innovation, corporate governance). In addition, there is an opinion (Jensen, 2002) that dividing stakeholders into groups to further manage their interests will allow the company to more effectively formulate strategic goals and increase value in the long term. Changing the long-term market value of the company is an estimated measure of success (Saksonova and Koļeda, 2017). Much attention is paid to the analysis of the company's value for shareholders, which, in principle, means a situation when the return on capital is greater than its opportunity cost (Fiordelisi and Molyneux, 2010).

Due to the popularity of these problems, a Value Based Management (VBM) approach is developing in companies. This is the approach that is based on measuring the value of the company, which allows you to take into account its future capabilities. Evaluation of the efficiency of company management can be considered an important element in the selection of policies pursued by company managers. Effective management helps to increase the value of the company, which leads to an increase in investor interest in buying shares in the company. The ability to measure the



actual profit of a company together with the unification of the interests of owners, stakeholders and managers is one of the key ways of practical application of VBM approach methods - (Morin ...). At the heart of VBM is management based on an integrated financial indicator - the company value. The development of this approach is not accidental; it is based on traditional DuPont methods and discounted cash flow (DCF). The idea of interpreting a financial indicator as a set of interrelated parameters, each of which has its own set of coefficients, is taken from the DuPont system. While the DCF method makes it possible to take into account both past and future cash earnings and thus shows the risks that are associated with the uncertainty of the activity.

The principal difference between the VBM approach and classical management methods is that the goal is to increase the value of the company, not current profit. It is possible to highlight the key weaknesses of the classical approaches in terms of the concept of cost management:

- It is focused not on the future, but on the past;
- It is impossible to evaluate the sustainability of financial results;
- It does not show what is happening with the value of the company.

The VBM approach refers to advanced financial management. By the importance of financial indicators, it is possible to distinguish two groups of methods, which, in contrast to traditional classical ones, are considered more advanced. Financial prominence is characteristic of such methods as Economic Value Added (EVA), Shareholder Value Added (SVA), Cash Flow Based Return on Investment (CFROI), Cash Flow Value Added (CVA), Real Option Value (ROV) and some others. However, in some works it is noted that the recommendations of analysts proceed approximately 30% from non-financial criteria as well - taking into account the quality of management and its ability to implement the strategy chosen (Saksonova, Solovjova, 2012).

There is a lot of empirical research on the effectiveness of value-based management. Firk et. al.(2016) use the data on 4288 company-years of companies from the MSCI Europe Index and the S&P 500 Index between 2005 and 2010 and find that value based management does lead to higher company performance defined as residual income after subtracting the cost of capital. Furthermore, the positive effect of VBM is amplified by external factors such as financially oriented ownership and national shareholder focusing. Another approach for studying the effect of VBM on companies has been proposed by Knauer et. al. (2018), who considered mergers and acquisitions between companies practicing VBM and companies that did not. Using a sample of 235 acquisition and divestment announcements of listed German companies between 2003 and 2012, they showed that market reactions to acquisition announcements are more positive for companies that have implemented VB metrics. On the other hand, Firk et. al. (2019) objected the binary division of companies in adopters and non-adopters and instead developed a measure of the extent of VBM implementation (VBM sophistication) showing that it increases if certain company characteristics that increase the benefits of VBM are present.<sup>1</sup>

Thus, we can distinguish classical and advanced approaches to company valuation. Consider the theoretical foundations of the practice of applying these approaches in more detail.

It is important to emphasize that accounting and management practices so far did not identify a single preferred approach to company valuation. Pinto et. al. (2019) report the results of a scientific survey of the equity valuation practices of CFA Institute members with equity analysis job responsibilities showing the extent to which different practices are used.

### **Advanced Company Valuation Methods**

#### **Economic Value Added - EVA**

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<sup>1</sup> See also Ryan and Trahan (2007), Rapp et. al. (2011). Malmi, and Ikäheimo, (2003) provided some early evidence on how VBM practices were actually applied in real companies.

Back in 1982, American analysts J. Stern and B. Stewart developed the method, which has been successfully applied since then in various countries (Stern et. al. 1995). We can say that this particular method is the most popular in the field of company analysis based on economic profit.

When calculating this indicator, special attention is paid to adjustments to book profit and invested capital. This is necessary in order to translate book profit into cash flow, on the basis of which investors make decisions, and also take into account the so-called “equity equivalents”, which allow the book value of invested capital to approach the market value. Most adjustments relate to what EVA developers call “equity equivalents.” These are research and development costs, reserves, deferred taxes and goodwill, or debt equivalents - leasing.

If the EVA value is zero, then this indicates the achievement, acceptability of maintaining such a business on the market, as this means that investors actually receive a return that compensates them for the risk of investments. A negative EVA indicates inefficient use of capital. Permanent operation with the negative EVA is impossible, since owners will seek to withdraw capital from such a company or change the business model, and in the worst case, the business idea itself.

If EVA is positive, then investors' evaluation of expected economic returns over the forecast horizon can be considered favourable.

The major disadvantages of this concept can be considered that:

- Differences in the sizes of the studied companies are not taken into account;
- It is based on accounting indicators;
- It does not reflect the causes of possible problems in the company activities.

In an extensive review of literature, Sharma and Kumar (2010) document several claims made in support of economic value added methodology, which can be separated in two groups: (i) claims that EVA improves internal decision-making and (ii) claims that it is helpful in improving or explaining stock returns.<sup>1</sup> Thus, for example, Shah et. al. (2014) argue that EVA enables managers to take decisions that enhance shareholder value. Agrawal et. al. (2019) study a panel data of 1,700 Indian companies using a mixed effects model and conclude that EVA does explain the annual stock returns of these Indian companies better than traditional accounting-based profitability metrics such as return on assets and return on equity.<sup>2</sup> On the other hand Kim (2006), find that EVA makes only a marginal contribution in explaining equity market value of hospitality companies beyond earnings and cash flow.

#### **Cash Value Added - CVA**

The Cash Value Added method was developed in 1996 by Swedish financial advisers E. Ottoson and F. Weissenrieder. This approach is the difference between the company's net cash flow and costs equal to the cost of foreign capital. This indicator can be considered an analogue of Economic Value Added, but it is based on the use of cash flow from operating profit.

This method allows you to determine four key variables: operating cash flow, cost of capital, investment, and economic life of investment. A positive CVA indicates that the company is experiencing an increase in value. A negative CVA, on the contrary, indicates that the cash flow is insufficient to cover the amount of cash flow that is required to reimburse strategic investment. The company value is calculated by analogy with the EVA method.

#### **Created Shareholder Value - CSV**

This method allows you to evaluate the company value from the perspective of investor expectations. The Created Shareholder Value (CSV) method was proposed by Pablo Fernandez in 2006. This method is based on economic profit,

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<sup>1</sup> See also Biddle et. al. (1999) for an overview of the validity of claims on the advantages of EVA.

<sup>2</sup> See also Lovata and Costigan (2002) for an empirical analysis of what firms are more likely to adopt the EVA framework.

because the main criterion for evaluating the result is the rate of return required for investment risk. However, this method allows you to compare the results with the market capitalization of the company's equity.

The calculation of CSV is conducted in two stages:

- 1) Calculation of the Shareholder Value Added (SVA). SVA shows the relationship between investor expectations and the company's stock market rate.
- 2) Calculation of the indicator of total Shareholder Return (SR). This indicator takes into account all the incomes from the company to shareholders.

Thus, as a result, the total Shareholder Return is compared with the cost of equity. Accordingly, the creation of company value occurs only if the Shareholder Return is greater than the cost of equity. The company value is calculated by analogy with the EVA method.

Created Shareholder Value can be related to Economic Value Added. For example, El Mir and Seboui (2008) have shown that governance characteristics are important in explaining the differences between the results provided by CSV and EVA and that board independence, the auditors' expertise and reputation, the ownership structure and the stock-options contribute significantly in explaining these differences.

### **Cash Flow Return on Investment - CFROI**

Cash Flow Return on Investment allows you to determine the rate of value creation, regardless of the size of the company and industry. This indicator is based on the internal rate of return. The CFROI method uses a life-cycle approach to evaluate the discount rate, and therefore includes the company's competitive position and prospects for future investment. The advantage of this method is that it allows you to determine the future value of the business, since it reflects the value of money over time, takes into account the impact of inflation, eliminates distortions in financial statements, and thereby maintains the comparability of companies. The disadvantage of this method can be considered a complex calculation, as well as a high probability of large fluctuations between the projected and real cash flows (Hyránek E. et al, 2016).

Cash Flow Return on Investment is the internal rate of return on the investment, expressed as a percentage of the gross cash flow for the analysed period, net of depreciation and total gross investment for the same period. (Baltes and Vasiu, 2016). The Cash Flow Return on Investment method developed by Holt Associates is used in financial strategic consulting. Two distinctive features of this method can be distinguished:

- 1) It allows you to evaluate the activities of the company by cash flows, and not on the basis of indicators of accrued profits;
- 2) It takes into account the investment nature of cash flows, as well as the discounting process.

The method is based on three cash flows of a company:

- 1) GCI - gross cash investment, which reflects the invested capital of the company. It is worth noting that depreciation calculated over the years of operating the assets is included in this cash flow (added to its residual value), and inflation fluctuation is also excluded. A distinctive feature of the method is that the reputation of the company, goodwill, is taken into account in this cash flow.
- 2) OCFAT - operating cash flow after tax, which reflects the results from the implementation of a corporate strategy. It is based on net profit which is subsequently adjusted according to the principles of analysis of the strategic nature of the company's resources.
- 3) TCF - terminal cash flow, which arises from non-depreciable assets. These assets are liquidated after the expiration of the economic life of the invested capital, which is based on a period of smoothing capital returns.

The economic life of invested capital is a method variable that affects the length of receipt of operating cash flows. It depends on the life cycle, size and industry specifics of the company. When moving along the life cycle, the

company's profitability stabilizes, tends to some average value, although different types of companies have different smoothing rates. Companies at the beginning of their life cycles are characterized by growing CFROI, which are gradually stabilizing. Increasing capital and increasing the size of the company enables to reduce the CFROI value. However, the higher the pace of innovation, the easier it is to achieve high CFROIs.

In the future, CFROI values can be used to build predictive estimates of company's cash flows. For this, it is necessary to collect statistical data on the CFROI behaviour (for example, growth or decline) in combination with the expected growth and other parameters throughout the economic life cycle of the company. Further down the line, the DCF method can be applied.

A distinctive feature of this method is that it allows you to evaluate the indicator of economic profit, which reflects the real change in the company value (rather than nominal). In addition, it allows you to evaluate the profitability spread, that is, how much the profitability from implementing the corporate strategy in real terms exceeds (or vice versa) the required risk return.

If a company seeks to increase value, it is necessary to increase the spread. However, excessively strong growth (growth surplus), as empirical observations show, on average leads to a decrease in cash flow returns and, as a result, negatively affects the company value. If the company has a capital base that is growing balanced, and a high CFROI value, then we can talk about the high potential for creating company value.

#### **Real Option Value - ROV**

Of particular interest is the Real Option Value method in business valuation, which is one of the least developed methods for valuating property from the group of methods of the income approach to valuing business. Its peculiarity is that it involves accounting for the component in the value of the business, formed by the managerial flexibility of the company, which cannot be correctly taken into account when evaluating the business in the framework of other methods of the income approach.

The value of the business, in accordance with the Real Option Value method, is the sum of two components: the value excluding real options, valued by the classical method of discounted cash flows, and the value of real options of the valuated company (Myers, 1977). Such approaches have been especially well suited to valuation of resource extracting companies (e.g. metal mining, see Savolainen (2016) for a comprehensive literature review).

The Real Option Value method assumes that the asset has the following specific characteristics (Damodaran, A., 2012):

- The value of the asset is the derivative of the value of other assets.
- Cash flows generated by this asset are determined by certain events.

Such assets are called options, while the discounted value of the expected cash flows for such assets underestimates their true value, which is a characteristic feature of many venture and innovative projects, due to the difficulty in prospecting cash flows.

An option is a financial instrument that gives the holder the right to buy (call options) or sell (put options) the underlying asset in a certain amount at a fixed price. For this option right, the option buyer pays a certain price.

Thus, we can say that the option is a transaction that is drawn up by a contract of purchase and sale (delivery) of an asset, including a financial one. In accordance with this contract, the buyer of the option gains the right to demand from the seller the supply (or acquisition) in the future of a certain amount and quality of the agreed underlying asset at the price agreed upon by the parties at the time of the transaction, with payment of a certain amount of money (premiums) for the acquisition of this right.

Regardless of the type of option, its basic mechanism is unchanged and lies in the fact that the owner of the option will execute the contract only if it brings profit<sup>1</sup>.

The key features of real options can be distinguished:

1. The real option is associated with the uncertainty of any indicator of the company's activity (the value of the indicator is unknown at the date of valuation);
2. For the existence of the real option, it is necessary to have a managerial decision that is associated with a change in the model of the company's activity, based on information obtained after the resolving of the uncertainty;
3. The existence of the real option is based on the existence of the possibility of obtaining benefits by the company (option on the asset side) or by the counterparty (option on the liability side);
4. The real option is based on the assumption that the management makes the best rational decision from the standpoint of achieving the strategic goals of the company (usually - increasing the value of the business);
5. When the uncertainty that underlies the real option is resolved (this will happen at a certain moment), the information will become objectively true, accessible and sufficient to make an administrative decision on its basis at a certain point in time;
6. Making the managerial decision after resolving the uncertainty is controlled by the management or owner of the company being evaluated.

Thus, the analysis of the nature of real options in evaluating a business allows us to say that every real option is associated with three concepts: uncertainty affecting the company's activities; managerial decision made with a favourable resolution of this uncertainty; and the added value of the business, arising from this management decision.

Leiblein et. al. (2017) argue that real options approach can also be related to the sources of competitive advantage in that competitive advantage may emerge because companies differ in their ability to integrate new information to exercise a contingent claim on an asset in a factor market.

The Real Option Value method refers to the methods of the income approach, since it is associated with determining the additional value of the business, which is based on the likely receipt of income in the future. However, labour consuming nature is one of the reasons for refusing to use this method in value valuating.

## Research results

### Comparative analysis of business valuation methods

The authors considered various methods for company valuation, both classical approaches and advanced. In business valuation practice, classical approaches are widely used, while the use of advanced methods is only gaining popularity. The authors conducted a comparative analysis of advanced approaches in order to determine which approaches are best used in which cases. The following criteria were chosen as the comparison criteria: calculation basis, advantages, disadvantages and labour input. The comparison results are presented in Table 1 below.

Table 1

**Comparison of advanced approaches to company valuation**

Criterion	EVA	CVA	CSV	CFROI	ROV
Calculation basis	Adjusted book profit, equity equivalents are also taken into account	Operating cash flow, capital expenditures, investment, economic life of investment	Total return on equity of shareholders, costs of equity	Company cash flows, economic life of assets	Cash flow, cost of debt

<sup>1</sup> Rykova, I.N. Options and types of option strategies in the financial market / I.N. Rykova // *Finance and Credit*. — 2009. — № 40 (376). — pp. 2-14.

Advantages	It allows you to determine the company value, evaluate the efficiency of individual departments of the company; it is an indicator of the quality of management decisions; it serves as a tool to determine the rate of return on capital (ROC), highlighting part of the cash flow earned from investment	Results of the method are independent of accounting policies and accounting standards adopted by the company	It reflects the interests of shareholders; allows you to compare the results with the market capitalization of company's equity	It allows you to determine the future value of the business, since it reflects the value of money over time, takes into account the impact of inflation, eliminates distortions in financial statements, and thereby maintains the comparability of companies	Ability to take into account the rapidly changing economic conditions in which the company operates
Disadvantages	A large number of adjustments; it does not take into account differences in the size of the studied companies; it is based on accounting indicators; it does not reflect the causes of possible problems in the company	The need to use specific adjustments if the expected cash incomes are uneven	The labour consuming method; lack of practical work using this method	Complicated calculation, as well as a high probability of large fluctuations between forecasted and real cash flows	It is not applicable if there is no uncertainty factor; low prevalence of the method and its labour consuming nature; difficulty in determining input parameters
Labour input	Average degree of complexity of the calculation; adjustments complicate the method	Average degree of complexity of the calculation; adjustments complicate the method	High degree of complexity of the calculation; labour consuming	High degree of complexity of the calculation; labour consuming	High degree of complexity of the calculation; labour consuming

Source: Compiled by authors based on the analysis of methods under consideration

As part of the research, the authors analysed the value of a particular company from the pulp and paper industry using classical approaches, as well as advanced methods such as EVA and ROV. Despite the fact that these methods are quite labour consuming, they allow you to get a fairly accurate result, and also use various prerequisites, which make the final comparison of the results quite interesting.

#### **Industry Profile and valuation of JSC Group X using traditional and advanced methods**

The pulp and paper industry is one of the strategically important sectors for the development of the economy of any country. In this industry is used expensive and technologically sophisticated equipment, which makes it possible to produce products with a higher added value, in comparison with simple woodworking and furniture production. This industry is fascinating for investors. Several investment projects are being implemented, and new ones are planned in this sector. Also, new products appear; the sales market for the valued enterprise is expanding. Thus, to a greater extent, development is due to product differentiation and mergers and acquisitions (Saksonova and Kantāne, 2016), which suggests that this industry is in the third stage of its life cycle - maturity.



The company produces general-purpose products. First of all, these are various technical and decorative types of paper and cardboard, stationery, sanitary-hygienic and household goods, cellulose. Various types of cellulose is used in almost all industries. Soluble cellulose is used to produce viscose, which is then used in the textile industry. The innovative uses of cellulose are the production of carbon fiber, layered biodegradable plastic, nanocellulose.

Currently, there is a decrease in the production of bleached pulp, primarily in the developed forest states - the USA, Canada, Sweden, Finland and Russia, and an increase in the production of these products in East and Southeast Asia, which confirms the thesis about the change in the centers of production and consumption. We can say that pulp capacities are transported closer to consumers in Asian regions. Despite this, the market of pulp and paper products is growing in the developed forest states; large-scale investments are required for this; these investments are provided by large shareholders. So, for example, in the studied company JSC "Group "X" two large investment projects have been completed: the construction of new and modernization of existing facilities at the plants of the group, the amount of financing was about 2 euros.

In these conditions, the valuation of the company becomes particularly relevant for assessing the dynamics of the company, and for making strategic decisions. Moreover, the use of advanced methods, for example, such as EVA and ROV, allows you to determine the market value of a company by assessing the property complex of the company, i.e. the total capital invested in the company - both equity and borrowed capital (EVA), or as the value of a real option on the exclusive right to further invest in fixed and circulating capital of the company in order to turn its business into a highly profitable (ROV).

JSC Group X was valued using both traditional (income and comparative) and advanced methods (EVA, ROV). Summary results are presented in Table 2.

Table 2

**Company valuation results, mln. EUR**

<b>Income</b>	2 883,38
<b>Comparative</b>	3 780,57
<b>EVA</b>	3 002,29
<b>ROV</b>	2 514,10

*Source: Authors' calculations based on company financial statements and statistical information*

As can be seen in Table 2, the valuation of the cost of equity on the basis of different approaches gave generally comparable results. The approach based on the real options method gave a result of about 15% lower than other approaches, with the exception of the comparative one. According to the authors, this is due to the fact that these approaches belong to one group of methods based on cash flow. The comparative approach gave a somewhat overestimated result — about 30% higher than the income approach. It reflects the current market situation. According to the authors, this is due to the fact that many other companies have a slightly different product structure, as well as more innovative types of products (Dunška et. al., 2018) , such as viscose pulp and eucalyptus. However, each of the methods allows you to evaluate the company using different prerequisites, which means that it is advisable to use an integrated approach to fully understand the value of the company, i.e. all of the methods used.

**Conclusions, proposals, recommendations**

- VBM (Value Based Management) approach. The approach based on measuring the value of the company allows you to take into account the future capabilities of the company. Effective management drives up the company value, which increases investor interest in buying shares in the company. In the foundation of the VBM approach is management based on an integrated financial indicator - the company value.

- The methods used for valuing companies in practice can be divided into classical (traditional, that is, officially used in valuation activities) and advanced approaches, which are used as supplementary approaches in valuating of companies, as well as in making managerial decisions.
- The essence of the traditional income approach to business valuation is to determine the value of the company based on the income that it is able to bring to its owner (s) in the future, including proceeds from the sale of property that is not needed to generate these incomes. The valuation of JSC Group X using this approach resulted in the business value of 2,883.38 mln. EUR. In the process of valuation of the company with the income approach, a financial model of cash flows is created that can serve as the basis for making informed managerial decisions, optimizing costs, analysing the possibilities of increasing project capacities and diversifying the volume of products manufactured. This method will be useful after the valuation as well.
- The traditional comparative approach reflects the market value of the company. It is based on a comparison of the company - the object of valuation with peer companies that are selected according to various criteria, using multipliers. In the framework of this approach, the analysis was conducted on the basis of 29 similar companies to obtain the average market values of multipliers. The valuation JSC Group X using this approach gave the result of a business value of 3,780.57 mln. EUR. This result is comparable to other approaches used in this work, despite the fact that this is the only approach used based on market value.
- The authors valued the company using the advanced approach - the EVA method, which is aimed at evaluating the property complex of the company; in other words, at evaluating the total capital invested in the company (both equity of the company and shareholders, and borrowed capital). The valuation of JSC Group X using this approach gave the result of a business value of 3,002.29 mln. EUR. During the whole forecast and post-forecast periods, EVA was positive, which indicates an increase in market value, and hence the profitability of investments in this company. Using this approach, the authors analysed the structure of the sources of financial resources of the company and the price of the sources. The analysis showed that these factors have a great impact on the EVA indicator. Economic Value Added allows you to determine the type of financing and the amount of capital needed to achieve the required amount of profit.
- When using the Real Option Value (ROV) method, the market value of the company (its equity or 100% of ordinary shares) can be understood as the value of a real option on the exclusive right to further invest in fixed and working capital of the company in order to turn its business into a highly profitable one. This can be achieved, for example, by reconstructing a company with the introduction of new technologies that will allow it to produce better products at relatively low competitive prices. The valuation of JSC Group X using the Real Option Value method gave a result of a business value of 2,514.10 mln. EUR. From the analysis of the Black-Scholes formula, it follows that the price of the real option is higher if: the present value of cash flows is higher; the book value of borrowed capital is lower; there is more time before the expiration of the debt repayment period; the risk is higher (i.e. standard deviation of asset value). Therefore, by analysing these indicators and their ratio, analysts and managers can adjust the management decisions made to achieve the desired result of the company's value. The application of the method is complicated by the fact that it uses many parameters that are evaluative in nature. Also, when applying this method, it may be difficult to obtain reliable source data necessary for the calculation (for example, dispersions).
- The authors performed the sensitivity analysis, which allowed us to assess how stable the result of the valuation of JSC Group X obtained on the basis of the income approach is against changes in key parameters: revenue, discount rate and currency rate. The analysis showed that the discount rate has the greatest impact on the valuation result - if the discount rate is reduced by 10%, the valuation result will increase by 18%.

- In the framework of the research, the authors determined that using different approaches gives different, but comparable results. The authors recommend that company managers use the methods in complex, which will allow managers to more accurately develop the most appropriate ways to maximize the company value in the current conditions, increasing the efficiency of the company.

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## ASSESSMENT OF THE ECONOMIC DEVELOPMENT OF LATVIA AND UKRAINE

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*Antonina Broyaka, Vinnytsia National Agrarian University*

**Abstract.** The global financial crisis and the ensuing global recession not only adversely affected global growth and poverty, but also presented constraints and challenges to public policy. Even though the world economy is slowly returning to growth, the recovery was difficult and lasted for almost 10 years. Preparing for the future requires an assessment of the consequences of the crisis and future challenges. Since 2010 economic growth in Latvia has been one of the fastest in the EU (from 2011-2018, GDP, on average, increased by 3.5% annually), however in 2019 economic growth has moderated. Growth opportunities are limited both by the uncertainty in the external environment (“trade wars” on the global economy, the outcome of Brexit, slower growth in EU countries, etc.), and the existing economic structure, which also negatively affects the competitiveness of Latvian producers. In the competitiveness rankings regularly published by the World Economic Forum (WEF), Latvia lags far behind other new EU member states, incl. other Baltic States.

The economy of Ukraine currently is in very difficult environment: carrying out the Anti-terrorism activity in the eastern part, occupation of Crimea, the uncertainty in the system of political processes, the economic instability and other factors slow down its development. The deepening of the political and economic crisis in Ukraine, on the one hand, and transformational processes towards expanding European integration, on the other hand, daily create new challenges that domestic economic entities have not encountered before, and which are difficult to predict.

The aim of the research is to carry out a comprehensive assessment of the dynamics of macroeconomic indicators of the social and economic development of the national economies of Latvia and Ukraine over the past 10 years (from 2010 to 2019) and identify the factors influencing it, to improve the forecasting of further trends and the planning of anti-crisis measures.

As a result of the study, possible directions of economic policy were identified to improve the economic structure of Latvia and Ukraine in order to promote their sustainable development and competitiveness in the world market.

**Keywords:** *economics development, GDP growth, competitiveness, Latvia, Ukraine.*

**JEL code:** E60, O10, O11, O50

### Introduction

The country's economy is one of the most important components of displaying the living standards, and its development creates favourable socio-economic conditions for the life of the population. The implementation of strategic plans for socio-economic development of the country and forecasting the expected results first requires a thorough study of the dynamics of the main macroeconomic indicators, identifying trends in the functioning of the economic system and destabilizing factors inhibiting the development of the national economy. Unfavourable political and economic conditions in Ukraine (slow economic dynamics, long military conflict, significant debt obligations, low investment attractiveness, distrust in government, high level of corruption, negative assessments of world rating agencies regarding the development prospects of the Ukrainian economy), significantly influenced the production and economic activities of the residents.

Transformation processes and Ukraine's accession to the WTO have led to an increase in the openness of the national economy, an intensification of international competition influence, changes in demand and supply in the domestic commodities markets, increased vulnerability to the effects of crisis phenomena not only of the entities of foreign economic activity, but also of each enterprise. In addition, the European orientation of Ukraine requires adaptation not only the legislative framework, but also of strategic goals for the development of the Ukrainian economy, financial, fiscal and budget policies. Therefore, the experience of Latvia, which in the past, like Ukraine

was part of the USSR, and now is a full member of the EU, is useful and interesting for Ukraine, seeking to obtain a similar status.

The research problem is to assess the competitive advantages of Latvia and Ukraine by revealing the strengths and weaknesses of both countries.

The aim of the study is to carry out a comprehensive assessment of the dynamics of macroeconomic indicators of the social and economic development of the national economies of Latvia and Ukraine over the past 10 years (2010-2019) and to identify the factors influencing it, in order to improve the forecasting of further trends and the planning of anti-crisis measures. To achieve the aim of the research the following tasks were determined: analyse the main macroeconomics indicators of countries, choose the competitiveness of Latvia and Ukraine, their strengths and weaknesses based on The Global Competitiveness Index-2019 (GCI) Rankings, to identify the following aspects that limit the possibilities for development of Latvia and Ukraine and to make recommendations for the improvement of the economic structure of both countries.

The methodological and information base for the study is represented by research papers, periodicals materials, legislative acts, official statistical publications, departmental materials, and online resources.

In analyses there are used different qualitative and quantitative analysis methods, such as scientific literature and empirical research analysis, modelling tables, charts and schemes, calculations of average and relative values, grouping, comparisons and other.

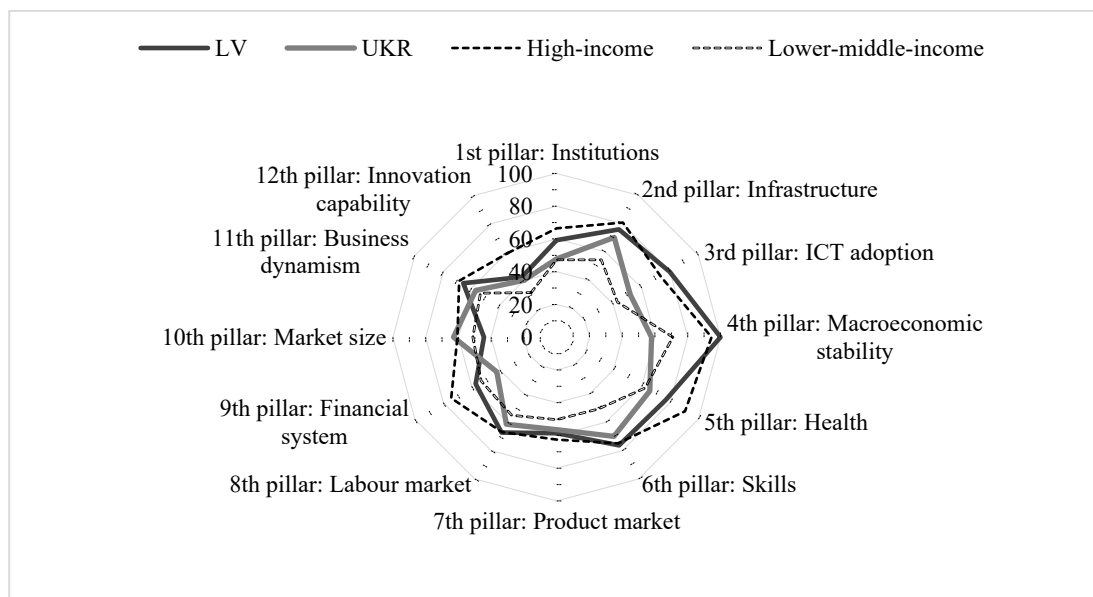
### **Research results and discussion**

The economy of Ukraine is a relative small (a share in world GDP is only 0.29%) and commodity-dependent economy (a significant part of the Ukrainian GDP is the export of resources and commodities with low added value). The deindustrialization (reduction of output and employment in the industrial sector, the degradation of the technological, production and organizational structure of industry) that the country has gone through over the past 27 years and the lack of a state strategy for new industrialization leave it in the status of a commodity-dependent economy with cheap labor and low quality of life (the share of the IT industry and innovation sectors in its GDP is still very low). Despite the fact that Ukraine is one of the largest countries in the centre of Europe in terms of occupied territory and population, its domestic market is poorly developed due to low solvent demand of the population.

Over the past almost five years, the Ukrainian economy has been in a state of deep systemic crisis, which has led to a slump in the standard of living, a mass outflow of Ukrainian citizens to other countries, an exacerbation of the socio-demographic crisis and the risks of socio-political upheaval and increased threats to the integrity and sovereignty of the state.

An integral indicator of the state of the entire Ukrainian economic system is its low Global Competitiveness rating and its impressively low index components (Table 1). According to GCI-2019 Rankings (WEF, 2019), Ukraine ranks 83rd, while Latvia is 41st among 141 countries (see Figure 1).





Source: author's construction based on GCI Report 2019

Fig. 1. The GCI Score of Latvia and Ukraine

The components of this index indicate that Ukraine has significant institutional problems, an unstable macroeconomic environment, insufficient development of the financial market, and others. However, the most important advantage of Latvia's competitiveness in the GCI rating is macroeconomic stability. At the same time, there are a number of common problems for Ukraine and Latvia, in particular of an institutional nature: social capital, government ensuring policy stability, efficiency of legal framework in challenging regulation; infrastructure problems such as quality of roads; imperfection of the tax system; problems of the efficiency of the labour market functioning and labour migration; complexity of innovation transfer and some others (See Table 1).

Table 1

The Global Competitiveness Index of Latvia and Ukraine in some detail in 2019

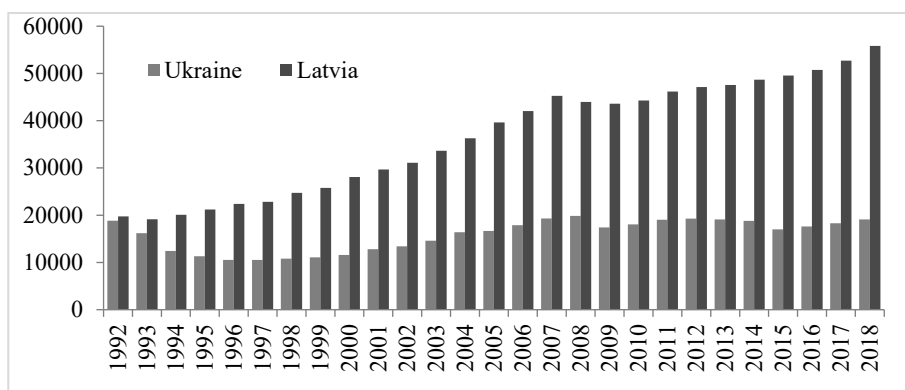
Index Components	Latvia	Ukraine	Index Components	Latvia	Ukraine
<b>Institutions</b>	<b>47</b>	<b>104</b>	<b>Labour market</b>	<b>28</b>	<b>59</b>
Organized crime	38	110	Flexibility of wage determination	10	110
Terrorism incidence	42	132	Ease of hiring foreign labour	113	65
Social capital	112	118	Workers' rights	26	93
Judicial independence	74	105	Labour tax rate %	114	124
Incidence of corruption	39	104	<b>Financial system</b>	<b>85</b>	<b>136</b>
Property rights	52	128	Financing of SME	55	112
Strength of auditing and accounting standards	59	118	Market capitalization % GDP	111	112
Government ensuring policy stability	96	115	Soundness of banks	74	131
Efficiency of legal framework in challenging regulations	86	88	Non-performing loans (% of gross total loans)	78	139
<b>Infrastructure</b>	<b>43</b>	<b>78</b>	Credit gap %	134	1
Quality of road infrastructure	95	114	Banks' regulatory capital ratio (% of total risk-weighted assets)	31	120
Efficiency of air transport services	15	101	<b>Market size</b>	<b>95</b>	<b>47</b>
Efficiency of seaport services	34	78	Gross domestic product (PPP \$ billions)	97	48
<b>Macroeconomic stability</b>	<b>1</b>	<b>133</b>	Imports of goods and services (% GDP)	29	44
Inflation %	1	131	<b>Business dynamism</b>	<b>40</b>	<b>85</b>
Debt dynamics	1	114	Insolvency recovery rate (cents to the dollar)	57	129
<b>Product market</b>	<b>47</b>	<b>57</b>	Growth of innovative companies	48	109

Distortive effect of taxes and subsidies on competition	50	104	Companies embracing disruptive ideas	47	102
Extent of market dominance	46	89	<b>Innovation capability</b>	<b>54</b>	<b>60</b>
Prevalence of non-tariff barriers	19	91	Diversity of workforce	102	<b>59</b>
Complexity of tariffs	113	66	State of cluster development	<b>60</b>	<b>96</b>

Source: author's construction based on GCI Report 2019

Although Latvia's positions in the GCI rating have improved, in recent years the cost competitiveness indicators have declined. Labour costs increase at a higher rate than productivity, real effective exchange rate (REER) appreciates, and only a moderate rise has been observed in Latvia's export market share in world exports. Pressure of rapidly rising costs increases the risk of weakening competitiveness and remains a serious threat to sustainable economic growth. To maintain competitiveness in the long-term, Latvia and Ukraine must improve its productivity. Productivity has an impact on business competitiveness and is a key driver of economic growth and welfare of people. Over time, the country's capacity to improve living is almost entirely dependent on its ability to mobilise available resources and increase output per employee, so only increasing productivity can increase the welfare of people and maintain high standards of living in long term. Productivity allows country to sustain high level of salaries, stable and strong national currency and high level of capital return and by them high level of life standards (Jekabsone S., Skribane I, 2019).

Although Latvia and Ukraine differ by size, population, geographical location, and the availability of natural resources, countries also share many similarities. In the early 1990s, both countries regained their independence and embarked on ambitious reforms towards the development of a market-based economy. In the early years of transition, productivity levels in Latvia and Ukraine were essentially the same (see Figure 2).

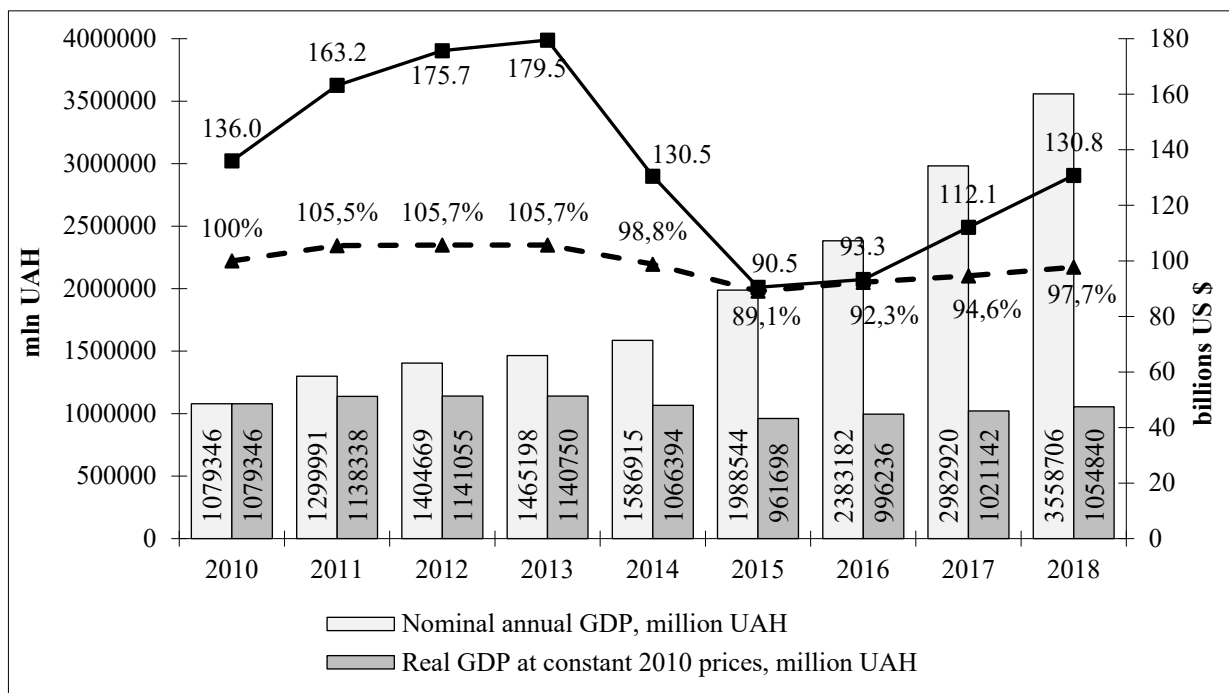


Source: author's construction based on World Bank databases

Fig. 2. GDP per person employed (constant 2011 PPP \$)

According to the World Bank data, GDP (PPP \$) per person employed in 1992 in Latvia and Ukraine was 19.7 thousand and 18.8 thousand dollars (only by 5% lower), respectively. However, in the following years, productivity dynamics in Latvia were much more rapid than in Ukraine. In 2018, productivity in Latvia was almost three times the level of Ukraine. Thus, income level and living standards within the countries were affected accordingly.

Thus, according to the State Statistics Service of Ukraine, the nominal GDP in 2018 amounted to 3558706 mln UAH, which is 19.3% more than the previous year, and 229.7% more compared to 2010 (see Figure 3).



Source: author's construction based on the data of the State Statistics Service of Ukraine

Fig. 3. Dynamics of the nominal and real GDP of Ukraine in 2010-2018

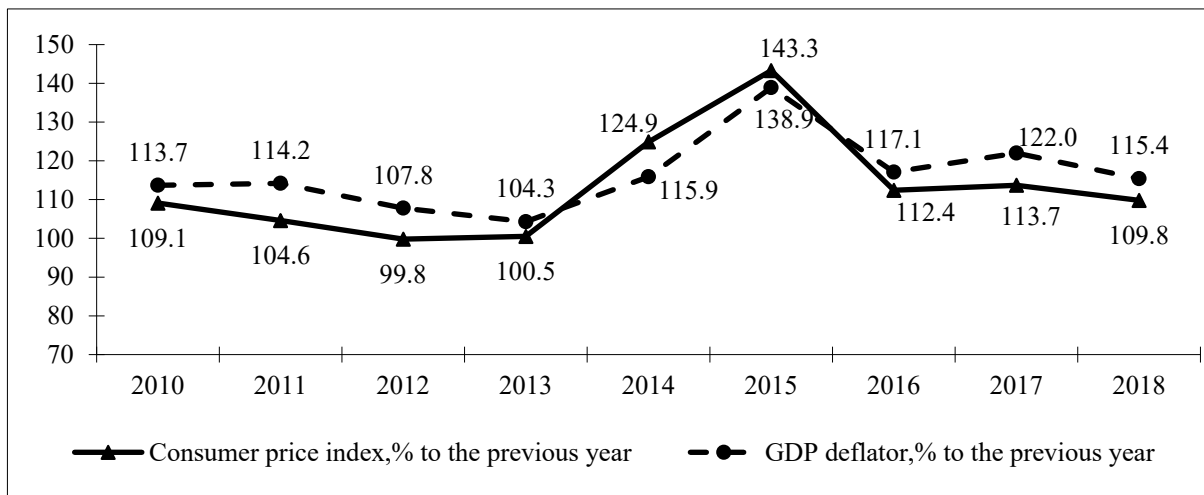
However, this growth is not evidence of the socio-economic recovery of the national economy, but rather confirms the protracted recession and stagflation. Comparing the real GDP in 2018 in prices of 2010 directly to the actual GDP in 2010, we note that it even decreased by 2.3%. The reason was the involvement of Ukraine in the geopolitical conflict, which in turn led to the destruction of the established ties, the structure of the country's economy and the principles of building production relations and income distribution.

The years 2014-2015 were particularly difficult, characterized by the deployment of a military-political conflict with Russia, the loss of production capacities, intersectoral and logistic relations in the interregional and foreign economic space, limited access to energy raw materials, the devaluation of the national currency, and the growth of investment risks. In 2014, the economy entered into a state of stagflation crisis (an annual decline in GDP of 6.6% was observed, combined with an inflation rising to 24.9% at the end of the year). Due to a number of incorrect actions by the economic, financial and monetary authorities, the stagflation crisis sharply worsened in 2015: GDP fell to its lowest level, inflation reached a galloping level (60.9%) in April 2015, and at the end of the year it amounted to 43.3%. The national currency devalued more than threefold. According to research Ukrainian economy development conducted by the Razumkov Center, stabilization of the economic situation is forecasted in 2021. Real GDP is expected to grow by only 0.5% in 2019, by 1% in 2020, and by 2.9% in 2021. At the same time, the inflation rate in 2019 is projected at 10.7%, in 2020 - at 8.3%, and in 2021 - at 7.4% (Yurchyshyn V., 2018).

The level of inflation is determined by price indices, in particular the consumer price index, which reveals a change in the value of a fixed consumer set of goods and services in the current period relative to the previous one. An analysis of its dynamics over the last decade indicates that, after the global financial and economic crisis of 2008-2009, its gradual decline to 98.8% in 2012 was observed. Unfortunately, the crisis of 2008-2009 practically destroyed the investment and purchasing power of Ukraine, and the country entered the crisis of 2013-2014 in an extremely weakened state, having no enough time to restore it. The years 2014-2015 are characterized by a slump in GDP, especially in dollar terms, a rapid increase in prices and a decline in the standard of living of the population.

2016 was distinguished by gradual signs of overcoming the negative consequences of the crisis. The growth of real GDP compared to the previous year was 2.3%, which was achieved due to the revival of domestic investment and

consumer demand. The recovery in economic activity was also reflected in the growth of real average monthly wages by 9% and the increase in the volume of households' final consumer spending by 2.1% (at constant 2010 prices). During 2018, a positive trend in the growth of the physical volume of GDP retained (it increased by 3.3% compared to 2017) and the inflationary pressure weakening (inflation index decreased by 3.9%). Despite another increase in real wages (its growth rate in 2018 was 12.5% compared to 2017), inflation is restrained due to the still low purchasing power of the population and the unsatisfactory financial condition of domestic enterprises (see Figure 4).

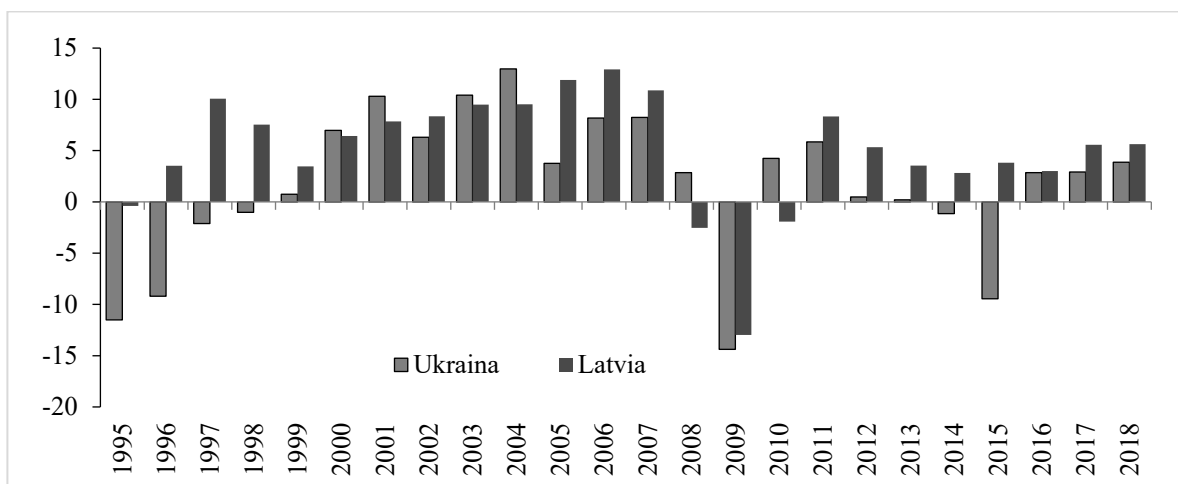


Source: author's construction based on the data of the State Statistics Service of Ukraine

Fig. 4. The dynamics of fluctuations in the price indices in Ukraine in 2010-2018

For comparison, the inflation rate in Latvia in 2018 was 2.6%, which is 0.3% less than in 2017. The highest inflation rate in Latvia was observed in 2008 during the global financial crisis reaching 15.3%. Subsequently, the situation stabilized and in 2010 there was a deflation of -1.2%.

GDP per capita is one of the most accurate ways of assessing the economic development of a country, and also allows comparisons of economies of different magnitudes. Between 2000-2013, relatively similar trends in GDP per capita changes can be observed in Latvia and Ukraine. Both countries suffered severe losses during the global financial crisis. (see Figure 5).



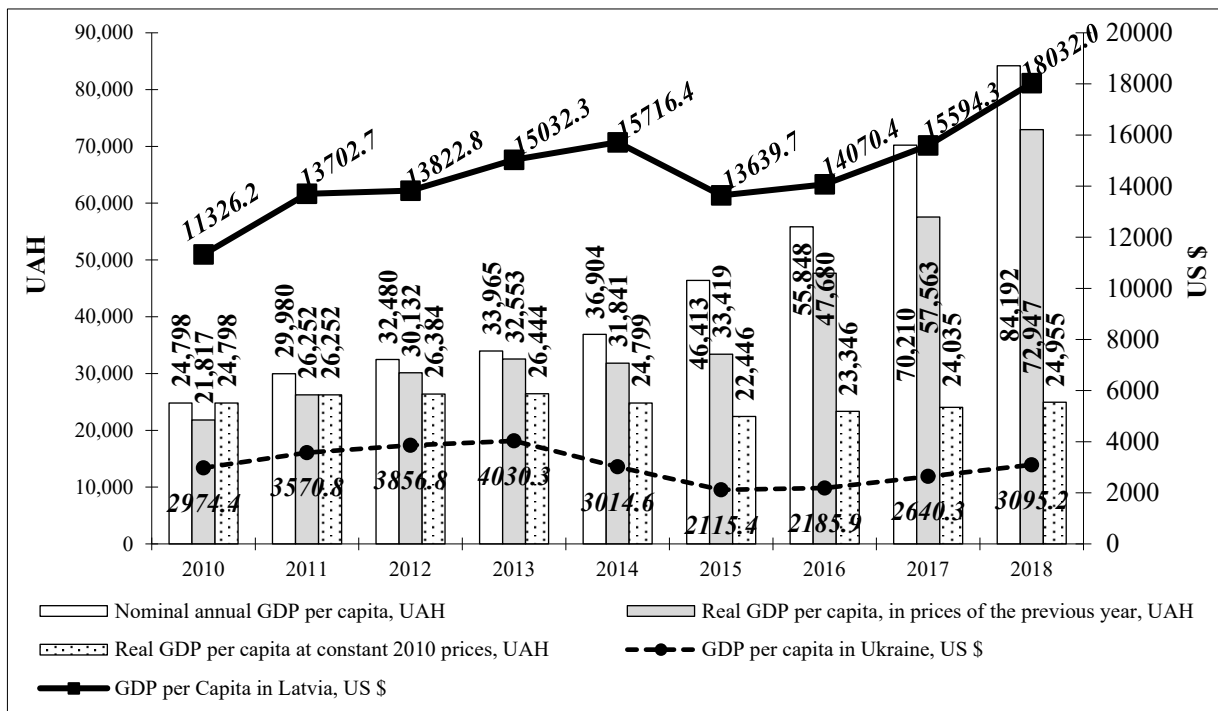
Source: author's construction based on World Bank databases

Fig. 5. GDP per capita growth (annual %)

In 2015 in Ukraine real GDP (in 2010 prices) fell by 9.5% and reached its lowest level of 22446 UAH per capita (State Statistics Service of Ukraine, 2019). In 2016-2018, there is some improvement in GDP per capita in Ukraine, which is due to both a slight increase in real GDP and a decrease in the population. Over the past year, the number of citizens of the country have become 168 thousand less. In 2017, the backlog of real GDP per capita to 2010 was only

3%, therefore, the national economy emerged from the recession and entered the recovery phase, and almost reached its status in 2010.

It is inappropriate to compare the physical volumes of the nominal and real GDP of Ukraine and Latvia, since the Ukrainian economy is larger than the Latvian economy. Despite the fact that Ukraine produces only 0.29% of world GDP, Latvia is an even smaller economy; its world GDP is only 0.04%. However, a comparison of these two countries in terms of GDP per capita shows that the well-being of the Latvian population is significantly higher than the welfare of an average Ukrainian, since GDP per capita in 2018 in Latvia is 18032 US \$, while in Ukraine it is almost 6 times less - only 3095.2 US \$ (see Figure 6).



Source: author's construction based on the data of the State Statistics Service of Ukraine and Latvia

Fig. 6. The dynamics of GDP per capita in Ukraine and Latvia in 2010-2018

Under the rating of the world countries in terms of GDP per capita, Ukraine ranks 130th out of 192 economies of the world, while Latvia occupies 50th place (IMF, 2018).

In accordance with the research presented by the group of scientists in the Doctrine of Sustainable Development of Ukraine until 2030 (Kharlamova G. and etc., 2018) and our own findings, the main factors of the GDP loss and the development restraining of Ukrainian economy are the following:

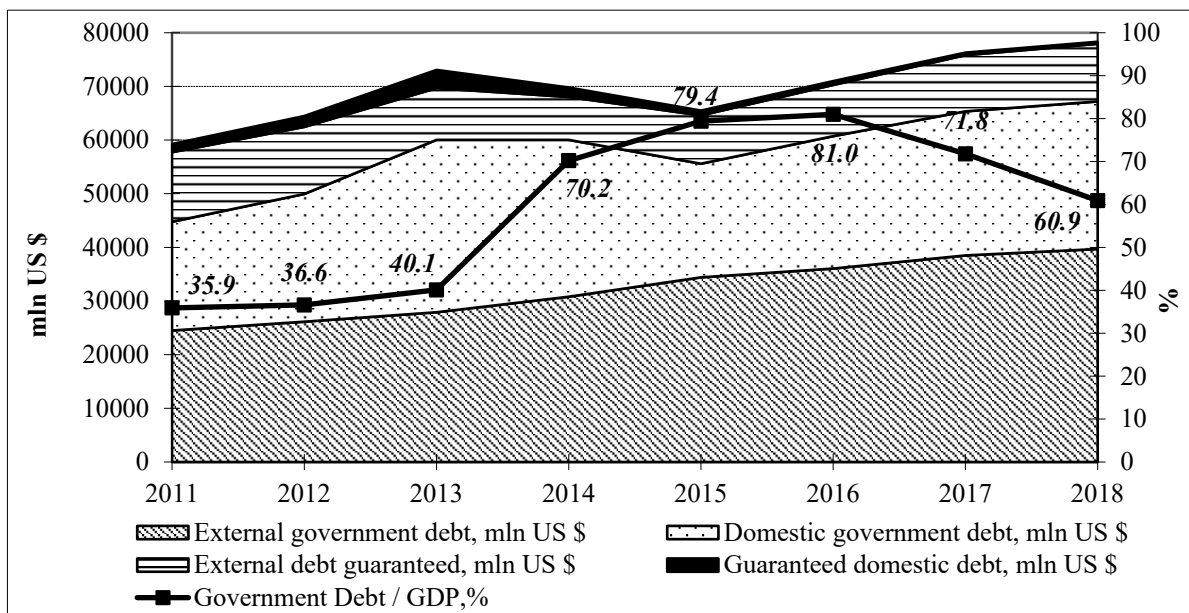
1. *The war in the East of Ukraine and occupation of Crimea* has the negative impact on the national economy (25% of GDP lost).
2. *The share of the shadow sector* in the national economy is estimated at 50-52% , although, according to official data, the integral indicator of the shadow economy in 2018 was 30% of GDP, that is 2% less than in 2017, which was the lowest level since 2009 (Ministry for Development Economy, Trade and Agriculture of Ukraine, 2018).
3. *The extent of corruption caused* by the shadow economy reached 14% of GDP (depending on the industry).
4. *The improper outdated pension system* puts significant negative pressure on the national economy. In 2018, the expenditures of the Pension Fund of Ukraine amounted to 358,604.6 mln UAH (Pension Fund of Ukraine, 2019), which is 10.1% of GDP (for comparison in 2015 - 13.4%).
5. *Government debt and government-guaranteed debt*, which has been showing over the past years an upward trend due to the high foreign exchange risk of external debt, the unstable situation with the refinancing of the previous

years' debts, as well as the growing pressure of debt payments on the public finances, inefficient and inappropriate use of borrowed funds. The turning point in Ukraine's rapid accumulation of public debt was the 2008 global financial crisis, which was exacerbated by the 2014 political events.

As of December 31, 2018, the total debt of Ukraine amounted to 21168627.1 mln UAH, which is 5 times more than in 2010, partly due to the significant increase in prices and devaluation of the national currency. In dollar terms, government debt growth was more moderate and amounted to 1.4 times. As of December 31, 2018, Ukraine's total debt was 78323 mln US \$ (The national debt of Ukraine, 2019), with external debt amounted to almost two-thirds - 64.4% of the total public and government-guaranteed debt. The major creditors of Ukraine are the United States and the IMF. That generates the dependence of state economic policy on foreign investors.

One of the key indicators of the country's debt sustainability, which characterizes the level of debt burden on the state economy and its solvency, is the ratio of total government debt to GDP, the limit value of which is set in the Budget Code of Ukraine at 60%, and which is the one of the requirements for countries-member and countries-candidate for accession to the European Union. Since 2014, this indicator has crossed a critical point (see Figure 7), and reached its highest value of 81% in 2016, since public debt is growing at a much faster rate than GDP.

Relatively GDP, the total government debt in 2018 amounted to 60.9%, which is critical value for national security. According to domestic and foreign studies, the economically safe level of government and government-guaranteed debt for Ukraine is about 35% of GDP. This conclusion is based on statistics on the occurrence of defaults in countries with emerging markets (IMF researches) and on the Ukraine's own experience, which has twice failed to independently fulfil its debt obligations when they approach the level of 30-35% relative to GDP, in particular: in the late 90s, which led to several restructuring of domestic public debt and the restructuring of external public debt, and in the late 00s, which led to the request for assistance from international financial institutions (the amount of financing assistance was the second largest in the world after IMF assistance for Hungary).



Source: author's construction based on data of the Ministry of Finance of Ukraine

Fig. 7. Dynamics of the State and Guaranteed Debt of Ukraine in 2010-2018

6. Energy import dependence of Ukraine and high energy intensity of GDP exceed 3-5 times the global average and developed countries level. When the world average energy intensity of production in 2018 was 0.116 TOE (tons of oil equivalent) per 1 thousand international dollars of world GDP, in Ukraine this indicator was 0.238 TOE and was the worst among all countries in the world. For comparison, a similar indicator in Poland amounted to 0.097 koe/\$, in the Central Europe countries and the Baltic countries - on average 0.105 koe/\$, in France - 0,086 koe/\$,



in Japan - 0,079 koe/\$, in China - 0.131 koe/\$, in the USA - 0.176 koe/\$ (Global Energy Statistical Yearbook, 2019).

There are several more problems, in addition to the identified in the Doctrine of Sustainable Development of Ukraine, that hinder the development of the Ukrainian economy:

7. *Dependence of the Ukrainian economy on the raw materials export and production of commodities with low added value*, as well as a high share of consumer goods imports against the backdrop of the reduction of the domestic market and national production. In 2018, exports of Ukrainian goods and services amounted to 57,118.4 mln US \$, or 108.6% compared to 2017, imports - 62944.5 mln US \$, or 114.3%. The negative balance of foreign trade amounted to 5826.1 mln US \$, which is 2.3 times more than the negative balance of 2017 (-2501.1 mln US \$) (State Statistics Service of Ukraine, 2019). At the same time, exports of goods increased due to high volumes of supplies of grain, oils and fats, ferrous metals. The export commodity-dependent economy model leads to a loss of value added, to slow growth of real GDP and, as a consequence, to deepening of the poverty of the population: exports of raw materials and commodities with low added value → equity disinvestment → low wages → underdeveloped domestic market → dominance of imported final goods → permanent balance of payments, currency and banking crises → conservation of a weak economy → deepening poverty.

8. *The aggravation of the socio-demographic crisis*, the depth and permanent nature of which indicate that the country has reached the critical risk limit for the self-preservation of the nation, the reproduction of human and intellectual capital. This demographic situation is an acute national security problem. According to the State Statistics Service of Ukraine, the population decreased by almost 10 million people from 1991 to 2018. Particularly aggravation of the demographic crisis falls on the period from 2014 to 2018 (more than 3 million people), including the temporary occupation of Crimea and parts of the Donbas, exacerbation of mortality and decrease in the birth rate. According to the 2018 demographic estimate, the mortality rate was 15.54; Ukraine ranks third in the global population mortality rating (The World: Deaths Per 1000, 2018).

In the context of globalization and growth of human capital mobility, under the high wage differentials between Ukraine and more developed countries, the significant scale of population migration is observed, primarily labour migration (mostly illegal). According to experts, the integrated estimate of migrant workers in 2015 - 2017 is 4 million, which is 16% of the total employable population. There are about 2.6 - 2.7 million people are outside the country simultaneously. The largest labour migration is observed to Poland, Russia, Italy, Czech Republic, USA, Belarus and to others developed countries. Labour migration abroad significantly reduces the amount of labour resources in Ukraine, creates an acute shortage of working class, and therefore is a strong deterrent to GDP growth in the country.

The massive outflow of youth (students, school graduates) to study abroad is another acute systemic demographic problem, fraught with great risks for the future reproduction of the nation. According to the results of sociological surveys of school graduates, almost 70% of respondents express a desire to go to study abroad.

9. *Poor quality of life, high poverty, low solvency of the population*. According to the analytical report and scientific publications of the M.V. Ptukha Institute of Demographic and Social Research (Comprehensive assessment, 2018), during 2017 - 2018, the level of relative poverty was growing by the national criterion (75% of the median of total expenses) - by 1.3%, as well as by the criterion using the EU equivalent scale (60% of the median of total income) by 0.9 %.

The medium monthly salary of an average working Ukrainian was approximately 385 US \$ in 2019. However, it should be noted that there is a significant gap between the income quintile groups of the population. Thus, in 2018, the share of the population with per capita equivalent total monthly income below the average level in Ukraine amounted to 60%, below the actual minimum subsistence level (3236.52 UAH or 119 US \$ at the 2018 average

exchange rate) - 29.3%, below the legislatively established subsistence minimum (1725.67 UAH or 63 US \$ at the 2018 annual average) - 1.7%.

Limited solvency demand hinders the development of domestic industries aimed at the needs of the domestic market. The gap between the Ukrainian population incomes and its expenditures on the purchase of goods and services is rather small, meaning that Ukrainians spend almost all their monetary resources on current consumption. Therefore, the opportunity to accumulate savings is low, that in turn reduces the prospect of additional investments and an increase in demand for more expensive goods, including long-term used, travel, real estate, etc. The lowest share of expenditures on purchasing goods and services in the annual income in the period 2005-2017 was 76% in 2010, and the highest - was 89% in 2017. According to preliminary results of 2018, the share of Ukrainians' expenses in their income is on average within 85%.

Analyzing the structure of consumer aggregate expenditures of Ukrainian households over the past 5 years, it is clear that they spend more than 50% of their income on food purchases. This is quite high compared to developed countries. According to the US Department of Agriculture, in 2018, Ukraine is in the top-10 countries with the highest spending on food. For comparison, consumers in the US in 2017 spent on food about 7% of their income. In Europe, the least money is spent on food by residents of Luxembourg (8.7% of their income), in the UK and the Netherlands - about 10%, in Austria, Switzerland, Finland - up to 12%.

10. *Systematic missteps in the areas of monetary policy, currency and banking regulation, investment policy.* The inaccessibility of long and, recently, short financial resources for business development minimizes the role of credit sources in financing current activities and investment projects of domestic enterprises.

The high degree of depreciation of fixed assets in production and a low level of investment and innovative activities preserve the technological backwardness and commodity-dependent status of the domestic economy. Investment activity often comes down to restoring the existing structure of the production base and not even in full. Wear and tear level of fixed assets is gradually growing. According to the latest data from the State Statistics Service, the depreciation level of fixed assets in industry was 69.4%, in particular in the processing industry - 76.4%.

Foreign direct investment in capital in 2018 amounted to 32291.9 mln US \$ (including 24742.7 mln US \$ from the EU). This is 2.2% more than in the previous year, but 28.8% less than in 2010. At the same time, the net inflow of foreign direct investments into Ukraine amounted to 2.4 billion US \$, which is 0.2 billion US \$ less than in 2017. More than half of FDI (58% or 1.4 billion US \$) were directed to the real sectors of economy. Investments in the financial sector accounted for 42% of the total, almost half of which were banking sector operations to reissue debt into authorized capital. However, at present, their volume is much smaller than necessary and does not allow development and even renewing outdated and worn-out fixed assets and intangible assets.

The unfavourable investment climate is confirmed by a number of obstacles identified in Doing Business's 2019-2020 ranking, where Ukraine ranks 64th among 190 countries in the world, and includes the quite low positions by the following criteria: solving insolvency problems - 146th place; connection to energy supply systems – 128th place; conditions for foreign trade – 74th place; enforcement of contracts – 63rd place. For comparison, Latvia ranks 19th in the overall ranking of countries (Doing Business, 2019).

The assessment of Latvia's economic development trends over the last ten years reveal that the large macroeconomic disproportions have been eliminated and risks of economic vulnerability reduced. Currently, macroeconomic stability is sustained – low government debt and inflation, balanced budget and balance of payments, which remains an important prerequisite for long-term economic development. However, Latvia's competitiveness is significantly weakened due to institutional deficiencies, insufficient quality of infrastructure and business development, and low innovative capacity.

In recent years, productivity dynamics in Latvia have exceeded the level of EU average. Between 2011-2018, productivity has increased by 23.4% (EU-28 - 6.4%), and productivity gap has narrowed by nearly 12 percentage points. However, Latvia still significantly lags behind highly developed countries in the EU. In 2018, GDP per person employed in Latvia reached 48.9% (69.3% based on PPP) of the EU average (Eurostat, 2019).

The largest productivity gap for Latvia remains with the EU-15 (old EU MS). Also, several of the EU-15 countries are important trading partners of Latvia. Therefore, bridging the productivity gap can be a key prerequisite for maintaining competitiveness in the EU's single market, particularly given the accelerated process of wage convergence in recent years.

Long-term development trends indicate that productivity dynamics in Latvia have moderated. During the post-crisis period (2011-2018), productivity annual growth rates have been approximately three times lower than before the crisis (1996-2007). As productivity dynamics are slowing down, convergence rates also decline, thus posing risks of entering the middle-income trap.

The low level of productivity is largely determined by scarce investments in R&D, the weak innovative activities of entrepreneurs, and inefficient allocation of existing resources. Also, the lacklustre participation of entrepreneurs in global value chains remains an important factor hindering potential productivity gains. In Latvia, the workforce is mainly concentrated in low productivity sectors, and the process of labour force transition to higher productivity sectors is slow (Steinbuka, 2019). The problems of inefficient deployment and allocation of resources are also stressed in studies by IMF (IMF, 2016) and the EU (EC, 2018). Also, research in Latvia illustrate the potential to raise productivity by more efficiently allocating the existing resources (Benkovskis, K., 2015).

Productivity growth is significantly constrained by the low level of R&D investment in the private sector. Currently, spending on R&D in Latvia substantially lags behind the set target rate of 1.5% of GDP. In 2018, investments in R&D reached EUR 186.2 million or 0.63% of GDP (CSB database). In 2011-2018, investments in R&D amounted to 0.6% of GDP (in 2018 – 0.63% of GDP), and their annual dynamics were moderate. However, spending on R&D by entrepreneurs constitute only  $\frac{1}{4}$  (or 0.15% of GDP) of total R&D spending. In this respect Latvia significantly lags behind the average level in the EU, where entrepreneurs provide more than half of total R&D investment.

The low level of R&D investment and weak innovative activities of entrepreneurs in the private sector can largely be attributed to the existing economic structure and institutional deficiencies. Latvia's current economic structure can be characterized by a low proportion of economic activity concentrated in industry and R&D intensive sectors. In addition, small and medium sized enterprises (SME) represent a large share of total enterprises in Latvia.

The above-mentioned structural barriers not only accentuate the private sector's low capacity for R&D investment, but also their low demand for R&D research. Only one fifth of total amount of company investment is devoted to research in universities and scientific institutes. This, in turn, illustrates the lack of cooperation between universities, scientific institutes, and private sector companies.

In a market economy, the economic structure is determined by a competitive advantage. The dominance of low- and medium-low-tech sectors within the economy is an indication that relatively low labour costs still remain a significant competitive advantage for entrepreneurs in Latvia. Although recent improvements in the economic structure can be observed, structural changes occur only gradually. As a result, the existing economic structure is increasingly becoming an important barrier to investment in identifying and developing our competitive advantage.

The inefficient allocation of resources and the robustness of structural changes can largely be attributed to institutional deficiencies (e.g., legislation, state aid, economic and political institutions, etc.), which, in turn, does not ensure a more efficient functioning of the market for products and resources (incl., labour market). This allows low-productivity companies to maintain and increase their market share, thus limiting potential productivity gains and

increased convergence towards the EU.

A today's world is an era of technology transformation – most commonly referred to as the 4<sup>th</sup> Industrial Revolution. Thus, it is increasingly important to be prepared for the new competitiveness challenges, i.e., to be able to respond flexibly to technological innovation. The development towards an innovation and knowledge-based economy is constrained by several factors. To overcome these obstacles, coordinated state intervention, which would minimize the costs associated with the inefficient allocation of resources and strengthen the country's competitiveness, is required.

### **Conclusions, proposals, recommendations**

Although Latvia and Ukraine differ by size, population, geographical location, and the availability of natural resources, countries also share many similarities - in the early 1990s, both countries regained their independence and embarked on ambitious reforms towards the development of a market-based economy and now there are a number of common problems for Ukraine and Latvia, in particular of an institutional nature.

So, according to the analyzed overall macroeconomic criteria, the national economy of **Ukraine** can be qualified as relatively small, open, commodity-dependent, highly energy-consuming and energy-dependent. Ukraine has a rather low economic recovery rate, hampered by a wide range of unresolved problems, in particular:

- the loss of production capacity, infrastructure and the violation of economic intersectoral and logistic ties due to a military-political conflict;
- trade restrictions by the countries-members of the Customs Union, especially the Russian Federation;
- limited availability to energy raw materials;
- accumulated systemic imbalances;
- the structure of production focused on the export of low processed products;
- high tear and wear level of fixed assets, which makes it difficult to increase the competitiveness of manufactured products;
- maintaining excessive regulatory and tax pressure, in particular, targeting the fiscal system to maximum fees without taking into account the interests of taxpayers;
- low level of savings and investments, low investment attractiveness;
- lack of public and business confidence in authorities;
- large-scale migration of population and others.

In order to solve specified problems in Ukraine it is necessary to create conditions for transition to sustainable economic growth, which will be based on expansion of investment demand, strengthening of competitiveness of the Ukrainian economy, increase of efficiency of resources utilization and scientific and technological potential. To overcome the demographic crisis in Ukraine, it is necessary to build a migration policy aimed at strengthening the competitiveness of the economy and the quality of life, improving labour productivity and attractiveness of the labour market for population and migrants. It is necessary to implement a systematic policy to increase the motivation for the return (and attraction) of workers from abroad, to create conditions favourable for the assimilation of people.

The transition to economic growth requires an expansion of domestic production, and it is important to focus on the national consumption in order to reduce import dependence. Creating new workplaces and rising household incomes will scale up the purchasing power of Ukrainians, while an increase in the goods volume will slow down price rising. Increasing export volumes of products with a higher processing level will improve the financial and economic situation of Ukrainian producers and scale up the GDP. At the same time, saturating the market with cheap financial resources, transforming debt policy, capital recovering in priority sectors, and creating a favourable investment climate will stimulate an increase of business activity and financial stability of the country.

The most important advantage of **Latvia's** competitiveness is macroeconomic stability, at the same time the cost competitiveness indicators have declined and Latvia have large productivity gap compared to highly developed countries in the EU (in 2018, GDP per person employed in Latvia reached just 48.9% of the EU average).

The reliance on the low- and medium-low-tech sectors and the large share of microenterprises within the economy constitute major barriers to moving towards innovation and knowledge-based economy and reducing the productivity gap.

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## THE ROLE OF CIVIL SOCIETY IN THE TRANSITION TO SUSTAINABLE DEVELOPMENT

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**Abstract.** Civil society as one of the tools for sustainable development is becoming increasingly relevant, both nationally and globally. The conditions in which the modern economy operates require achieving sustainable development goals not only in the optimal use of resources and improving the environmental and socio-economic conditions (opportunities) for realizing human potential, but also in enhancing the influence of civil society. Objectives: to identify the role and degree of influence (mechanism of influence) of civil society on sustainable development. Tasks of the work: to determine the categorical apparatus for studying the significance of civil society for sustainable development (based on the analysis of statistical data and expert estimates), to identify the links between civil society and the sustainable development process, to determine the degree of their interdependence. The study is based on a theoretical analysis of economic theory, a review of the scientific literature on this topic. The authors identified the principles of sustainable development, identified the structure and functions of civil society. The empirical data reflects the formation of the relationship between civil society, effective government and the sustainable development process. Using the tools of statistical analysis of data distribution, it is shown that more open societies with a developed civil society have a more efficient government. The main tendency in realizing the role of civil defense has been identified: with increasing openness, countries are shifting to large values of SD indices. International organizations could use the results to improve the effectiveness of their programs.

**Keywords:** *civil society, sustainable development.*

**JEL code:** Q01, Q56

### Introduction

Civil society as one of the tools for sustainable development is becoming increasingly relevant, both nationally and globally. The strategic goal of sustainable development is to equalize the level and quality of life of the population. This is a global issue that is complex. The conditions in which the modern economy operates require achieving sustainable development goals not only in the optimal use of resources and improving the environmental and socio-economic conditions (opportunities) for realizing human potential, but also in enhancing the influence of civil society. Objectives: to identify the role and degree of influence (mechanism of influence) of civil society on sustainable development. Tasks of the work: to determine the categorical apparatus for studying the significance of civil society for sustainable development (based on the analysis of statistical data and expert estimates), to identify the links between civil society and the sustainable development process, to determine the degree of their interdependence. The study is based on a theoretical analysis of economic theory, a review of the scientific literature on this topic. The authors identified the principles of sustainable development, identified the structure and functions of civil society. The empirical data reflects the formation of the relationship between civil society, effective government and the sustainable development process. Using the tools of statistical analysis of data distribution, it is shown that more open societies with a developed civil society have a more efficient government. The main tendency in realizing the role of civil defense has been identified: with increasing openness, countries are shifting to large values of SD indices. International organizations could use the results to improve the effectiveness of their programs.

In the article, the authors substantiate the need to increase the role of civil society in ensuring sustainable development. The paper discusses changes in key concepts related to the impact of civil society on sustainable development. Discussion in the socio-economic literature is the definition of civil society (Cohen and Arato 1994, Wapner 1996, Hann and Dunn 1996, Gidron, 2010), global civil society (Young, 1997, Appaduraietal, 2001, Brecheretal, 2000), sustainable development (Dyllick and Hockerts, 2002, UNEP, 2003, World Bank, 2005),

parameters and indicators of sustainable development (OECD, 2003, Talberth and Cobb, 2006, SSF 2017, Sachs et al. 2019); the relationship between civil society and sustainable development (Putnam, 1993, 2000; Fukuyama, 1995, AtKisson and Alan. 1997, Cazarez-Grageda, 2018), and the degree of its influence on sustainable development (Strange and Bayley, 2008), the mechanism of the relationship between civil society and SD on the example of developed Western countries (McCarthy and Zald 1997, Scholte 1999, OECD, UNDP, 2019). As a result of the study, the author's definition of SD is given by highlighting its basic principles; The role of civil society in sustainable development is shown, the mechanism of the relationship between civil defense and SD is illustrated by developed Western countries, the specifics and problems of the Russian Federation are highlighted, and the extent of civil defense influence on SD is assessed. Conclusions are drawn about the features of the relationship between civil society and the sustainable development model in Russia. The results of the study are important for politicians and society, supporting social and ethical values in a sustainable development. It is important to focus future research on assessing the effectiveness of civil society to achieve SD goals.

### **The transition to sustainable development**

In recent years, various concepts associated with sustainable development issues (sustainable development of companies, corporate sustainability, green economy, inclusive economic growth) are gaining widespread acceptance. T. Dillik and C. Hockerts, actively involved in research in this area, rightly noted that ‘sustainability has become a mantra for the 21st century’ (Dyllick and Hockerts, 2002). The growing interest in this phenomenon is confirmed by numerous international initiatives: the creation of international and national research centers and network structures, the discussion of relevant problems on the platforms of leading world forums, the increase in the number of publications, the publication of special standards (see, for example: 'The future we want' (UN, 2012) , 'Transforming our world' (UN GA, 2015), 'Paris Agreement' (UNFCCC, 2015), National Standard of the Russian Federation (GOST, 2016), etc.).

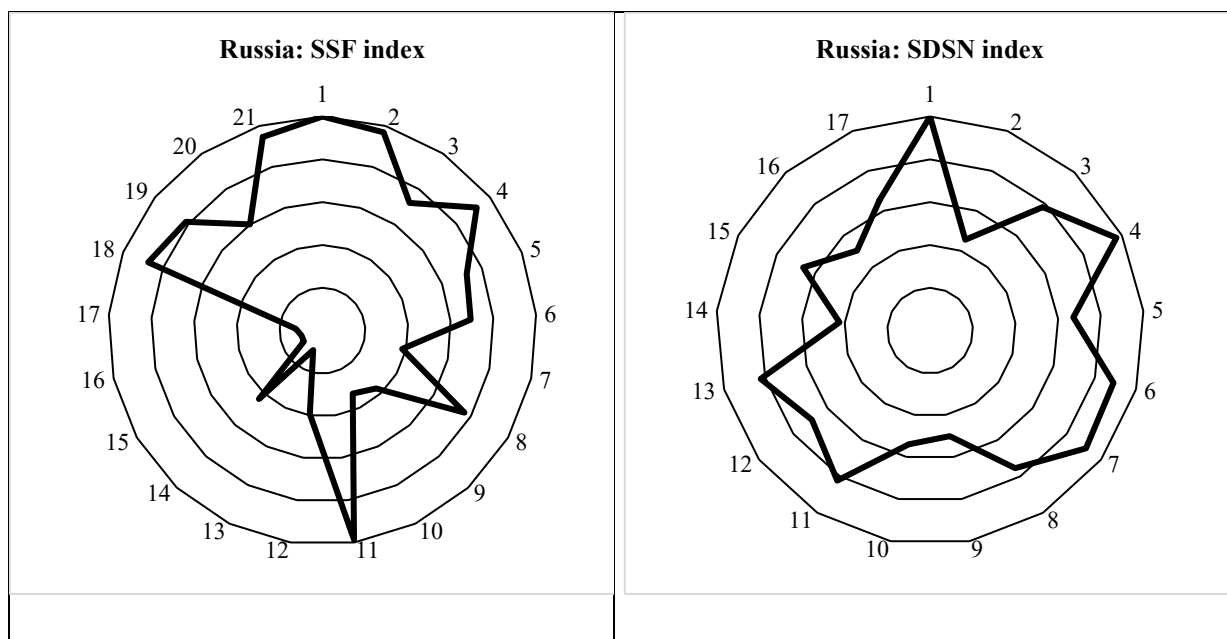
A very wide range of approaches to the interpretation of the concept of sustainable development, as well as its principles and goals, currently exists. Which indicates that the conceptualization process, i.e. the process of formation of the concept of sustainable development, which is generally accepted, by which we mean an integral and consistent system of views on this phenomenon, as well as its goals, principles, driving forces, indicators, mechanisms, is not yet complete. Thus, World Bank experts note that the development of society is sustainable if ‘economic growth conducted in an environmentally responsible manner’ (World Bank, 2005). The World Conservation Strategy (UNEP, 2003) considers sustainable development as a development that provides real improvements in the quality of life of people and preserves the biodiversity of the Earth at the same time. And despite all this, the dominant approach to the concept was clearly defined. It is based on a definition proposed by the World Commission on Environment and Development. Sustainable development is interpreted here as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (UNWCED 1987).

One of the aspects of the formation of the theoretical foundations of sustainable development is the definition of its key principles. One of the aspects of the formation of the theoretical foundations of sustainable development is the definition of its key principles. As such, in our opinion, three principles should be considered: 1) reproducibility, 2) balance and 3) participation. The first principle means the reproducibility of the resources, benefits, living conditions that are necessary to meet the needs of present and future generations; as well as the preservation and accumulation of capital of society (natural, economic, human, social). The implementation of the second principle involves a balance of economic, environmental and social aspects of development; consistency of interests of both present and future generations, and the interests of various groups of stakeholders of society and corporations. The third one - the principle of participation - is usually interpreted as the orientation of development to meet the needs, demands and

expectations of society, manifested by a wide range of interested groups; as participation in important decisions of the whole society, all interested citizens. Building partnerships for sustainable development is possible only through direct activities of representatives in various areas of public life. Sustainable development can be interpreted as a) well-focused development (The Millennium Development Goals (UN, 2015)), b) corresponding to three principles: reproducibility, balance and participation, and c) having three bases (dimensions): economic, environmental and social (Kanaeva, 2018).

Sustainable Development Indexes or indicators are used to assess conditions or changes in economic, social or environmental variables (see ‘Indicators of Sustainable Development: Guidelines and Methodologies’ (UN, 2007), ‘OECD Environmental Indicators. Development, Measurement and Use’ (OECD, 2003), (Talberth and Cobb, 2006)). First of all, SD indicators evaluate the achievement of development goals that are relevant for each country / region and are associated with the creation of physical objects, with the formation of social, institutional and financial conditions, as well as opportunities for further socio-economic development of a particular country. The 17 global sustainable development goals are defined in Resolution adopted by the UN General Assembly on September 25, 2015 (UN GA, 2015).

To date, two organizations have attempted to calculate the integral sustainable development index in numerical form for almost all countries — Sustainable Society Foundation (SSF) and Sustainable Development Solution Network (SDSN). Unfortunately, the last SSF index update was in 2017. SDSN calculates 17 UN indicators and plus one integral for each country. SSF uses 21 indicators and plus three sub-integral ones: human, environmental and economic ‘well-beings’, but there is no single integral indicator. Figure 1 shows the indices of both organizations for Russia.



Source: author's construction based on data of (Sachs et al. 2019) and (SSF 2017)

**Fig. 1. Two spider charts with SSF (2016) and SDSN (2018) indices of Sustainable Development of Russia**

A petal of maximum length means that the corresponding problem is solved (goal achieved). The designation of some indicators in SSF chart: 1 - number of undernourished people in % of total population, 11 - annual water withdrawals (m3 per capita) as % of renewable water resource, 13 - energy use in tons oil equivalents (toe) per person, 15 - CO2 emissions per capita per year. SDSN chart: 1 - end poverty in all its forms, 4 - ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, 2 - end hunger, achieve food security and improved nutrition and promote sustainable agriculture, 14 - conserve and sustainably use the oceans, seas and marine

resources for sustainable development. The main challenges for Russia in achieving the SDGs are health and well-being, reducing inequality, climate change, peace, justice and effective institutions. Significant priorities remain the elimination of hunger, gender equality, decent work and economic growth, industrialization, innovation and infrastructure, responsible consumption and production, and conservation of marine and terrestrial ecosystems. However, which of these goals and under what circumstances could interest Russian civil society actors? What mechanisms (including financial) exist to achieve the goals? There are no definite answers.

### **The role of civil society**

Following the principles indicated above is a prerequisite for the transition to a development model focused on sustainable development. While the participation of many interested actors has been recognized as important for development for a long time, the SDGs require countries to move from a “whole government” approach to a “whole society” approach (Cazarez-Grageda, 2018). It is civil society organizations that implement such principles of sustainable development as the principles of participation and responsibility at all levels of the social structure. Thanks to the activities of civil society organizations, citizens, companies, society and the state adopt the principles of sustainable development, agree to follow them in everyday life and in business, and assume the corresponding obligations and restrictions. Otherwise, no decisions of any international organizations, states or governments will give the expected effect.

Effective management needs lower-level local networks, such as non-governmental organizations, associations and enterprises, which both help ease social tensions and are able to use economic opportunities to the maximum. The UK Commission on Sustainable Development writes: ‘Leadership at the national level is one key part of governance for sustainable development. However, initiatives at regional and local levels are also critical to its success’ (Strange & Bayley, 2008).

Cooperation between the UN and non-governmental organizations (NGOs), especially those that provide humanitarian assistance to countries and peoples in need, begins in 1945 with Article 71 of the UN Charter (UN, 1945). An intensive increase in the number of NGOs and other civil society actors began only in the early 90s of the 20th century thanks to the official recognition of the importance of their work (UN Secretary General, 2000). In all developed democracies, the third sector is considered the basis of civil society, and is determined by the method of exclusion: it is neither state nor commercial. It is based on non-governmental non-profit organizations, the purpose of which, as a rule, is the creation of any public goods, but not profit or power. Johns Hopkins Center for Civil Society Studies defines the third sector according to the residual principle, depending on which institutions of society are chosen as the basic ones. If the state and the market are basic, the sector of non-governmental non-profit organizations is the third sector (Toepleretal, 1999). If households are also considered as the basic institution, then civil society will be the fourth sector (Ehrenberg, 1999).

The third sector includes many organizations, which, if it forms a group, are only extremely heterogeneous and diverse. Different organizations are engaged in different activities (services, public support, financing) in different areas (social security, environment, education, healthcare, housing, community development, etc.) find different sources of income (public funding, donations and own income) and are rooted in various traditions (charity, politics, volunteering, fraternal organizations, etc.) (Gidron, 2010). Their goal may be altruistic completely, or creative self-realization of the participants, or some kind of collective arrangement of private life, etc. The levels of the structure of the third sector can be distinguished: the supra-national level - the level of non-governmental organizations (Oxfam, Greenpeace, etc.); the national level - the level of national non-profit organizations (American Red Cross, etc.) and the domestic level - the level of local groups with lower economic and financial capabilities but influential due to local information, knowledge and skills, public trust and greater flexibility and mobility. States have a vertical hierarchy of

power, but non-governmental organizations can use both hierarchical and network versions of the structure. NGO activities can be specialized (for example, religious (World Council of Churches), environmental (Greenpeace), humanitarian (International Red Cross) or have a wide range: from protecting civil rights and freedoms and helping the hungry to combat HIV and AIDS. Finally, like everything else, the nature of NGOs can differ dramatically. The nature of some is creative, for example, the creation of goods, services, knowledge or new contacts, while others are destructive (for example, anti-globalist movements, terrorist organizations, etc.). For example, Oxfam (Oxford Committee for Famine Relief) includes 17 organizations operating in 90 countries and has a wide range of areas of activity: from eradicating poverty and social injustice to conflict resolution (in particular, campaigns against the international arms trade).

Despite the existence of numerous organizational forms, the UN Charter officially recognizes NGOs only. CIVICUS takes into account a much wider range: NGOs; unions; religious networks; professional associations, charitable foundations and others. Further we will use this view of civil society (and use this source also). There are two important characteristics of any civil society entity: legitimacy and organizational form. Without institutional legitimacy, actors may face great resistance and corresponding difficulties in participation. Form is also important because international organizations prefer to work with civil society actors of a certain type of organizational form. Professional organizations generally have an advantage (McCarthy and Zald, 1977) over other less formal actors. The rules of some institutions, for example, the Commission on Sustainable Development, allow many actors of civil society to attend negotiations and even to speak. The rules of other institutions (World Trade Organization, for example) are much stricter (Scholte, 1999).

In its most general form, civil society can be defined as a society of voluntary, free and conscious self-organization created by self-organized citizens (Cohen and Arato, 1994), (Hann and Dunn, 1996). In this sense, this includes numerous unregistered, informal, network communities.

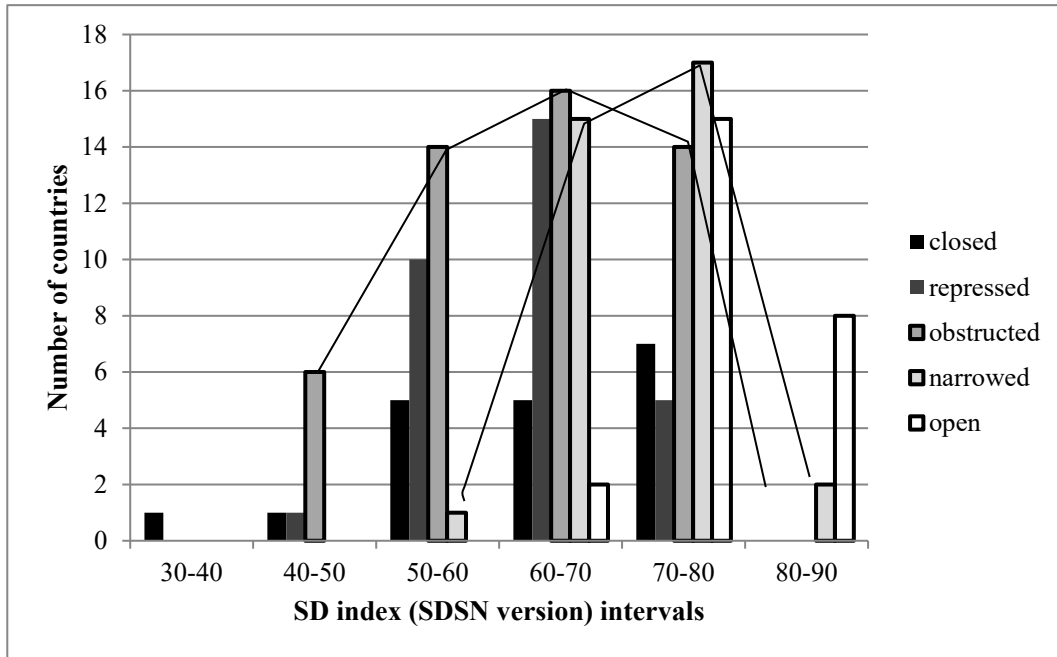
Global governance and global civil society are terms that are widely used in the theory and practice of international activity at present (Young, 1997), (Appaduraietal, 2001), (Brecheretal, 2000). Global civil society can be broadly defined as all progressive groups in society that oppose more conservative, more authoritarian tendencies of governments and other sectors with significant influence in society. Participation in the global network allows national organizations to take advantage of the boomerang effect, when the connections established through the network lead to additional international pressure on the country's government to pursue a specific policy. EarthAction is an example of such collaboration. EarthAction, created at the Earth Summit in Rio de Janeiro in 1992, is one of the world's largest networks of organizations, politicians, citizens and journalists who work together for a more just, peaceful and sustainable world. More than 2,600 civil society organizations from 165 countries with total tens of millions of members form EarthAction's global action network. In total, EarthAction has conducted more than 100 global campaigns dedicated to the most serious environmental, development, peace, human rights and governance issues in the world.

As we have already noted, the use of associations of citizens as a legal form of non-profit organizations (NPOs) contributes to their interaction with the state. At the same time, civil society is not limited to registered organizations. The structures of civil society can also include local government, various public councils under executive bodies, public chambers, as well as direct decision-making institutions: referenda and elections, public hearings, rallies, marches and demonstrations; family, media, etc.

Due to the increasing role of civil society in the global economy, some scholars have also begun to pay attention to the relationship between civil society and sustainable development (AtKisson1997), (Dowdeswell 2000) and the role of the civil society sector in international policy development (Tarrow, 2001), (Edwards and Haveta , 2001).

Other scholars doubt the validity of allegations of such a relationship (Bridger and Luloff 2001), (Portes and Landolt 1996). Despite United Nations efforts, progress towards fuller engagement with civil society often remains minimal, and civil society participation in international governance often remains formal and limited (Gemmill-Herren and Bamidele-Izu 2002). In 2018, only 53% of the governments of partner states reported creating favorable conditions for civil society, while 73% in 2016 (OECD, UNDP 2019).

An analysis of the available data by the authors demonstrates a fairly clear tendency for countries to shift to higher SD index values with increasing openness of civil society.



Source: author's construction based on data of (Sachs et al. 2019) and (CIVICUS 2019)

**Fig. 2. Distributions of 5 groups of countries (grouped by CIVICUS index) by the value of the Sustainable Development index (SDSN version).**

The CIVICUS Monitor provides data on the state of civil society and civic freedoms in 196 countries. Of course, both indices here are nothing more than expert estimates. Nevertheless, the distributions for each group (i.e., for equally open or closed societies) are smooth (two curves are added for clarity) and slightly asymmetric in a similar way. If you do not look for any artificial trick, we can conclude that two indicators, more precisely two different characteristics of the societies to which the indicators correspond, are interconnected: more open societies moved forward in the coordinates of sustainable development.

Table 1 shows the average change in rank in the overall ranking for 5 groups of countries grouped by CIVICUS State of Civil Society index for 2006-2016. The values in the table are the sum of the changes in the ranks of the countries of one group divided by the number of countries in the group:  $\sum \Delta Rank_i / N_i$ . Rank is only a place in order, and not a value. The values could change quite a bit or quite significantly, this table does not show this, but it shows the trends of the indicators of each group in relation to the indicators of 4 other groups. All countries are changing, constantly, both in absolute terms and in relative ratings, and the table, it seems to us, reflects the direction of these changes in the area we are considering - sustainable development over a short period of 10 years.

Table 1

**Average for each group of countries, the change in rank in the overall ranking for 2006-2016.**

Civil society	Average for each group of countries, the change in rank in the overall ranking for 2006-2016
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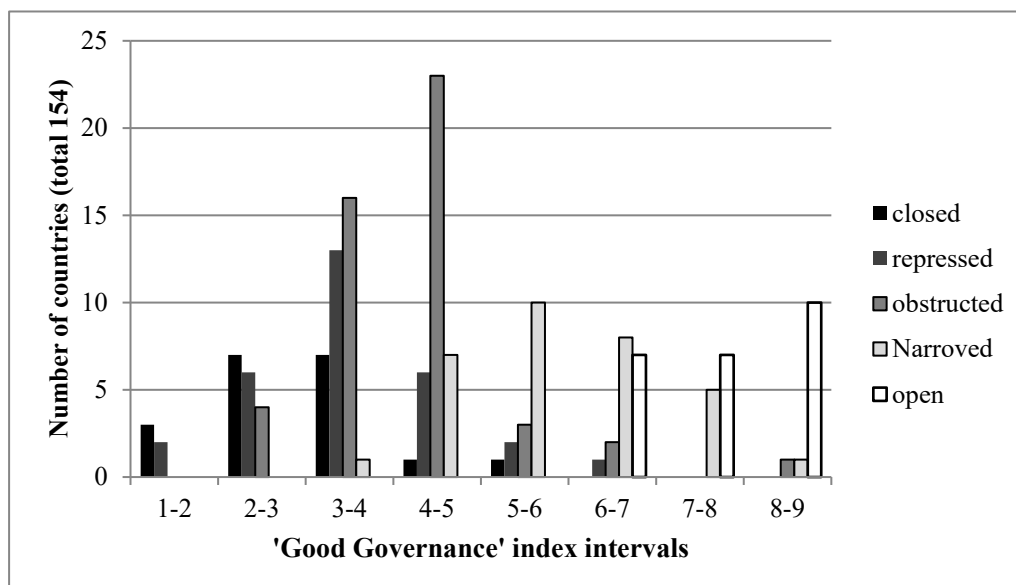


	Human wellbeing	Environment wellbeing	Economy wellbeing
open	+2	+10	-10
narrowed	-1	+3	-10
obstructed	+1	-4	+7
repressed	-1	-3	+5
close	=0	-3	+3

Source: author's calculations based on data from (CIVICUS 2019) and (SSF 2017)

In fact Table 1 shows the map (field) of changes in the socio-economic and environmental priorities of sustainable development for 2006-2016, depending on the level of development of civil society. For open and narrowed societies, a significant development vector for the indicated period is, first of all, the well-being of the environment, then the human well-being. Countries such as the United States, Britain, Sweden, Germany, Latvia pay more attention to goals (indicators) with an environmental focus, even with a delayed economic effect. For obstructed, repressed and closed societies, the main vector is the well-being of the economy. For example, for India, Indonesia, China and Russia, more important challenges in achieving sustainable development are income inequality, increased economic growth, employment, etc.

In modern conditions, states retain a leading political resource, while entering a complex system of interaction with non-state actors. For example, J. Rosenau (Rosenau 1990) proceeds from the two-level nature of international interaction, where a different level - the activity of non-state actors, coexists with official interstate relations. D. Chambers argues that the state cannot be isolated from civil society: it is determined by a number of ties that form both the state and social groups (Chambers 1991). Thus, in certain cases, groups in society can have a significant or even controlling influence on the development of policies in various fields. NGOs can act as a sufficiently significant force in cooperation with or against the state, for example, to maintain peace and end the nuclear arms race (Friends of the Earth, Pugwash Conferences), to protect the rights of women (feminist movements, for example, National Organization for Women), for providing emergency humanitarian assistance to victims of armed conflicts and natural disasters (Medecins Sans Frontieres), against conducting nuclear tests, disposing of toxic waste (e.g. Greenpeace), etc.



Source: author's construction based on data of (SSF 2017) and (CIVICUS 2019)

**Fig. 3. Distributions of 5 groups of countries (grouped by CIVICUS index) by the value of the 'Good government' index (SSF).**

Our study confirms the hypothesis that the more open the society, the better and more efficient the work of the government (see. Fig. 3). A free citizen of a democratic society becomes the main force for the sustainable

development of society. The specific type of relationship between the state and society depends on economic, political, historical and cultural traditions, geopolitical and other national features (Spiridonova 2019a, Spiridonova 2019b).

### **Features of civil society in Russia**

In Russia, in recent years there has been a certain turn of the state towards the third sector. Non-profit organizations (NPOs) have already become partners with government agencies in providing social services to citizens. Federal budget allocations to support socially oriented non-profit organizations increased from 9.1 billion rubles in 2016 to 12.9 billion rubles in 2017 (Ministry of Economic 2018). But the share of NGOs in the Russian GDP is still small - about 1%, and only 1.1% of the economically active population is employed in the third sector. On average, the share of NGOs in the world's GDP is 4.5%. The share of employees is much higher, for example, in Canada - 10.5%, in the USA - 9%. 224.5 thousand NPOs are registered in Russia, of which more than 140 thousand are socially oriented (SO NPOs). But only 10-15% of the total number of NPOs are somehow active (Civic chamber of RF, 2014). The main problem of Russian NPOs is the lack of state support. Funds from budgets of all levels make up only 11.7% of the total funding of NPOs. Revenues from the sale of goods and services - 36.4%, donations from private and legal entities - more than 37%. In Western countries, state funding of NPOs is 32%, income from activities - 43%, and donations - only 23%. Other problems are: the high cost of renting premises; weak cooperation between business and NGOs, especially in the regions; low professional level of staff and lack of professional volunteers. The low level of public confidence in NPOs hinders any mobilization of public activity. For the most part, Russian NPOs are economically extremely weak and are often on the brink of survival.

According to the report on the implementation of the principles of sustainable development in Russia at the UN Conference on Sustainable Development (Rio + 20) (Bedritsky 2012) the government can start mobilizing efforts to eradicate poverty, inequality and climate change only by aligning national priorities with the SDGs and working together with the private sector and civil society. To successfully achieve the SDGs and other sustainable development strategies, it is necessary to successfully interact with all groups of participants in global governance.

There are experts who believe that civil defense in Russia is not as weak as can be inferred from the participation of the population in the activities of NGOs. In addition to the formal mechanisms of civil society, cultural mechanisms work - the attitude to help others and responsibility for others (both of traditional practices), religious activity (donations), prosocial values (transfer of things) (Shabanova 2017).

### **Conclusions**

1. 'Sustainable development' is a new socio-economic paradigm that arose in the era of globalization and digitalization. Currently, there is a very wide range of approaches to the interpretation of sustainable development, its principles and goals, to the definition of the corresponding concept. This indicates that the conceptualization of sustainable development is incomplete.
2. The authors determined the categorical apparatus of the study. In our opinion, Sustainable Development is a development that has a specific target orientation, meets the principles of responsibility, balance, reproducibility and participation and involves three bases (dimensions): economic, environmental and social. We use the "third sector" concept to define civil society, according to which it is neither state nor commercial, and the purpose of the organizations that form it is to produce public goods, as a rule, but not profit or power. One of the hallmarks of the move towards sustainable development is the active participation of civil society in determining priorities and actions at the international level, where multinational enterprises and governments were present only.
3. Based on the briefly presented materials, we can say that a stable process of sustainable development requires integrated and responsible participation of civil society at all levels (global, national, regional and corporate). It is impossible to achieve such a goal without dialogue in different environments, such as: non-profit organizations,

the political sector and business. Only a partnership of all sectors can become the foundation of a strong and sustainable civilization.

4. A strong civil society is inextricably intertwined with both effective governance and development. Author's research confirms the hypothesis that the more open the society, the better and more efficient the work of the government. It is shown that there is a relationship (correlation) between civil society and the process of sustainable development of society. The main trend of this correlation is revealed: a higher level of development of civil society (according to CIVICUS measurements) corresponds to large values of the SD index. Moreover, the correlation is stronger than, for example, a linear trend with some coefficient  $R^2$ : it turned out that the distribution of countries within each value of the openness index is also quite similar (almost the same). The map (field) of changes in the socio-economic and environmental priorities of sustainable development for 2006-2016 depending on the level of development of civil society demonstrates that for open societies and societies with limitations, a significant development vector for the specified time interval is, first of all, the well-being of the environment, and then human well-being. For groups of obstructed, repressed and close societies - well-being of the economy.
7. Civil defense in Russia is not as weak as can be inferred from the participation of the population in the activities of NGOs. In recent years, financial assistance from the state to the "third sector" has grown. Compared to Western indicators, the share of NPOs in Russian GDP is still small - about 1%; only 1.1% of the economically active population is employed in the "third sector". For the most part, Russian NPOs are extremely economically weak and are often on the brink of survival. The main problems of Russian NPOs are: insufficient state support, low intensity of joint work of business and NPOs, especially in the regions, low level of public confidence in them; low professional level of staff, lack of professional volunteers, etc.
8. It is necessary to continue work on the formation of a strong civil society and, as a result, more effective governance to achieve the SDGs. This implies changes in laws, a number of government actions, including the fight against corruption, improving transparency, the rule of law, and providing high-tech information opportunities in communities. It is necessary to continue to make efforts to strengthen NGOs and other organizations, to raise awareness and participation of citizens in governance.

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## ECONOMIC CONSEQUENCES OF POPULISM

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**Abstract.** This paper is aimed at assessing the potential negative impacts of radicalization and populism on the national economy with a special focus on fiscal policy and international trade. The authors presume that populist governments tend to implement expansionary fiscal policy and advocate protectionism.

This research is a synergy of political and economic analysis. The authors describe the EU and Eurozone fiscal trends and risks (public debt and budgeted deficit) and provide examples of economic commitments of populist governments. They analyse how different definitions of radicalization and populism match with the current trends in populist parties, describe risks of implementing expansionary fiscal policies by left- and right-wing populist governments of some EU member states and provide illustrations of current protectionist movements in the US. The authors conclude that EU supervisory role and control mechanisms are crucial to reduce fiscal risks and preserve stability in Eurozone. Decisive actions of international community and domestic political pressure are the only safeguards against distortive effects of protectionist policies.

**Keywords:** *populism, radicalization, fiscal policy, international trade.*

**JEL code:** F4, F5, F6, E6, E7

### Introduction

Against a backdrop of severe economic crisis (2007), migration crisis (2015) and the rise of terrorist attacks, populism has gained increasing popularity. Anti-EU populism in the EU increased as the social and economic distress has driven many working-class, rural and poorer voters against the traditional political parties, the parliamentary system and the European Union (Taylor, 2019). According to an exclusive research by the Guardian (Lewis, Clarke, etc., 2018), populism has been becoming increasingly “mainstream” in Europe – populist parties have won around quadruple supports in elections during the passing 20 years and one in four European citizens has voted for populists in 2018. Moreover, the 2019 European Parliament election showed that the fragmentation between traditional mainstream political parties and other minor players is enlarging obviously. Italy, Britain, France, Spain, Austria, Poland, Slovakia, the Czech Republic, Greece ... are all flooded with a tide of populism. Most of populist parties advocate anti-EU course or at least taking back more economic sovereignty from the EU and promise an immediate increase of welfare and social benefits, which is unlikely to realize in a short term. However, according to the latest developments in the EU the populists seem unable to secure a majority for their anti-European course, neither in the EP nor in the most of the EU Member States. But their programs still may produce high risks for the future, depending on the EU delivery, economic dynamics, migration, etc.

It is essential for the policymakers to understand the potential negative economic consequences of populism and to find adequate ways of boosting economic growth and strengthening stability of the monetary and financial system. It is also necessary to enable voters to make a justified choice during elections based on independent and critical thinking.

This paper is aimed at assessing the potential negative impacts of radicalization and populism on the national economy with a special focus on fiscal policy and international trade. Our research is a synergy of political and economic analysis. The authors describe the EU and Eurozone fiscal trends and risks (excessive increase of public debt and budgeted deficit) and provide examples of economic commitments of populist governments.

To this end, the authors analyse how different definitions of radicalization and populism match with the current trends in left- and right-wing parties, describe risks of implementing expansionary fiscal policies in some EU countries



and provide illustrations of current protectionist movements in the US. The authors conclude that EU control mechanisms are crucial to reduce fiscal risks and preserve financial stability in Eurozone. Decisive actions of international community and domestic political pressure are the only safeguards against distortive effects of protectionist policies.

### **Populism and Radicalization**

“Radicalization” is defined in Cambridge Dictionary as “the action or process of making someone become more radical (= extreme) in their political or religious beliefs” (Cambridge Dictionary, [Online]). The self-evident concepts and circular definition lead to vagueness and ambiguity in its understanding and implementation. Originated etymologically from a Latin word “radix”, meaning “root”, radicalization has experienced a long time of evolution in its meaning. It was after nineteenth century that this term has referred to a broad category of socio-political transformation, including both left-wing and right-wing phenomenon (McLaughlin 2012).

Left-wing radicalization reached its peak in the 1970s and till 1980s when left-wing radicals loaded on themselves a revolutionary mission to combat with capitalism and establish an "equal, just and inclusive society", where migrants, asylum-seekers and women should be granted with equal rights (Dzhekova, Stoyanova et al. 2016). Similarly, March also characterizes “radical left parties” with “anti-capitalism” and “incorporation”, which means that radical left parties oppose “neo-liberal globalized capitalism”, which was built on Bretton Woods system, and are more in favour of a “mixed market economy” and incorporating the “excluded and marginalized” into the political system (March, 2008)

Typical example of the nowadays left-wing populism is SYRIZA. A well-known Greek party of former student activists and far-left intellectuals, SYRIZA emerged as the strongest of the populist far-left bunch and managed to rule Greece from 2015 to 2019. It revealed the corruption of the elite and described them as insufficiently patriotic, advocated anti-austerity economic measures and promised to bring the people back to the old days of "debt-fuelled prosperity". According to Kalyvas, “SYRIZA peddled empty slogans and old-fashioned economic ideas, rejected necessary reforms, and argued that they could force Greece's creditors to fund their policies” as they could deliver no commitments and blame the major parties for deepening debt crisis (Kalyvas, 2017).

The right-wing radicalization gained its popularity only from the late 1980s due to growing dissatisfaction on the continuous economic downturn, increasing the unemployment and pessimistic perceptions (Betz 1999). Radical right-wing politics aims at protecting the nation and national culture from immigrants, trying to keep a homogenous society against outsiders and minorities (Caiani et al., 2012: 5-6) (Dzhekova, Stoyanova et al. 2016). Right-wing radicalization advocates “exclusionary nationalism”, “racism”, “xenophobia”, “anti-democracy” and “strong state” (Mudde 1995). While “immigration” does play an essential role, radical right parties’ try to widen their agenda, laying particular stress on peoples’ concerns, which is key to win more voters (Kitschelt and McGann 1997).

Typical example of a recent success of a far-right ideology, is the far-right League party, which became one of the biggest winners in 2018 Italian general election by widening its agenda from regional autonomy to anti-EU and anti-immigrant course. Matteo Salvini, the leader of the League, adopted in 2018 new narratives. He stated that introduction of euro was a mistake and suggested to leave Eurozone. He claimed that his aim is not to destroy the EU but to make it “more democratic”, to give more autonomy to the member states, especially in the trade policy. Salvini also criticized Brussels’ “faceless bureaucracy” and increasing number of immigrants (Politico, 2019). Despite extreme popularity in Italy, after a few months of governance, Matteo Salvini failed to keep the power, and its former coalition-partner, the anti-establishment Five Star Movement (M5S), managed to form a new coalition with the centre-left Democratic Party. This result is somehow a relief for the EU as the nationalist-populist coalition finally collapsed after 14 months of “Eurosceptic provocations, anti-migrant crackdowns and flouting of the bloc’s financial rules” (Horowitz, 2019).

There is a view that “authoritarianism” can be used to differentiate the left and right radicals, while it is only characteristic of the right ones. However, these two groups are similar in their ways of “political engagement”, the tactics they tend to use, and “their disdain for traditional democratic ideals and practices and their violations of civil liberties” (McClosky and Chong 1985).

The concepts of both left-wing and right-wing radicalization nowadays to a great extent overlap with populism. Populism is the key feature of radicalization in current political climate. Like radicalization, “populism” itself is not sufficient to define the political climate of the EU as a “political style” and “ideology”. Left-wing populist parties became popular right after the financial crisis, but only succeeded to take the lead in Greece. In contrast, right-wing parties have won elections in Italy, Poland, Hungary, and even in the countries where they didn’t win (for example, France), their influence is still increasing rapidly. Some non-populist parties also transformed into populist parties, Hungarian Fidesz party and Law and Justice of Poland may serve as two typical examples. The popularity of left-wing populism is mainly due to the economic recession, while the right-wing populism originated in the refugee crisis.

Taken Brexit as an example, many ideas of the UK Independence Party (UKIP) have perpetuated into the political agenda of the UK and even the Brexit itself is characterised as “populism” as it shares some key populist elements. First, the Brexit shows a confrontation of “common people” and establishment, which is the core of populism. Second, taking back the sovereignty, including full control on immigration issues, is one of the key goals of Brexit (Morillas, 2017). The damage, which ongoing Brexit mess caused to British economy, is irreversible. According to the Bank of England, the UK economy has lost 2% of GDP and the cost of Brexit to the UK has reached 40 billion pounds a year, which means 1 billion American dollars per week. (Partington, 2019)

Other Eurosceptic member states haven’t gone so far as the UK, but their Eurosceptic agenda, still, arose much concern. Hungary is one of those countries. In April of 2018, Hungarian Prime Minister Viktor Orbán and his Hungarian Civic Alliance (Fidesz) party won the election for a third time, which made him the longest leader of Hungary after the Communist era. Furthermore, Orbán's ruling coalition, Fidesz-KDNP (Christian Democrats) has controlled more than two-thirds of parliamentary seats, which is up to 68% (Harris, 2018). The immigration remains the central issue of election and Viktor Orbán managed to convince the voters that Fidesz will protect Hungary from out-comers. A former Fidesz party member, Zsuzsanna Szelényi, owed Viktor Orbán's success to the prevailing cynicism of post-communist transition, anxiety brought by the global financial crisis and Orbán's personal ruthlessness. The party is labelled by many opponents as “Eurosceptic, authoritarian and anti-pluralist”, the government under the leadership of Viktor Orbán are labelled as “illiberal democracy” (Szelényi, 2017). As Orbán himself stated in a speech that “democracy is not necessarily liberal. Just because something is not liberal, it still can be a democracy” (Tóth, 2014).

Fidesz is sharply criticized for breaching rule of law and EU values. Although Hungary is a recipient of EU funds and deeply depends on the Single market, its confrontational foreign policy towards the EU is still a concern of other EU countries. Viktor Orbán strongly opposes the immigration policy of the EU and advocates more sovereignty while trying to change the EU into merely a single market and administrator of structural funds. He also tries to encourage central and eastern European countries for the “fight”. The “Visegrad group” is a stage to increase its influence over EU policies, especially on immigration policies (Bayer, 2017).

To sum up, left- and right-wing populist parties in the EU are appealing for expansionary fiscal policy, advocating protectionism and more economic sovereignty, putting the EU and Eurozone membership in question and refusing to accept refugees. But actually, the commitments of populist parties are hard to achieve and even harder to maintain. The radicals are impatient and intolerant to “slow and cautious reform”, and the promise they have made in the sake of the people actually is hard to achieve (Freeman, 1980).

## Raising people's perceptions of higher income

**Case of Greece.** Many extreme left parties failed to take the power in the EU, but the Coalition of the Radical Left (SYRIZA) managed to rule the Greece in 2015 - 2019. The success of SYRIZA is the result of the people's frustration with politicians and rejection of the bailout deal made during economic crisis by Greek government and Troika (the European Commission, the European Central Bank and the International Monetary Funds).

Greece joined the EU and later Eurozone with a rather weak economic and fiscal performance (figures 1,2). Three years after Greece joined the Eurozone, it admitted that it had fudged its fiscal balance sheets to meet the standards of Stability and Growth Pact (SGP), which requires every member state of Eurozone to maintain its government deficit below 3%, and debt-to-GDP ratio below 60% (Carassava, 2004). After the Olympic games, the government deficit has climbed up to 6.1% and debt-to-GDP ratio – 110.6%. The 2008 economic crisis hit Greece badly and it had to ask external help to keep the country running. After long hesitation, Papandreou, leader of the ruling party PASOK, reached a deal with the EU and promised to implement austerity in Greece in exchange for the first bailout package with €110bn in loans over 3 years to avoid default. Papandreou committed to scrap bonus payments for public sector workers, cap annual holiday bonuses, ban increases in public sector salaries and pensions for at least three years, increase VAT from 21% to 23%, raise taxes on fuel, alcohol and tobacco by 10%, etc. (BBC, 2010).

Under the pressure of high public anger, Papandreou proposed a referendum on the second bailout agreement (BBC, 2011). The second 130-billion-euro bailout was approved at the EU summit, which shocked other Eurozone leaders. Out of the strong opposition from other countries and within PASOK, Papandreou called off a vote of confidence. Although Papandreou survived through the confidence vote, he was still forced to step down for a national union government to take over. A “technocratic” government was formed under the leadership of economist Lucas Papademos. During his term, Greece accepted the second bailout worth €130bn and completed the debt restructuring (Xafa, 2014).

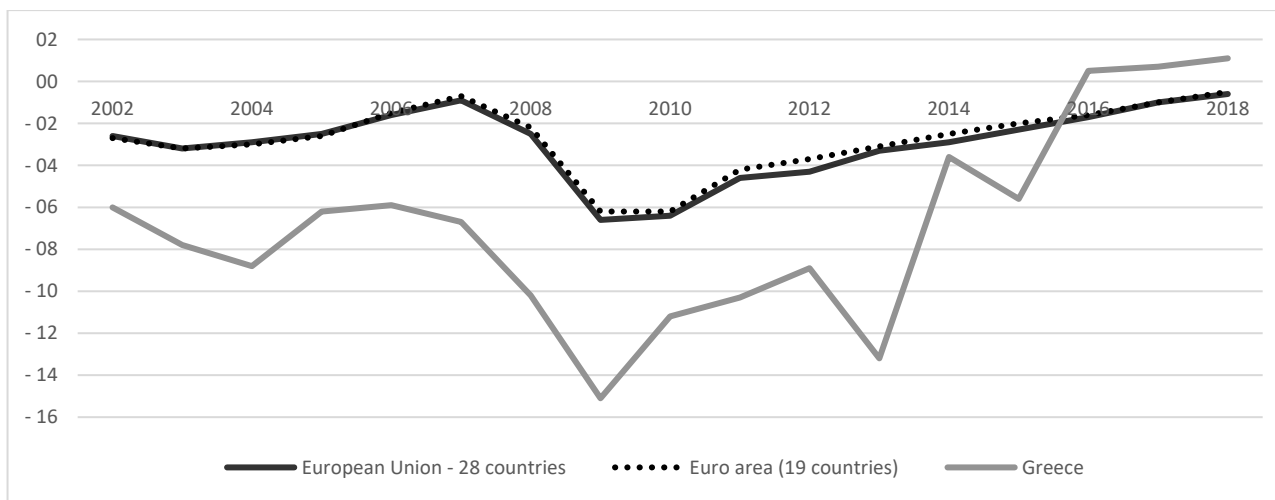
However, New Democracy won the election in 2012 and formed a unity government with PASOK and Democratic Left (DIMAR). This government still respected the existing bailout programs while trying to ask for milder austerity terms and more funding from the Troika. In July 2013, new austerity measures have been approved by the Greek government, as a condition of the ongoing EU-IMF bailout. The plan included thousands of layoffs and wage cuts for civil service workers, tax reforms and other budget cuts. The new austerity plan opened the way for new bailout funds from foreign creditors but raised unstoppable strikes and rages among Greek people, which further reduced the stability of the fragile coalition. (Kitsantonis, 2013) This inevitably led to the success of SYRIZA in the next election.

After forming a coalition with the nationalist conservative party Independent Greeks (ANEL), Alexis Tsipras, a strong opponent against austerity, became the prime minister. He announced that "We will bring an end to the vicious circle of austerity ... The troika has no role to play in this country". He committed to a renegotiation of bailout terms, debt cancellation, and renewed public sector spending—setting up a showdown with international creditors that threatens Greek default and a potential exit from the monetary union (Council on Foreign Relations, Greece's Debt 1974-2018). However, Eurozone finance ministers insisted that they were unlikely to oblige Tsipras on his demands, especially his pledge to seek a write-down of Greece's huge debt. Even worse, Tsipras was running out of time to negotiate as Greece needed its next allocation of bailout money to keep the government running and pay off looming debts to avoid a potential default (Alderman, 2015). Therefore, in June 2015, the Troika suspended bailout programme because of Greece's default on €1.6bn IMF payment. If the bailout program shut down, there were no more emergency liquidity from the ECB.

As a result, Alexis Tsipras called for a referendum to decide whether to accept the bailout conditions or not, urging voters to reject the creditors’ proposal in hope of strengthening Greece's negotiating position. (BBC, 2015) It turned out in the referendum that the majority of voters, over 61%, were overwhelmingly against the bailout conditions.

But not surprisingly, despite winning the referendum, Tsipras altered his stance in front of economic reality and made a concession with the European authorities. In July 2015, they reached an agreement that Greece can receive €86 billion bailout if the country implements even harsher austerity conditions. This “betrayal” led to split in SYZIRA party, as the compromise was inconsistent with the commitments, and there were around 40 members of Parliament of the ruling SYRIZA party abstained or voted against the new deal. Thus, the approval of the third bailout by the Parliament had to rely on pro-EU opposition parties.

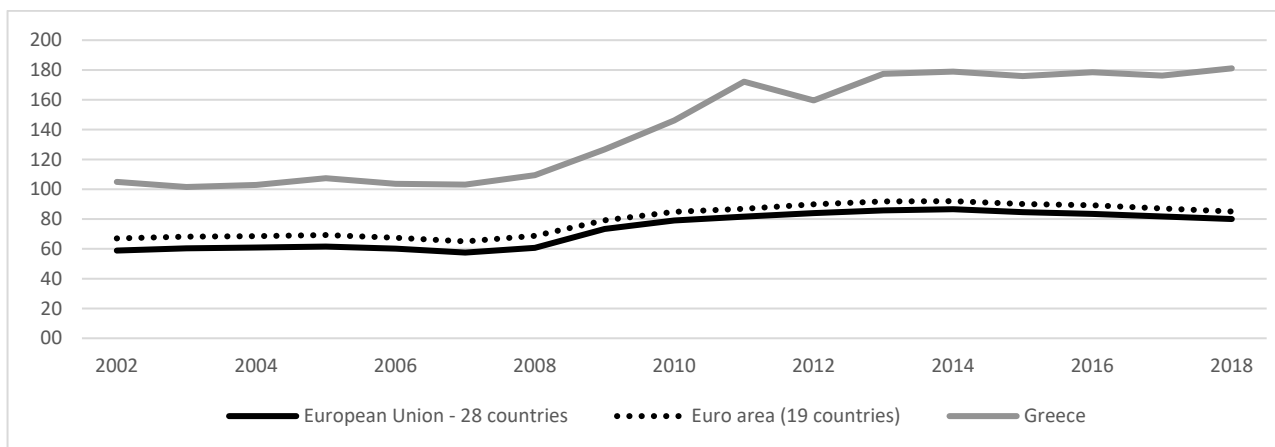
These radical political changes are also reflected in the country’s economic development. The public deficit is extremely high compared to the EU average, reaching twice of the average level of EU member states (figure 1). From 2007 to 2009, impacted by the economic crisis, the deficit dumped to a catastrophic level – more than 15%, which is more than 5 times of the limit. After 2010, when Greece accepted its first bailout package from the EU and IMF, its deficit is dropping arduously. But this positive trend was interrupted in 2014, which can be seen as a reflection of the political turmoil, the rise of anti-austerity SYRIZA party. However, after SYRIZA finally reached consensus with the EU, the deficit started to decline. The new austerity measures taken by the Greek government may partially account for the positive change.



Source: Eurostat

Fig. 1. Annual General Government Deficit of Greece, 2002-2018 (Percentage of GDP)

The national debt of Greece (figure 2) was kept high ever since the country joined the monetary union. In 2002, the national debt was much higher than the average level of both EU and Eurozone member states. After the crisis, public debt has maintained roughly at the constant level and the prospects of reducing debt in the nearest future are marginal.



Source: Eurostat

Fig. 2. Government Consolidated Gross Debt (Percentage of GDP)

This crisis not only revealed the intrinsic vulnerability of Greek economy, such as “wage rises outpaced productivity gains”, low competence, the ineffectiveness of administration, etc., but also provided a great example of assessing the economic consequences of populism. Greece is not the only country, which has accepted the bailout as exit strategy from the economic crisis, but it is the only Eurozone country, which has accepted the bailout more than once. Without any doubt, populist government has prolonged the length of necessary reforms and caused the “reform fatigue”.

Greek people are convinced that their pension and allowance have been stripped by the EU and creditors, and they are victims. Driven by discontent, anger and fear, people came to the streets to protest. These emotions were amplified by the media and radical politicians. As a result, once there appears a populist party, which claims to oppose the EU and promises to cut taxes and increase welfare, voters would support it without any doubt.

But the core question is if the commitment is only a lip service of politicians to seize power. Even when the populists really try to act for the people’s sake, do they ever think out an applicable and acceptable plan for all? The truth is that the country could not survive without the bailout and there was not a better plan. The hesitation and indecisiveness of elected parties between keeping their promises or concede to the reality and take actions good for the whole country at once has cost the country a lot of time and lead to grave consequences.

The EU, during the Greek debt crisis, has kept a strong and hard position, which was a great impulse for Greece to make up its mind and take real actions – that is, turn their direction to reality and implement austerity measures as requested. It is these programs that “enabled Greece to tighten its public finances, take steps towards repairing and modernizing its economy, and regain the trust of investors, which it had lost at the start of the crisis” (European Stability Mechanism – Greece).

IMF also praised the progress Greece has made during these years as Macroeconomic imbalances have been largely eliminated, growth has returned, unemployment is declining (though still very high). But at the same time, IMF also pointed out that more effort should be made to overcome crisis legacies (Greece: Staff Concluding Statement of the 2018 Article IV Mission).

**Case of Italy.** Italy has accumulated the second largest national debt and second highest public deficit among the EU member states. However, Italy’s economic scale is much larger than Greece. Also, due to its location, Italy is the first footstep for refugees to enter the EU. Uncontrolled immigration during crisis lead to frustration of the Italian people. Strong dissatisfaction due to economic stagnation and high unemployment, fear of immigration crisis, distrust of politics and strong desire to shake up the status quo ended up with the anti-establishment right-wing populist

coalition government of M5S and the far-right League, which firmly expressed their anti-immigration, anti-EU and anti-euro policy.

M5S is the biggest winner in this story so far. It was founded as a web-based organization in 2009 by Beppe Grillo, a comedian and blogger, and Gianroberto Casaleggio, a web strategist. The activism in social media and networking, as well as the anti-political attitudes, are typical to M5S. The co-founder, Beppe Grillo, had no foundation in politics and built a big name for himself through "offensive" critics to the Italian politicians. Ever since its foundation, M5S has been firmly against the corrupt and self-serving politics. Its policies are characterized by anti-establishment, anti-globalist and Eurosceptic features. M5S narratives reached the hearts of ordinary people (a huge difference from the political mainstream) and "modern" ways of networking with strong propaganda force brought to M5S huge popularity. As a result, it has risen to be the largest party in Italy (Bulman, 2016).

In 2018, M5S won the Italian general election with 32.7% of votes and formed a unity government with the far-right League party, which shocked the whole of Europe as the third largest economy and one of the founding member states of EU was under control of a populist, Eurosceptic government.

However, the M5S and the coalition have their built-in defects. Although supporters of M5S are united to confront the status quo, they actually share a little in common when it comes to specific issues like EU integration, taxation, etc. As one can imagine, when M5S needs to take decisions, it becomes a big challenge to keep its supporters in cohesion and solidarity. Moreover, as a new party, rising in such a short time and having little political experience, M5S is questioned by a lot of people, including also M5S supporters and activists, on whether it can govern the country effectively and to what extent it can bring out its electoral promises and commitments of prosperity.

Although the populist M5S and the far-right League share a lot in common (Euroscepticism, anti-immigration and active use of social media and online platforms for propaganda) the coalition of these two parties is rather vulnerable. First of all, the supporters of M5S mainly come from the South while the League is backed mostly by the North (Perring, 2018). Second, the League is a radical right party while M5S is hard to be included in traditional "left" or "right" paradigm as some of its advocates are also welcomed by the traditional left wing. It's more accurate to describe M5S as "anti-establishment". Third, although both parties are quite Eurosceptic, the League seems to be more against the existing rules of EU and Eurozone, having said that it wants to leave the Eurozone as soon as politically feasible (Stone, 2019). And M5S's politics is more ambiguous but ruled out leaving euro.

In May 2018, the coalition government published a 58-page agreement document, where the two parties insisted on non-immigration. They introduced a special law to limit the time when migrants can stay in Italy before deportation, confronted the Dublin treaty to force "automatic and mandatory relocation of asylum seekers among EU member states" and produced a "review" of EU missions in the Mediterranean to prevent arrivals of boats in Italian ports without "shared responsibility" from other countries (Politi, 2018).

The Eurosceptic attitude of two parties is also revealed in the agreement, which emphasized the necessity to review the structure of the European economic governance, the rules related to the single market and the mechanisms of management of the EU funds. Furthermore, the agreement clearly expressed opposition to all "aspects" of trade deals like CETA and TTIP due to their "negative" impact on the citizens' protections and competition (Politi, 2018).

Totally ignoring negative fiscal impact, the coalition was ready to introduce a double-tiered "flat tax" regime, setting tax for individual income at 15%, for companies at 20%, as well as a fixed deduction of €3,000 for families and basic income for every Italian citizen. They wanted to allow people to leave work if the sum of their age and years of contribution has reached 100. They also committed to invest €2bn to support jobless and provide free care for Italian families and "economic prize" for women who return to work after maternity leave (Politi, 2018). If this document would come in effect, another €100 billion would be added to the public deficit in the medium run, which



would amount to about 6% of GDP in additional deficit spending, according to the estimates of Carlo Cottarelli, the former director of fiscal affairs at the International Monetary Fund (Puglisi, 2018).

In October 2018, Italy has submitted its budgetary plan with the deficit around 2.4% of GDP and the public debt – around 131% of GDP (Smith-Meyer, 2018). Italy insisted that the chosen expansionary policy is necessary to stimulate the sluggish post-crisis economy and accelerate economic growth. However, unsurprisingly, the EU rejected the plan for “particularly serious non-compliance with the budgetary policy obligations laid down in the Stability and Growth Pact” and threatened that if Italy would insist on implementing this budget, it would have to face an initial penalty of 0.2% of GDP, which could rise to 0.7% in case of further non-compliance. The EC vice-president, Valdis Dombrovskis, even warned that the Italian budget plan “is counterproductive to the Italian economy itself” (Rios, 2018).

After weeks of negotiation, Italy and the European Commission have finally reached a compromise by step-back of both sides. Valdis Dombrovskis said the deal would mean 10 billion euros of extra cuts from Rome and Italian prime minister had agreed that this would come partly from higher taxes on companies and cuts in some planned investment. Italy has lowered its 2.4% target to 2.04%, while the Commission agreed to accept a deficit which would rise the following year instead of falling (Guarascio, Fonte 2018).

The EU commissioner, Pierre Moscovici, praised this agreement as “a victory of political dialogue” and said this will “make the euro stronger”. Valdis Dombrovskis, however, described the agreement as a “borderline compromise” that fails to provide long-term solutions to the country's economic problems. “But it enables us, for now, to avoid opening a debt procedure, as long as the negotiated measures are fully applied” (Tondo, Giuffrida, 2018).

The confrontation between the EU and Italy shows the economic risks that populism may bring. Getting the budget right is crucial to Italy as it can improve investor sentiments towards Italy and reduce government and business borrowing costs. The budget is also of great importance to the EU because Italy is the third-largest economy in the Eurozone and its possible economic collapse or need for financial aid would damage the confidence of investors on the entire Eurozone and its economic and political stability.

After Matteo Salvini failed the election, which he himself demanded in attempt to kick the M5S out, the anti-establishment M5S chose to form a new government with centre-left Democratic Party, which may remark that Italy turns back to more moderate, EU-friendly economic and migration policies. However, so far the new coalition is also unable to tighten fiscal policy.

### **Populism and protectionism**

The protectionist trade policy of political parties is unrealistic under the constraints of the Single Market competition rules in the European Union. Therefore, for the illustration of the implementation of the protective economic mechanism as consequences of populism, the United States can serve as a good example.

Only days after the inauguration, in January 2017, President Trump signed a memorandum on the US withdrawal from the unratified Trans-Pacific Partnership Agreement (TPP), which is one of the most ambitious free trade agreements. Despite the huge potential market, which the TPP may provide, the TPP is also a strategic arrangement to exclude China and thus secure preferential access to the regional markets for US companies over Chinese firms (The Straits Times, 2017). Many analysts criticised this decision as the US could lose access to potential new markets without bringing back manufacturing and low-skill jobs. Ian Bremmer, president of the Eurasia group, warned that “killing TPP really undermines the United States in the eyes of Asian allies”, while Republican Senator John McCain described this as a “serious mistake that will have lasting consequences for America’s economy and our strategic position in the Asia-Pacific region.” He said the decision will “forfeit the opportunity to promote American exports, reduce trade barriers, open new markets, and protect American invention and innovation” (The Straits Times, 2017).

Similarly, talks on the US-EU Transatlantic Trade and Investment Partnership (TTIP) have also been stalled, despite TTIP had already gone through three-year negotiation since 2013 and was almost ready to sign. The deal was expected to be the biggest bilateral free trade agreement in history, which aimed at boosting jobs and facilitate trade between two largest economies (Hall, Cossar et al., 2019). Although there are many sceptical voices against TTIP, particularly from the EU left-wing protesters saying that TTIP would lower EU's environmental, health and safety standards to American levels (Keating, 2018), the officials of two sides were positive towards the agreement. On one side, TTIP is going to “help unlock opportunity for American families, workers, businesses, farmers and ranchers through increased access to European markets for Made-in-America goods and services. This will help to promote U.S. international competitiveness, jobs and growth” (White House, Transatlantic Trade and Investment Partnership (T-TIP)). On the other side, TTIP means more economic opportunity, a stronger voice in the world and a closer alliance with the US on economic and regulatory issues to the EU (European Commission, 2016).

Except withdrawing or halting multilateral trade agreements, president Trump has imposed tariffs on imported products from other countries, including its close strategic partners. In March 2018, he imposed tariffs of 25% and 10% on steel and aluminium imports, separately, despite widespread opposition in Congress, and breaking IMF tariff commitments by arguing that foreign countries' current trade practices with the United States are a threat to national security (Korteweg, 2016). According to a study by the Peterson Institute for International Economics, Trump's steel tariffs had brought benefits with large costs. The tariffs have raised the price of steel products by 8.9%, which has delivered a cost rise of about \$5.6 billion to steel users, at the same time, the tariff created 8,700 jobs in the steel industry, which cost steel users an extra \$650,000 for each job created (Hufbauer, Jung, 2018). The steel and aluminium tariffs result in global trade losses of 14.2 billion USD per year, including 2.6 billion USD for the EU (Bown, 2018).

A study released in November 2018 by the Policy Department for External Relations of European Parliament, provides some scenarios of EU-US trade relations – EU can stand up to the Administration's “bullying” or can take advantage of America's need for a “rebalancing” to build its own stature by taking simple steps to improve EU-U.S. trade. But the report also pointed out that, no matter in which scenario, the bilateral trading relationship – and indeed the global trading order – will have worsened (Chase et al., 2018).

The US-China Trade War and tariff hikes will leave lasting influence on the international trade. Although the US and China have held several rounds of trade talks, the fundamental conflict between two countries is hard to solve in a short run – some pointed out that the US and China can never agree on intellectual property, technology transfer and China's high-tech industrial aspirations (Vaswani, 2019).

In their paper “Who is Paying for the Trade War with China?”, the authors came to a conclusion that tariff burden falls not on American consumers or firms, but on Chinese exporters. Due to the strategic plan of levying import duties on goods with high elasticities, Chinese firms pay around 75% of the tariff and exports of affected goods to decrease by around 37%, which narrows trade deficit of US with China by 17%. Furthermore, the tariff revenues amount to \$22.5 billion, out of which \$18.9 billion are to be paid by Chinese firms, which implies \$18.4 billion net welfare gains for US consumers (Zoller-Rydzek, Felbermayr, 2018). But according to another research by economists at Princeton, Columbia, and the Federal Reserve Bank of New York, the tariff falls on domestic consumers, with a reduction in U.S. real income of \$1.4 billion per month by the end of 2018. During 2018, “the U.S. experienced substantial increases in the prices of intermediates and final goods, dramatic changes to its supply-chain network, reductions in availability of imported varieties, and complete passthrough of the tariffs into domestic prices of imported goods” (Amiti, Redding et al. 2019).

The report of Goldman Sachs also states that the burden of tariffs, which was imposed by President Trump, has fallen “entirely” on American businesses and households, with a greater impact on consumer prices than previously expected. At the same time, Chinese exporters have not lowered their prices to better compete in the US market (Newburger, 2019).

We have to acknowledge that the US-China trade war has impeded the economic situation in both countries and worsened the incomes of different interest groups, including consumers, farmers and manufacturers.

### **Conclusion**

The radicalization is on the rapid rise in the EU and around the world as people, having suffered from uncontrolled migration and severe consequences of economic crisis – sluggish recovery, unemployment and inequality – are frustrated and eager to change the status-quo. The antagonism between “the people” and “the elite” spreads mostly among frustrated low-income or unemployed persons who are ready to protest against the establishment in all possible ways.

This trend can be clearly seen in the political landscape across the EU as populist parties are gaining increasing popularity in many member states. On one hand, voters driven by dissatisfaction rooted in a mixture of the consequences of economic recession, fear of immigrants’ flows, and high disparity between “rich” and “poor” tend to choose non-mainstream political parties in hope of changing the status-quo. On the other hand, seeing the domestic demands, the non-mainstream parties (many of them are populist and EU-sceptical), which promise immediate welfare based on non-realistic commitments such as tax cuts, high salaries and pensions, early retirement, employment booms, etc., gain more weight in the national political systems.

One of the research findings is that populism can bring high risks to the national economy. First, the populist parties are hostile to the immigrants, who can play an essential role in boosting economic growth. In addition, the anti-immigration policies have negative impact on the nations’ state of mind (xenophobia, hatred, etc.). Second, many elected parties are EU-sceptical, they put the economic benefits of the membership in the EU and Eurozone in question and even advocate the advantages of leaving the EU or Eurozone following “Brexit” case. Third, in order to meet the voters’ demand and expectations, populist parties promise broad economic and social benefits based on expansionary fiscal policy and protectionism (cases of Greece and Italy). However, when these parties come to power, usually they have no capacity to fully deliver on their commitments. Unfortunately, some unrealistic or high-risk pledges end up in increasing the vulnerability of national economy and the economy of the EU, in particular Eurozone.

The protectionist trade policy is unrealistic under the constraints of the Single Market competition rules in the European Union. Therefore, for illustration of the implementation of the protective economic mechanism as consequences of radicalisation and populism we have selected the United States. The current economic policy of President Trump administration can serve as a typical example of protectionism with its negative impact on the national and global economy.

All examples illustrate the inherent vulnerability of populist parties in delivering their commitments, which inevitably leads to disappointment of their supporters. Therefore, populist parties often are short-aged and disappear once their supporters realize that the perceptions, which they provide, are fantasy. However, the people in the EU and worldwide still need to be alert about the potential economic risks that populism and radicalization may bring about.

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## COOPERATION BETWEEN CHINA, EU AND THE BALTIC STATES – ECONOMIC BENEFITS AND RISKS

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**Abstract:** The study is aimed at exploring the ways to deepen and expand the cooperation between China, EU and the Baltic states within different partnership formats. The authors argue that the strategic political, economic and security risks should be carefully assessed. However potential risks should not be exaggerated and should not overshadow new opportunities of EU – Baltics - China cooperation for growth and jobs creation.

**Keywords:** *Economic cooperation, international trade, investment.*

**JEL code:** F1, F4, F5

### Summary

The study is aimed at exploring the ways to deepen and expand the cooperation between China, European Union and the Baltic states within different formats.

On the European level the cooperation is growing rapidly in terms of trade, and investment remains significant, however are declining since 2017. Economic cooperation is a direct consequence of the EU policies, on one side, and China's 'Go Global' strategy, and the accelerated internationalization process of large Chinese corporations. With the U-turn in the US approach to multilateral system of trade relations and climate change, some of the ways for the EU and China to move forward are getting different in their strategies.

EU - China trade and investment dynamic is not reflected at the Baltic States level. Trade volumes remain insignificant, and progress in exploring new export opportunities is very limited. The Baltic states should keep in mind risks identified by the EU, which wants to ensure that China trades fairly, respects intellectual property rights and meets its obligations as a member of the World Trade Organization (WTO). Also, China's investment in European and Baltic countries raise a series of question marks. China has introduced capital controls and tightened investment rules for state firms in an effort to stop money moving out of the country and to stabilize its currency. At the same time, policymakers in Europe have become increasingly concerned that state-backed companies in China are gaining too much access to key technologies and sensitive infrastructure while Beijing still shields its own economy. The authors argue that the risks when carefully assessed (for instance, strategic investment screening) should not be exaggerated and should not overshadow new opportunities of EU – Baltics - China cooperation for growth and jobs creation.

The Baltic States are active participants of the 16<sup>1</sup>+1 framework and could take advantage of their geographic position at the crossroad between major axes of communication: between Russia and Western Europe, and between Northern and Southern Europe. The authors identify the new impetus of EU-Baltic States-China relations and give very concrete illustrations of where their potential future cooperation could be established, at the same time acknowledging that considerable uncertainty will still exist in the near future.

The authors conclude that the recent changes in the world order and EU approach to multilateral system gave new impetus to the EU- Baltic States-China relations.

### Introduction

China and the EU have an extensive and growing economic relationship. On the European level the cooperation is growing rapidly in terms of trade and investment. However, this rapid growth in trade and investment is not reflected at Baltic States level.

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<sup>1</sup> As in 2019 Greece has joined the framework, currently 16+1 format has been transferred into 17+1.

More can be done to capture the untapped trade and investment opportunities that exist between China and the EU. China's size and dynamism mean that these opportunities are likely to grow with time.

The state of EU – China economic relations is a direct consequence of the EU policies, China's 'Go Global' strategy, and the accelerated internationalization process of large Chinese corporations. However, the relationship is problematic because of the distortions caused by China's state capitalist system and the diversity of interests of the EU Member States.

In particular, China's investments in European and Baltic Sea Region (BSR) countries raise a series of question marks regarding international trade, the international decision-making process, the sustainability of large projects, managerial capabilities, and cooperation in innovation-driven sectors. The risks should be carefully assessed (strategic investment screening). At the same time, these risks should not be exaggerated and not overshadow new opportunities for growth and jobs creation. The Baltic States are active participants of the 16+1 framework and could take advantage of their geographic position at the crossroad between two major axes of communication: between Russia and Western Europe, and between Northern and Southern Europe.

The paper is aimed at exploring the ways to deepen and expand the cooperation between China and the Baltic states within different formats that exist between the European countries and China. Another aspect to explore is look at the success of some of the BSR countries (Germany, Poland and Finland) and see how the success could be spread to Baltic States as well. The study will identify the new impetus of EU-Baltic States-China relations and give very concrete illustrations of where their potential future cooperation could be established, at the same time acknowledging that considerable uncertainty will still exist in the near future.

### Trade and Investment

**EU – China.** China and Europe have long been steady trading partners. The EU's trade with China hit a 10-year high last year. China is now the EU's second-biggest trading partner behind the United States and the EU is China's biggest trading partner. In time of technology developments, business innovations and decreasing trade costs, China has become a hub of global supply chains. The shift in global value chain puts economies heavily involved in the 'Asia value chain' under competitive pressure.

Despite the large volume of trade, mutual direct investment is still relatively low, with just over 2% of Chinese FDI in Europe and 4% of EU total FDI in China in 2016 according to the European Commission.

What has changed in the last decade is China's increased footprint in European investment. Chinese foreign direct investment (FDI) in the European Union (EU) has increased by almost 50 times in only eight years, from less than \$840 million in 2008 to a record high of \$42 billion (35 billion euro) in 2016, according to Rhodium Group statistics (Valbona Zeneli. Mapping China's Investments in Europe, 14.03.2019. thediplomat.com). For years, European companies sought to benefit from cheap labour by building factories in China, but today that trend is reversing. Chinese investors are now eyeing Eastern Europe and the Mediterranean, where the recent Eurozone crisis has pushed labour costs down and created hunger for foreign investment

China's Belt and Road initiative (BRI) aimed at building China-sponsored interconnected infrastructure around the world has been followed rapidly by a series of China-led infrastructure projects in Europe aiming at improving connectivity, investments and international trade. Along the BRI, the EU-China 'Connectivity Platform', which aims at promoting cooperation in hard and soft kinds of connectivity through interoperable maritime, land and air transport, energy and digital networks, contributed to investment increase.

Chinese foreign direct investment (FDI) in the EU has reached their peak of EUR 37 billion in 2016 and since then are declining: in 2018 the decline is amounted to 40 percent from 2017 levels and over 50 percent from the 2016 peak. This decline is very much in line with a further drop in China's global outbound FDI, a trend that can be attributed to

continued capital controls and tightening of liquidity in China as well as growing regulatory scrutiny in host economies.

The EU and China both have an interest in supporting an open multilateral trading system. They are very much in the same boat as both have to deal with formidable challenges in their domestic environment. The EU faces challenges to boost growth, create jobs, overcome extremism and cope with a wave of refugees from a chaotic neighbourhood. China needs to come to terms with slowing economic development and at the same time ensure sustainable development and protect the environment. In response to its economic slowdown, China is seeking to achieve a ‘new normal’, characterised by economic and social reforms, leading increasingly to more service and technology-oriented economic growth, where market forces should be playing a more decisive role.

For the EU and China boosting growth is a domestic political responsibility, but in a world of complex interdependence it can only be successfully taken up in a stable and predictable international environment. The question is whether the EU and China are willing to jointly support the multilateral system as the US steps back from its hegemonic role and, if so, whether they can act in a coordinated manner as the EU and the US have done in the past (Geeraerts, 2018).

Coordinated efforts offer a prospect for the EU and China to demonstrate their shared commitment to safeguarding rules-based multilateral trading system and to conquering protectionism, while pressing forward with free trade, which is a powerful tool for sustainable economic growth and prosperity. Such an opportunity would be a successful conclusion of the long overdue negotiations on a comprehensive EU-China Investment Agreement. To this end, the BRI needs to be an open, transparent and all-inclusive initiative, which adheres to international and multilateral market rules, requirements and standards (European Parliament, 2018).

The EU has concerns about trade and investment relations with China, which include the lack of reciprocity and market access as well as the absence of a level playing field in China for foreign investors. No free trade agreement (FTA) can be considered before the conditions are right (Saarela, 2018). European Union and China intend to enter into an ambitious investment agreement by 2020.

**Baltic Sea Region - China.** Trade in goods and services between China and the Nordic and Baltic countries is small but steady increasing (table 1).

Table 1

**Imports and exports of goods from/to China in 2018, EUR million**

	Import	Export
Sweden	7672	6556
Denmark	6119	3798
Finland	2131	3579
Lithuania	864	189
Estonia	691	185
Latvia	491	152

Source: Eurostat (online data code: DS-018995)

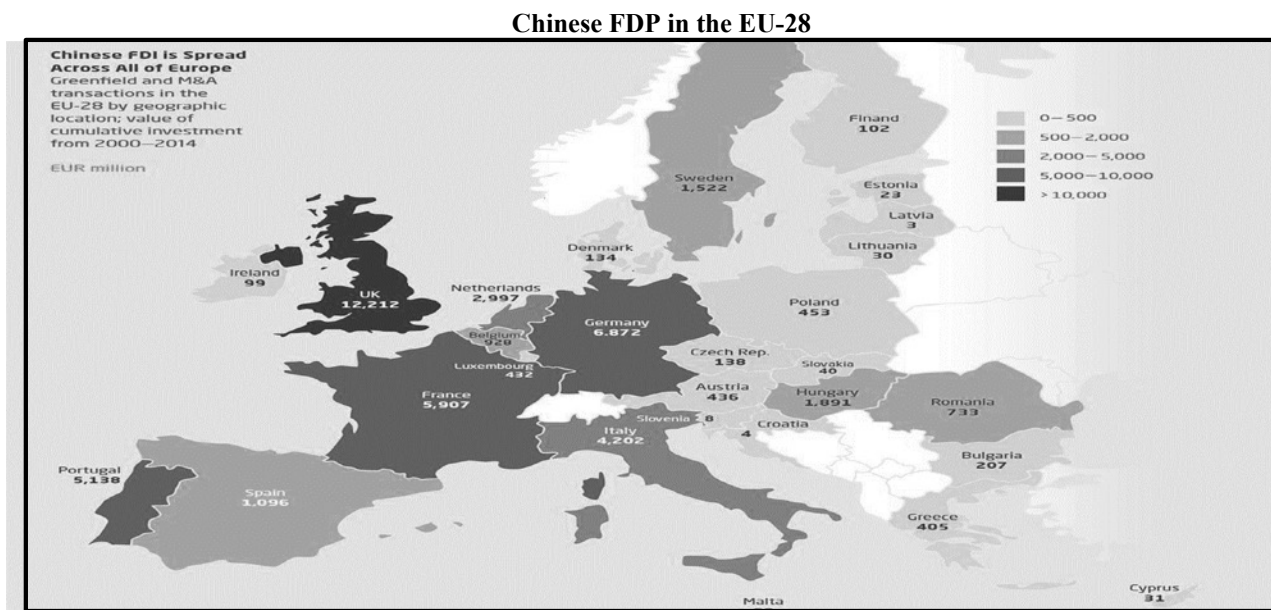
One of the biggest concerns of the Nordic and Baltic countries is big trade imbalances. Imports from China in the region except Finland is much higher than exports.

As far as investments are concerned, Scandinavian companies have developed a strong presence in China in the 1980s and the 1990s in the context of China’s “open-door” policy announced by Deng Xiaoping in December 1978. Sweden and Denmark are the leading investors and together account for at least 95% of the inward investment from the Nordic-Baltic region. According to Eurostat data, most of the inward investment is in the manufacturing sector.

The opposite move - Chinese foreign direct investment (FDI) in Europe and the Baltic Sea region - is more recent. In 2017, Nordic and Baltic countries together received only 5 percent of overall Chinese investment in Europe according to Rhodium Group.

Most of the Chinese investment goes to the core European countries whereas none of the Nordic and Baltic countries belongs to them (Map 1). However, even small investments may be strategically important for the further development of trade and attraction of other investments. Chinese firms demonstrate a growing interest in opportunities for investment in the BSR region, especially in the fields of natural resources, energy, and technology.

Map 1.



Source: Hanemann T., Huotari M., *A New Record Year for Chinese Outbound Investment in Europe*, MERICS/RHG Report, (February 2016), Retrieved at: [http://www.merics.org/fileadmin/user\\_upload/downloads/COFDI\\_2016/A\\_New\\_Record\\_Year\\_for](http://www.merics.org/fileadmin/user_upload/downloads/COFDI_2016/A_New_Record_Year_for)

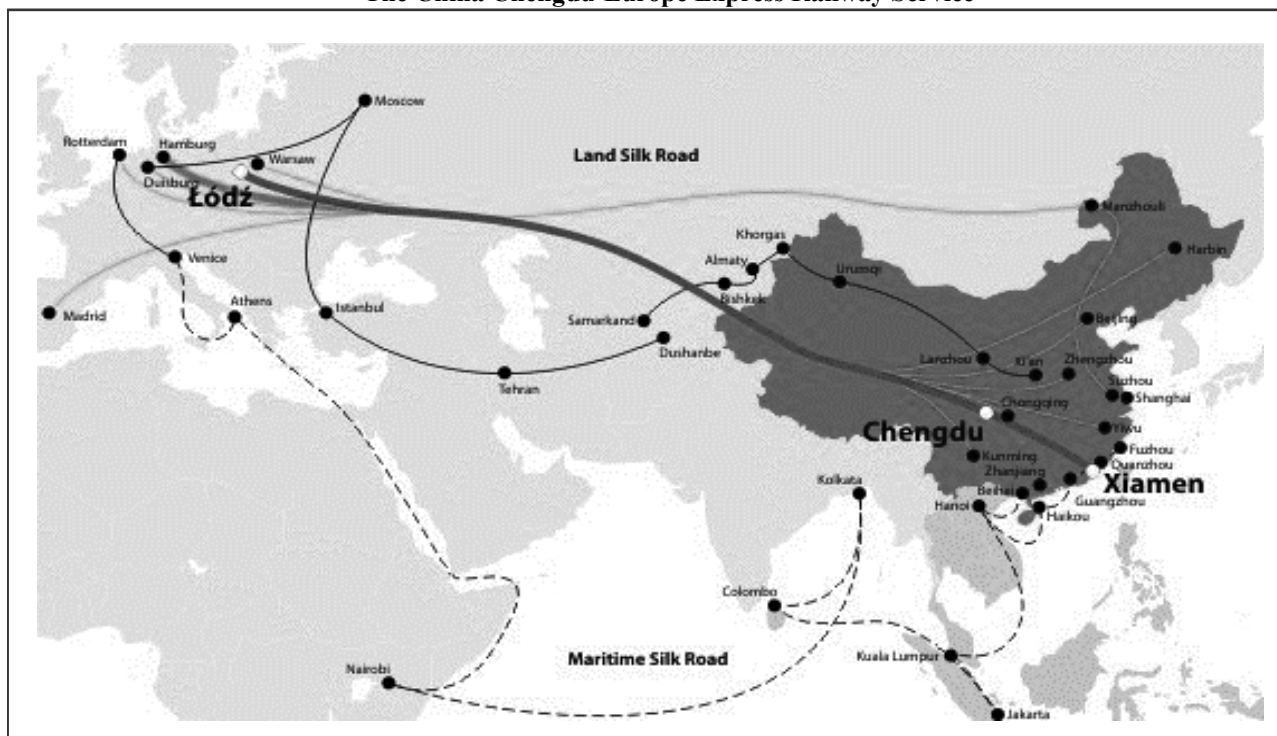
China’s investments in the BSR raise a series of question marks regarding international trade, the international decision-making process, the sustainability of large projects, managerial capabilities, and cooperation in innovation-driven sectors.

Recent examples of controversial China’s investments in the Baltic Sea Region include efforts to build a deep sea harbour in the Swedish town Lysekil and an airport in Greenland. Both projects were halted due to controversial nature and security concerns. Also, Norway has recently announced that is considering excluding the Chinese technology company Huawei from participating in the next generation telecommunications network due to security concerns (Brattberg, 2019).

The Baltic States and Finland plays a direct role in the China-EU rail connection. For example, the city of Kouvola in Finland, which offers a good train connection to the ports of Helsinki and HaminaKotka, has opened in 2017 a new rail link connecting Kouvola (Finland) to Xi’an (China) in 10-12 days.

Map 2.

## The China Chengdu-Europe Express Railway Service



Source: *Baltic Transport Journal*

The implementation of the “Rail Baltica” greenfield project connecting Helsinki, Tallinn, Riga, Kaunas, Vilnius, and Warsaw, aiming at a better connectivity between Finland, the Baltic States, and Poland, could also contribute to intensifying trade and attracting investments.

### The Baltic States and China: Trends and Perspectives

China has emerged as a player in the Baltic in recent years. This is partly through its close military links and strategic partnership with Russia and Belarus, partly through the China and Central and Eastern Europe Countries (“16+1”) mechanism and partly through its flagship initiative of the Silk Road Economic Belt. In turn the economic presence gives China more political leverage over Baltic policies. Win-win cooperation for mutual benefit continues to be a challenge for the Baltic countries, but yet there are concerns that the increasing economic links serves China’s interests more.

Particular close cooperation between China and the Baltic States emerged in 2016 under “16+1” umbrella. The Riga Guidelines argued that “16+1” framework will complement wider EU-China Connectivity Platform, and concerted efforts will contribute to developing synergies between the Silk Road project and the relevant EU initiatives such as the Trans-European Networks. However, there is the risk that the Baltic States will be engaged into a China-shaped network, with increased trade primarily benefiting greater volumes of Chinese exports to Europe.

The Riga Declaration drawn up at the 2016 “16+1” summit made frequent reference to drawing Central and East European countries into closer participation in China’s overland Silk Road Economic Belt project. A final “Northern Corridor” spur is envisaged to Riga. A milestone here was in November 2016 when a trial container train from Yiwu City in Zhejiang province in China arrived in Latvia after completing an 11,000 km journey over 12 days through North-eastern China and Siberia. A further milestone was in September 2017 with a Memorandum on Strategic Cooperation signed between the Freeport of Riga Authority and the Port of Lianyungang, with the goal to promote the development of multi-modal transport services along the Eurasian land transport corridor. Of course, as various Silk Road routes are mooted, the ongoing physical security of such infrastructure schemes (Bujak and Śliwa, 2016) becomes an issue not just for China but also for participating states like those in the Baltic.



The largest recipient of China's investment during the recent years was Lithuania - the biggest country of the Baltic States. According to Chinese national statistics it accounts for more than 75% of Chinese outward investment in the Baltic States.

China's investment in Lithuania has increased from 2.3 million EUR in 2013 to 440.3 million EUR in 2017 (Table 2). Most of it is concentrated in manufacturing and technical service. For example, in 2012 China's largest producer of ATM machines, CRGBanking that accounts for 23% of the Chinese market, made its first big investment in Lithuania.

Klaipėda – the important container port with its largest retail chain in Lithuania and the Baltic States - is one of the important factors that attract Chinese investment in Lithuania. One of the best examples of the importance of transportation sector is SF Express investment and cooperation with Lithuanian Post, the state-owned postal and shipping services company. Investment of SF Express is also one of the top 10 Chinese outward investments in transport and communications sector in the EU. This cooperation agreement and investment were a good injection into the state-owned company that had problems in sustaining profitable activities and maintaining a competitive edge with private courier companies.

In Lithuania, the authorities of the Port of Klaipėda are also studying the possibility of cooperation with China Merchants Group for the creation of a new deep-water port able to receive large container ships of the Baltmax class. The possibility of creating a trans-shipment centre for railway transport between China and Europe is also being considered. Currently only 50,000 containers are re-filled, which means less than 600 trains. Creation of a trans-shipment centre would be an alternative to the traditional, rather crowded corridor leading through Minsk and Brest towards Poland.

Klaipėda seaport in Lithuania, is in competition with Riga for Chinese investments. Riga's port authorities consider creating in Riga a terminal similar to the Sino-Kazakh terminal of Lianyungang.

The development of transport infrastructure is multidimensional. According to the Lithuanian Confederation of Industrialists (2015), China Merchant Group and Lithuanian Railways are going to set up a joint Lithuanian and Chinese company which will provide freight forwarding and logistics services between Lithuania, Belarus and China.

China's outward investment in the other two Baltic States (Latvia and Estonia) remains much lower.

Estonia is among the leading countries in the Eastern and Central Europe regarding foreign direct investment per capita. In 2013 Estonia was also the leading country in the Baltics to attract Chinese investment. Despite a good geographical location and favourable infrastructure for maritime roads (there are nearly 30 ports in Estonia), there have been only a few initiatives for China's investment in the transport sector. Most of the Chinese outward investment in Estonia is concentrated in electrical machinery manufacturing and business service sectors. In 2017, Estonia is lagging behind its Baltic neighbours, however a significant increase of Chinese FDI can be observed in Estonia in the last years: from 42.7 million EUR in 2015 to 76.3 million EUR in 2017.

Table 2

**Chinese FDI in the Nordic (EU Member States) and Baltic Countries in 2013-2017 (Million euro)**

Country	2013	2014	2015	2016	2017
Germany	2 281.0	2 842.0	3 928.0	4 877.0	2 657.0
Poland	264.9	384.0	584.6	477.6	475.2
Sweden		29.6	27.1		478.5
Denmark	39.7	162.7	227.3	674.3	755.9
Finland			-44.0	-43.0	-365.0
Estonia	7.6	39.4	42.7	60.1	76.3
Lithuania	2.3	3.0	14.6	300.8	440.3



Latvia	6.0	62.0	73.0	78.0	80.0
EU28	96 758.9	113 185.6	137 910.9	154 963.8	215 555.4

Source: Eurostat

Source: Statistical bulletin on China's outward direct investment

Estonia is a leader in a number of start-ups among the Baltic States. Start-ups are usually very funds-consuming. Chinese investors may find an opportunity here as some of them already did by supporting Estonian start-up Testlio - a global community of test engineers focused on bug finding and quality assurance. More cooperation opportunities between China and Estonia in educational, medical and health issues were confirmed since 2015.

China's outward investment in Latvia are slightly above Estonian level. China ranks 51st among the foreign investors and 44th by the contributions to the share capital in Latvia. At the beginning of 2016, 166 companies had Chinese capital in the country.

Latvia's strength is its geographical position. It is a natural transport hub with three largest ports and the biggest airport in the Baltics. Therefore, there are more negotiations taking place between China and Latvia under the framework of the "One Belt One Road" initiative. Recent investment project of China in the field of life sciences of Latvia has opened the new chapter in the Latvian -China economic relations.

China's "One Belt One Road" Initiative provides a great opportunity for the Baltic countries to get integrated into the global trade-investment-transport network that could generate growth and jobs.

The Baltic States are still under negotiation with China on long-term investment projects related to the Road and Belt Initiative. One of the biggest threats is the competition among Lithuania, Latvia, and Estonia. Being a very integrated and small region, the Baltic countries should make more efforts on cooperating rather than competing.

The world's largest DNA gene sequencing corporation with headquarters in Shenzhen, China – BGI recently has chosen Latvia as the main base for the production of gene sequencing equipment and reagents, as well as a research and development centre serving the whole Europe. This investment project of China is perceived with cautious optimism as a "success story".

BGI shares are listed on the Hong Kong Stock Exchange; BGI employs more than 5,000 researchers in several countries around Europe, Asia, Australia and North America and project in Latvia – Latvia MGI Tech, a company founded by Hong Kong, is the corporation's largest project outside China. This project is a serious step towards the development of an infrastructure for the Life sciences and technology genome in the scale of Europe, thus allowing Latvia to become one of the European leaders in the field of life sciences. Simultaneously, the BGI/MGI investment project in Latvia is one of the key tangibles and substantial results of "16+1" cooperation.

The BGI/MGI is a multi-annual project with several stages of development: BGI Life Science Centre (2019 Q1), Latvia BGI Wuhan Life Science and Technology Park (2020 Q3) and BGI GC Centre (2022). In August 2019, it is planned to put into operation the production and laboratory premises at the "Lidostas parks" in Mārupe and to start the production of equipment and registers from September 2019. The expected investment volume is 2.5 million EUR by August, plus an additional 12 million EUR will be provided for working desks and other equipment.

Latvia MGI Tech will be a regional base in Europe, built up on the corporation's extensive development experience in Wuhan, China. The Chinese side has taken into account that Latvia is relatively well developed in the field of life sciences, has a good reputation, and the field of life sciences has special support from the government of Latvia. BGI wants to implement in Latvia – to "copy" or repeat – the success story of Wuhan that was launched about 10 years ago (growing from a small company to a huge one), because there are very suitable conditions in Latvia, also in terms of infrastructure, besides there are no Western specific queues (waiting) – in overall, many advantages comparing to DE, FR. The project will be implemented in Latvia, however, will be the platform from which the whole Europe is going to be covered.

### **Economic Relations of the Baltic States and China: Perceived Risks**

In the opinion of some political and economic analysts, the danger for the Baltic States is that Chinese initiatives like the China and Central and East Europe Countries grouping (16+1), and the Silk Road Economic Belt project become mechanisms to leverage greater space for Chinese economic penetration into the European markets. If “Germany has become aware that the growing number of economic ties with China may bring in tandem with the many benefits also certain threats” (Poplawski, 2017), then the situation for much smaller and weaker Baltic economies presents even more risks.

On one hand, “Chinese enterprises can leverage their full-fledged experiences and technologies in infrastructure building to help the CEE countries where demands of the kind are increasingly rising” (Zhang, 2017). On the other hand, it is not clear what sort of leverage this will give. It is true that the Baltic countries as 16+1 framework members, look to China for designated credit lines and investment for various infrastructure projects. However, Chinese investment in the Baltic States would be a mixed blessing (Scott, 2018). Chinese financing may build up a disadvantageous “debt model” (Jakobowski and Kaczmarek, 2017) for the small Baltic countries, given disadvantageous rates that are further tied into using Chinese companies and Chinese workforce to deliver.

This raises the question of reciprocity. While Chinese companies find an open-door environment in Europe, it is quite difficult, if not impossible, for a European company to succeed in winning a contract to build an infrastructure project in mainland China (Casarini, 2015; also Le Chorre and Sepulchre, 2016). This lack of “reciprocity” is an issue for the Baltic States as such projects leave the region at “risk” (Heijmans, 2017; also Jakobowski, 2015). Local industry can be undercut by greater volumes of cheaper Chinese imports which transport costs have been reduced through these infrastructure projects.

The analysis shows that China is strengthening bilateral relations with only some of the 16 and paying more attention to them than to others. China seeks “leverage” in which Beijing is ready to advance its own agenda in the region. A related challenge for the Baltic countries is to preserve EU solidarity within the “16+1” framework, which in general is not serving the solidarity purpose in trade negotiations with China. Chinese officials make reassurance on this issue. At the Riga Summit in November 2016 China’s Prime Minister Li Keqiang argued that “we have all along stressed that the ‘16+1’ cooperation is a part of and useful complement to China-EU cooperation [...] and has injected new vigour into the China-EU comprehensive strategic partnership” (Li, 2016; also Liu, 2014 and Zhang, 2015); but actually in the world of ‘power politics’ the “16 + 1” format enables China to exert increased leverage on the small Baltic countries, and to also weaken the bloc advantages for the EU in its wider negotiations with China.

Economic security is an issue as there is an ongoing large trade imbalance, in which Chinese exports to the Baltic States increasingly outweigh Baltic exports to China (Kalendienė et al., 2017). Furthermore, Baltic exports to China are strongly in the food area (particularly dairy produce); while Chinese exports to the three Baltic States are strong in finished industrial products (machinery, technology). Terms of trade give China’s exports increasing price rises, while Baltic raw resources’ price rise less quickly. Consequently, a gap in value increasingly opens up in China’s favour and against the Baltic States. The pattern of China-Baltic trade also threatens to establish a neo-colonial pattern between primary resources and finished industrial products (Scott, 2018). Such structural imbalances are compounded by imbalances in relative importance: economic links with China are of rising significance for the three Baltic countries but economic links with the Baltic countries are of much less significance for China (Martyn-Hemphill and Morisseau, 2015). This also gives China greater power in negotiations with the Baltic States, who operate in structural terms from a position of relative weakness.

Latvia's greater embrace of the Silk Road initiative also poses the danger of weakening Baltic solidarity. In part this is shown through Latvian competition with Lithuania, in which both push their respective ports, Riga vs. Klaipeda, as the main terminus for the Northern Corridor. Consequently, "at multilateral summits like the one in Riga there is a sense of competition" as the two countries "vie to become the main regional hub for the Chinese goods" (Mackocki, 2016).

Initially Estonia remained rather "cautious" (Veebel<sup>2016</sup>) about China's Silk Road initiative. In part this is because of its trade deficit with China, in part because while Latvia has Riga and Lithuania has Klaipeda, Estonia's main port of Tallinn is not particularly on the Silk Road route. Nevertheless, Estonia signed a Silk Road Initiative Memorandum in November 2017, in which the Minister of Entrepreneurship and Information Technology Urve Palo argued that "for Estonia, the agreement means prospects for foreign investments and provides additional opportunities for connecting the Rail Baltic rail link with the East-West transport corridor" (Estonia Radio 2017). A degree of competition seems to be emerging with Riga, as Tallinn "tries to entice China to use it as a transit corridor" (Estonian World, 2017) to the rest of the Nordic countries. A danger is that this may reflect Estonia running after China too much and opening up divides between Riga and Tallinn that China. Further hopes of increased Silk Road use were announced in the Cooperation Agreement signed between the Estonian Chamber of Commerce and Industry and the Beijing Chamber of Commerce in February 2018.

### **Conclusion: How to Enhance Economic Cooperation**

Slowing down economic growth in the EU and the Baltic states in the years to come provide a clear precondition for exploring the ways to deepen and expand the cooperation with China, in particular in attracting investments for growth.

The Baltic countries have strong interest in exploring synergies between EU and China flagship initiatives, namely the "Investment Plan for Europe", the "Belt and Road Initiative" and "16+1" platform. These initiatives are creating new opportunities for the Baltic countries in terms of development transport connectivity and collaboration in the high-tech sector.

The potential risks linked to strategic investment should be carefully assessed by screening, however should not be exaggerated and not overshadow new opportunities for growth creation.

To enhance cooperation with China and attract its transit flows the Baltic countries should give priority at exploring the "North Sea-Baltic Corridor" connecting the ports of the eastern shore of the Baltic Sea with ports of the North Sea, situated in Northern Germany, Belgium and the Netherlands, including roads, railways and inland waterways.

The implementation of the "Rail Baltica" greenfield project connecting Helsinki, Tallinn, Riga, Kaunas, Vilnius, and Warsaw, aiming at a better connectivity between Finland, the Baltic States, and Poland, could also contribute to intensifying trade and attracting investments.

Direct air links between China and the Baltic countries could also give additional impetus to cooperation at different levels including business, people to people and could also advance tourism.

High-tech and advanced manufacturing industries accounted for a significant share of total Chinese investments in 2017. Technology investments in the BSR provide illustrations of where potential future cooperation could be established in the Baltic. Analysis of the "success stories" of some of the BSR countries (Germany, Poland and Finland) provides ideas how the success could be spread to Baltic States as well. Given the changing China's attitude towards climate issues, green economy, green investments to tackle the climate change could become increasingly important and could also be explored in the context of Baltic Countries and China cooperation.

Despite some reservations we consider the "16+1" mechanism as "golden opportunity" for the Baltic states in attracting investments to enhance innovation and productivity growth. The recent investment project of China – BGI,

the world's largest DNA gene sequencing corporation, is an illustration of the “success story”. Latvian has been selected as the main base for the production of gene sequencing equipment and reagents, as well as a research and development centre serving the whole Europe.

Growing joint research activities between China and the Baltics' Universities, exchanges of students and other people-to-people contacts create new opportunities in economic partnership and promote ideas about potential start-up projects in various fields.

The recent changes in the world order and EU approach to multilateral system gave new impetus to the EU- Baltic States-China relations. The Baltic countries should seek to play an increasing role in shaping a common BSR and European strategy toward China that would balance concerns with commitments to maintain free and open trade and investment policies.

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## ENTREPRENEURIAL CHALLENGES: INNOVATING BUSINESS MODELS FOR A MULTI SIDED PLATFORM APPROACH

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**Abstract.** Entrepreneurs are the innovators and drivers of economic growth. They create jobs, mobilize competition and contribute to the social progress of a country. These are people who implement their visions, bravely embrace problems, are looking for creative solutions and are ready to take responsibility. The modern entrepreneur is a pioneer in the traditional sense, translating new ideas into economically viable concepts. Teachers, heads of social or cultural institutions, artists and employees are also constantly in demand to act entrepreneurially in the accomplishment of their tasks and the search for new things.

Global competition is fiercely contested and the digital revolution is also reversing business, industry and markets. In addition, one must ask to what growth curves can be extended, what proven strategies are viable for the future and which path to take to ensure long-term economic success. The change from linear business model to a multi sided platform business model is such an example, adapting to new market needs and innovating / developing new market segments.

The aim of the paper is to learn more about the process, actions and steps of a company or entrepreneur when a multi sided platform approach occurs, understand what challenges companies face when developing a multi sided platform business model. For this, the authors are using descriptive research method, namely a desk research, analyzing different case studies and qualitative research method, face-to-face interviews.

**Keywords:** *Entrepreneurship, Platform, Innovation, Business Model.*

**JEL code:** L26, O30, M10

### Introduction

Technologies, methods and people are imperative challenges for companies. Technology trends are driving dynamic change in the digital future. In addition, the dominant IT-driven trends that are currently transforming the world are forcing companies to be agile with new innovative business models and changing business processes. These include, among others, mobility, cloud computing, collaboration, big data, networking of all things, agile business approaches and methodologies and digital platforms. With such big changes, entrepreneurs have always to adapt. Most challenges are in following areas: cash flow management, hiring employees, time management, delegating tasks, marketing strategy, capital or business growth, infrastructure and technologies. In order to continuous, innovate the business model all challenges have to be understood and adapted based on the business strategy and market demand (Tohanean, et al., 2019b).

The introduction of digital technologies is transforming numerous social structures, processes and institutions (Herrera, 2018). The transformation rarely takes place abruptly, but runs over longer periods of time. This also applies to cloud / digital platforms and has now been confirmed by a survey by the SAP user group (DSAG, 2019). Only ten percent of the more than 3,500 active SAP customers stated that they were moving their core processes (ERP) to cloud systems. By contrast, 48 percent of respondents already use the cloud platforms for their marketing and sales processes. More than half of the respondents confirm that the cloud is highly relevant for digitization (DSAG, 2019). Here is a clear trend to recognize cloud and digital solutions in marketing and sales. It is no longer a question of



whether one should go the way in the cloud, but why one has not already done so long ago. This is a new opportunity for entrepreneurs all over the world.

The term entrepreneurship (from the French. *Entreprendre*), also founder scene or start-up culture, deals as economics sub-discipline with the start-up activities or the creation of new organizations in response to identified opportunities and as an expression of specific founder personalities who wear a personal capital risk (Ceausu, et al., 2018). Entrepreneurship is more than starting a business and using resources efficiently. It includes creative elements such as the systematic identification of market opportunities, the finding of new business ideas and their implementation in the form of new business models and is not necessarily associated with the ownership function. This will fuel the creation of new ventures with innovative business models and open up new opportunities for companies in particular to differentiate themselves from their competitors (Bucherer, et al., 2011).

Society is becoming more flexible, individual and mobile, always connected to the internet and used to receive desired information in the shortest possible time. Consumers are more and more "digital natives", people who either grew up with the new technologies or handle them as if they were. They are curious about technological developments and are embracing digital or platform purchases (Delgado, 2018).

Platforms are not completely new. The most valuable companies in the world today are platforms, or have activities that run through this new approach. Platform ecology is at the heart of the digital revolution. The change is happening very fast and has disruptive potential. Classic companies should be on guard.

Google, Amazon, Airbnb, Uber or eBay - all these companies have something in common. They are based on a new business model - that of the platform. First and foremost, platform companies are also among the fastest growing and most disruptive companies of our time. Moreover, platforms are also beginning to change a number of other areas, from healthcare to education, and from energy to public administration. Already today, there is hardly anyone who is not already affected by the upheavals that have been triggered.

Digital platforms represent a virtual interface between companies and customers, but also partners and their own employees. Benefits result from the interactions of the users (keyword: network effects). The more players are active on the platform, the greater the benefit for all participants. A unique selling proposition of digital platforms is the direct exchange of data via the platform itself.

In recent years, various categories have developed. A distinction is made between digital platforms as marketplaces, social networks and industrial platforms, whereby hybrid forms also exist (Herrera, 2018). Examples per category:

Table 1

**Example of existing digital platforms per category**

<b>Marketplaces</b>	<b>Social platforms</b>	<b>Digital industrial platforms</b>
Amazon	Facebook	General Electric
eBay	Twitter	Axoom
Uber	YouTube	MindSphere World
Airbnb	Instagram	Adamos

Source: author's creation based on own research

Google, Apple, Facebook or Amazon are already redefining B2C markets (Market Realist, 2019). It has arrived in the broad consciousness of the population that these Internet giants develop enormous expansion urge and change entire industries. It is less well known that Samsung and Siemens see themselves as future platforms and are already making tremendous efforts to achieve this goal.

The first part of the paper will present what a digital platform means, the necessary steps for building digital platform business models and what advantages such platforms offer.

Further, in the second part of the paper, the results of an exploratory study will be presented. The aim of this study is to answer the following question: What are the challenges for entrepreneurs when it comes to innovating business models for a multi sided platform approach?

### Literature Review

This section of the paper presents definitions and key concepts of platform business models and reviews relevant case studies from the literature with the main objective to understand strategies and approaches of a business model development as a multi-sided platform. First of all, a platform is a business model (Tauscher, 2017). Companies or parts of companies build on this business model. These are the most successful strategy model of the 2000s and 2010s - and there is no end in sight. A platform is a business model that:

- Creates value-adding interactions between external vendors / producers and customers / users;
- Provides participants / users in the platform with a more or less open infrastructure;
- Defines the framework and rules for participating in the platform (referred to in this context as the platform governance model);
- Allows matching of platform participants for the purpose of interactions / transactions;
- Exchanges goods, services, assets and social currency;
- Follows the principal of “network effects” and thereby extends the conventional business logic (Korhonen et al., 2017).

The concept of platform strategy is being studied in different fields as product development or industrial economics (Gawer, 2009), however it is best explained through the lens of innovation and technology strategy, as a successful business platform may need to take into consideration the technology aspects and required business actions. Gawer and Cusumano (2008) suggest that companies may have two strategic options in terms of multi-sided platform business model and thus they were introducing two new concepts related to business platforms strategy. First, the ‘coring’ activity describes the opportunity to create a new platform and how it can become a leader in the market by presenting a solution to an industry problem in the form of a product, technology or service. At this point, it is essential to create, develop and maintain strong interconnections between platform and complements. This can be seen in the case of Google’s solution of developing a web search engine as a mean of navigating the internet. The second strategic option, ‘tipping’ is presenting a set of actions that helps the business compete as a platform. One of the key technology action to be considered is to start developing unique and innovative features that are hard to be replicated and in the same time attract a big number of users. The ‘tipping’ technique may be exemplified within the video games console market, where there are three big platforms that have a strong desire to compete: Nintendo, Sony and Microsoft. For example, Sony PlayStation is making money from developers that want access to the code required for writing the video games.

The network of consumers and producers represents a platform’s key asset. While pipeline strategies are focusing on resource control, platform strategies value resource orchestration (Van Alstyne and Geoffrey, 2017). In order for a variety of strategies to be designed and implemented, orchestration of resources is essential (Sirmon et. al, 2011). In contrast with a manufacturing platform, where the value creation process depends on the product features that deliver customer benefits, the multi-sided platform is creating value through enabling and facilitating transactions (Zhao et. al, 2019). The business of the platform is not to develop software, it's about enabling interactions. Platforms generate added value by bringing together and connecting customers, manufacturers and suppliers (ecosystem partners). This facilitates automated interactions and transactions in a multi-page model to create a network effect. Each actor can play one or more roles in each scenario.

Technology is omnipresent in our interconnected world and fundamentally changes business processes. Companies need to decide: short-term transformation or medium-term evolution to a digital operating model (PwC, 2019). To be successful in this new environment, a company must aspire to be smarter, stronger, and faster than they were in the past, enabled by changes across three dimensions: organization and talent, business and customer, and process and technology (PwC, 2017). The way in which these elements come together – mutually redeveloped the way of working from process and technology point of view. The focus was on foundational excellence, multi – model platform, cloud and real time data analysis. With the new approach of a multi – model platform, new business and insights were discovered. This is certainly true in the case of Google. The company moved from developing information retrieval systems (web search) into mobile operating systems, to building an automation system for a home and extending the business model to autonomous vehicles and systems (self-driving car).

Thanks to the digital economy, the growth of a multi-sided platform depends directly on the competitive dynamics (Zhao et. al, 2019). The competition between platforms that are targeting the same user base plays a critical role in the development of a multi-sided platform, as it can bring radical outcomes to the business. For example, the social networking and micro-blogging site Pownce established by internet entrepreneurs was launched in June 2007. One year later, it was shutting down due to a lack of ability to compete with giant Twitter.

In the digital context, many traditional business models are challenged by the successful platforms presence in the market. This is evident in the case of Swiss watchmaker Swatch that already has strategy in practice to compete with Timex or Fossil group on watches but for several years has been challenged by Apple. Launched in 2015, Apple watch was sold in the second quarter of the same year 4.2 million times. Therefore, as platform businesses are dominating the business environment, a strong strategy to compete in the market may include new competencies development, new leadership styles and innovation (Van Alstyne and Geoffrey, 2017)

Today, platform-based investors see more sustainable competitive advantages over traditional business models, with greater potential for future growth (World Economic Forum, 2018). This is also reflected in significantly higher market valuations compared to traditional asset-intensive business models and service business. There is no doubt that business model development stays at the base of competition between multi-sided platforms. Zhao et. al (2019) conducted a study about the evolution of platforms business models in the Chinese Online Group industry and they have concluded that there are four different strategies to compete. First, innovation-centered strategy to create a simple business model design that failed because it is costly in terms of time and resources and it is failing to keep up with other changes or trends within the industry. Second, the imitation-centered strategy to create a simple business model design consists in finding specific elements that can be copied. The strategy may save time and deliver quick results, but without a continuous development of the model, it may barely survive in the market. The same strategy approach but to create a complex business model may give the business the opportunity to even surpass competitors in the long-term due to the complex imitations. The fourth and strongest one, the hybrid strategy to create complex business models offers complete awareness about how the business model elements may successfully interconnect and strengthen the platform position in the market.

Companies can use different methods to generate growth on the one hand and to exploit the opportunities of platforms on the other hand. They open up synergies with their core business and create such platforms:

- The Innovation Platform exists alongside the core business and is intended for companies wishing to grow by introducing new digital offerings, leveraging innovative technologies and / or expanding into adjacent markets (Tohanean et al., 2018a).
- The digital core platform improves operational efficiency while enabling the expansion of core offerings with new innovative services and the digital ecosystem as such (Tohanean et al., 2018b).

- A combined model offers businesses the benefit of quickly delivering new services while improving efficiency in their traditional core business.

Three factors that are contributing at the success of a platform energy are being represented by ‘connection’ - how big the network is, ‘gravity’ - how is the digital platform attracting other participants to business and ‘flow’ - in charge with how the platform is promoting the exchange and co-creation of value (Bonchek and Choudary, 2013).

IT has accelerated business processes, helping companies respond quickly and flexibly to business needs, and enabling new business models and processes. IT users are therefore increasingly demanding flexible IT that is geared to the requirements of the business. Cloud computing is a way of delivering sharable and flexibly scalable IT services through non-dedicated IT resources over networks. Ideal features include real-time self-service based on Internet technologies and billing by use (BITKOM, 2010). This enables cloud computing to redistribute users from investment to operating expenses. IT services may relate to applications, application development and operation platforms, or base infrastructure. The paradigm shifts in with cloud computing poses a challenge for companies as a whole. Cloud computing will require a change in business strategies. Cloud computing services have the potential to change the role of key business functions and thus strategic alignment (BITKOM, 2010). Cloud computing is the advantage in strategic alignment in business with focus on multi-platform approach.

Growing from a normal business model, embracing the new digital and market trends, allowing the business to change and adapt on the customers’ needs – all these elements created the multi sided platform business model.

#### **Research methodology**

The authors employed a descriptive research method, namely the case study and qualitative research method, using the technique of the face-to-face interviews and the guided conversation guide as instrument.

The case study presents a complex analysis of a contemporary phenomenon. Yin (1994) as cited in Tellis (1997) noted three categories: descriptive, exploratory and explanatory. Yin’s approach is closely aligned with a realist-positivist orientation, as he conceptualizes this research method as a form of social science (Harrison, et al., 2017). The case studies were employed to understand and learn more about the process and actions of a company when a multi sided platform approach occurs. For the case studies following companies were selected: Instagram, Amazon, Uber, Airbnb, Microsoft, Google, SAP, Twitter, Facebook and Booking.

The main objective of the research was to conduct an exploratory study about multi-sided platform business model development across a range of active companies in digital economy. To achieve the objectives of the paper, the authors, also, conducted 14 semi-structured interviews with business specialists of companies from the automotive and IT industry. Companies like: UiPath, Continental Automotive Romania, Dell, BMW AG, SC Database for Commerce and Industry Romania SRL, DriveNow, IBM or SAP SE. The interviews were conducted over a timeframe of 6 months, from March 2019 to September 2019. The interviews / discussions had a duration for one hour, took place either in the company’s office or using different communication tools, like Skype. The company data and information will be treated confidentially and only results relevant for this study / research will be presented in the paper. These results are used to understand what challenges companies face when developing a multi sided platform business model.

During the first stage of data collection, the pilot phase had the aim of develop and validate the research instrument. Therefore, the data collected from this stage was not included in the analysis, as it was used only for develop research opportunities and set research objectives. The next stages of the data collection process involved designing a communication strategy with the aim of engaging participants in the study and encourage a high participation rate while explaining the research objective of data collection. The semi-structured interview approach was used in

conducting this study as it helped enabling participants for further discussions and created the opportunity of more data to be gathered.

In the last stage of data collection, the authors used also different sources such as magazines (e.g. Strategic Management Journal, Forbes, Fast Company, TechCrunch, The Wall Street Journal's Entrepreneurship Section or The Washington Post's On Small Business Section), existing reports on the concept of Multi Sided Platform Business Model (Constructing a Multi-Sided Business Model for a Smart Horizontal IoT Service Platform, Multisided Platforms and Markets, Designing a multi-sided data platform, Multi-Sided Platform Strategy, Taxation, and Regulation: A Quantitative Model and Application to Facebook) and books from the areas of strategic management, entrepreneurship, knowledge economy, industry 4.0 and innovation. These sources have been found both in electronic databases (e.g. Springer, Wiley Online Library and Amazon) and in libraries (e.g. Central University Library "Carol I", British Council Romania).

### Digital platforms - building digital business models step by step

The foundation for any digital platform is cloud-based technology (Herrera, 2018). Cloud computing consists of the IaaS, PaaS and SaaS applications. Companies are increasingly using virtualized resources, such as storage and computing power - keyword: IaaS (Infrastructure as a Service). Using the cloud as a development and runtime environment is referred to as PaaS (Platform as a Service) applications.

These PaaS providers include Google App Engine, Microsoft Azure or SAP Cloud Platform. Applications such as Salesforce or Microsoft 365 are examples of SaaS (Software as a Service) services. The vendor is responsible for the maintenance and configuration of the systems that it provides in the cloud. Access requirement is usually only a web browser. SaaS applications enable access to data and services anywhere, anytime (Varonis, 2019).

The path from technical foundation to a new business model is very short. The focus for a new business model that could create and capture value. This development is made possible by three key drivers: an increasing digitization of products / processes / services, the emergence of platforms, the accelerated innovation of business models. Sensors and the growing networking of products, services and processes are making a significant contribution to digitization. These results, on the one hand, in new functional scope of products and advanced services, and on the other, in the complete virtualization of supply chains. In an increasing number of cases, these digitized products, processes and services are linked to platforms that collect, store and evaluate the data generated by digitization. Based on this data, completely new business models are possible, through which customer wishes can be addressed and implemented more and more effectively. These often-digital business models, fuel the growing digitization and bring new generations of platforms.

Before the most important processes and functions can be identified, the business model of a digital platform has to be described. In doing so, processes, functions, roles and the generation of revenues are defined.

A digital platform involves four actors: the legal owner and the operator of the platform as well as the producers and consumers. The operator equals interface to the customer. The producers offer their products or services on the platform.

As can be seen in the figure 1, the main business activity of digital platforms involves three key components: the users of the main business, consisting of consumer and producer, the value-added units and the filter.



Source: author's creation based on own research

Fig. 1. Key components of digital platforms

The so-called value-added units form the goods traded on the platform: pictures on Instagram, available car on Uber or the product on Amazon (the possibility to choose the wished/right product, without being limited on variety).

The third component, the filter, attempts to build up the lack of trust on digital platforms through, evaluation and reputation mechanisms. The filter also serves to personalize the data.

The digitization of processes plays a central role in the implementation of a digital platform. Only through digital processes is a digital business model possible (Innolytics, 2019). It is the in-house link in the value chain of digital platforms (Herrera, 2018).

There are three additional levels within the platforms, this can be seen in figure 2.



Source: author’s creation based on own research

Fig. 2. Levels within every digital platform

In general, the infrastructure layer of a platform serves to technologically facilitate interactions between provider and user. The key function for the architecture of a digital platform and thus the success of a digital business model is again the data management level (Herrera, 2018).

Providers and users of a platform generate and consume information (Herrera, 2018). The owner of the platform collects, structures and analyses the data using algorithms. This is done at the infrastructure level.

However, the main business activity of the platforms is managed at the data management level (Herrera, 2018). The main business activity of a platform is, for example, the brokering of products or services between providers and users of a marketplace. The mediation is mapped at the community level.

**What advantages and potential threats do platform business models offer?**

Platform business models scale much faster than traditional business models. As a result, growth can be massively accelerated and the competitive position significantly improved. A protracted accumulation of resources in the company can largely be avoided.

Classical approaches / activities, as they are in traditional business models (for example, author selection at publishers against the automatism at Kindle, student selection at classical universities against the automatism at education platforms etc.) are no longer a scaling obstacle for platforms:

- The slow and capital-intensive capacity building (Hilton has many hotels, Airbnb does not have its own accommodation capacity) is very often the case with platforms.
- The use of existing unused capacity (taxi companies against Uber) reduces the fixed costs dramatically.
- The production of the product takes place outside the platform through countless "suppliers" (movie studios against YouTube).
- A sharing economy (cars, boats, mowers, homes, etc.) becomes possible because the platform offers additional services (insurance, reputation systems, payment systems).



Data-based tools enable feedback loops for quality assurance and for matching "suppliers" and "customers":

- Rating systems replace traditional control instruments through ongoing feedback (Airbnb, Amazon, Uber, YouTube, Wikipedia, etc.).
- Platform participant interactions are becoming more efficient as reputation systems promote mutual good behavior and replace traditional advertising with real time market feedback.
- Intelligent algorithms use the broad database at real-time level to enable optimal matching of the platform participants.

Traditional companies organize their processes within the company itself. In platforms, processes and the platform itself are inverted from the inside out:

- Products and value added are provided outside the company "platform".
- The focus of the platform activities is therefore from inside to outside.
- Platform management activities focus on resources, functionality, and users outside the enterprise.
- Methods of lean management and agile corporate management are becoming more important than classical planning and controlling.
- Shareholder value and economic growth are created more by network effects and growth potential than by current multiples, traditional methods of discounted cash flow or traditional economic value-added considerations.
- Not the control over resources, but their effective orchestration is in the foreground.
- Promoting communities and innovation outside the platform becomes critical.

Advantages of platforms over traditional business models presented in table 2 make the difference.

Table 2

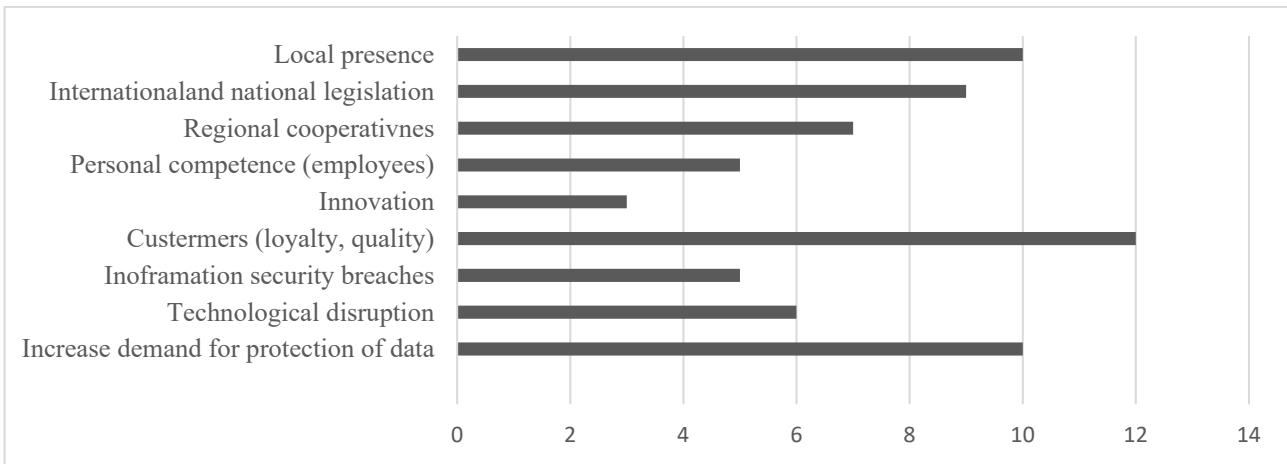
**Advantages of platforms over traditional business models**

<b>Company</b>	<b>Year founded</b>	<b>Number of Employees</b>	<b>Market Capital</b>
BMW	1916	116.000	\$60B
Uber	2009	12.000	\$62B
Marriott	1927	226.000	\$35B
Airbnb	2008	5.000	\$31B
Walt Disney	1923	195.000	\$178B
Facebook	2004	20.000	\$489B
Kodak	1888	145.000	\$30B
Instagram	2010	13	\$1B

Source: author's creation based on own research

Another important success factor of platform business models or platform companies is their "scalability". This refers to the digital economy, the increase in sales without fixed costs, with continuous investment in production or infrastructure. There are several platform business models that have a positive impact on scalability, such as: Software as a service (SaaS), streaming services, publishing subscriptions or online memberships - the bandwidth is diverse. Recurring payments and memberships that generate Monthly Recurring Revenue (MRR) for the provider have now reached consumers. These platform business models lower the barriers to entry for the customer by avoiding large initial investments (e.g. to buy a software or a car) and only pay for what they need or what they use. In addition, short notice periods and flexible pricing models increase the attractiveness of these platform business models (IMS, 2019).

With many advantages, also potential threats are raised. Figure 3 is a preliminary overview that identifies potential threats in platform business models.

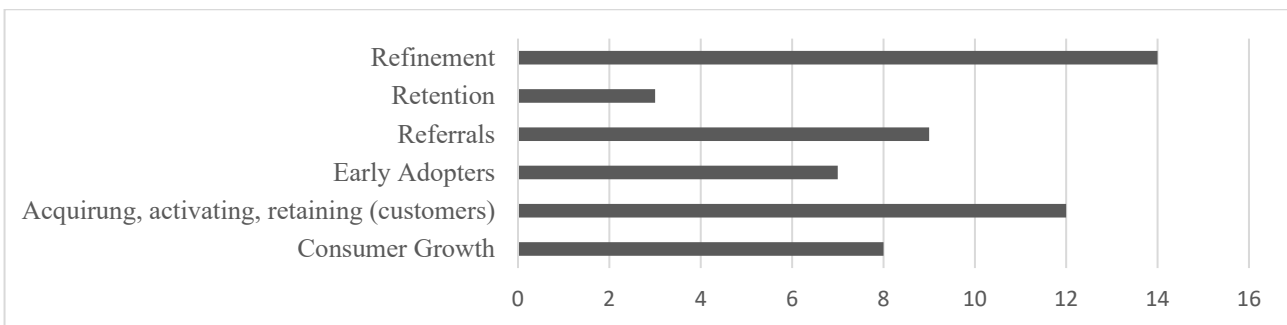


Source: author's creation based on own research

Fig. 3. Potential threats in platform business models

The main threat comes from customers. The variety of products on the market, the influences from social media and negative stories about a product / service can influence the numbers of users on a platform – 10 of the questioned companies see this as a problem. The least threat is the change or innovation – companies embrace change and adapt on innovative approaches.

With advantages and threats also new challenges appear. Main ones can be seen in figure 4.

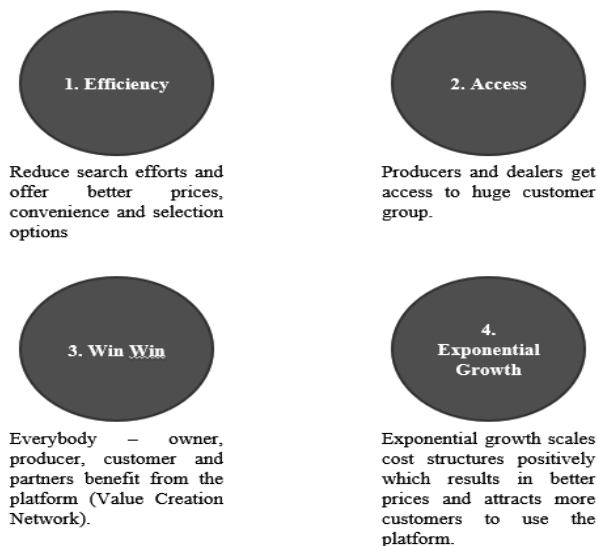


Source: author's creation based on own research

Fig. 4. Potential challenges for platform business models

Main challenge for all interviewed companies is “refinement” - to be able to add and refine functionality in a way that appeals to new consumers and doesn't frustrate the early adopters. Others see a threat in acquiring or retaining customers - sustain high growth / quality for a long period of time. Starting from the idea of “refinement” and based on the research we can draw a success formula for platform business models. These will be successful if they meet 4 key requirements for consumers, providers, and partners (figure 5):

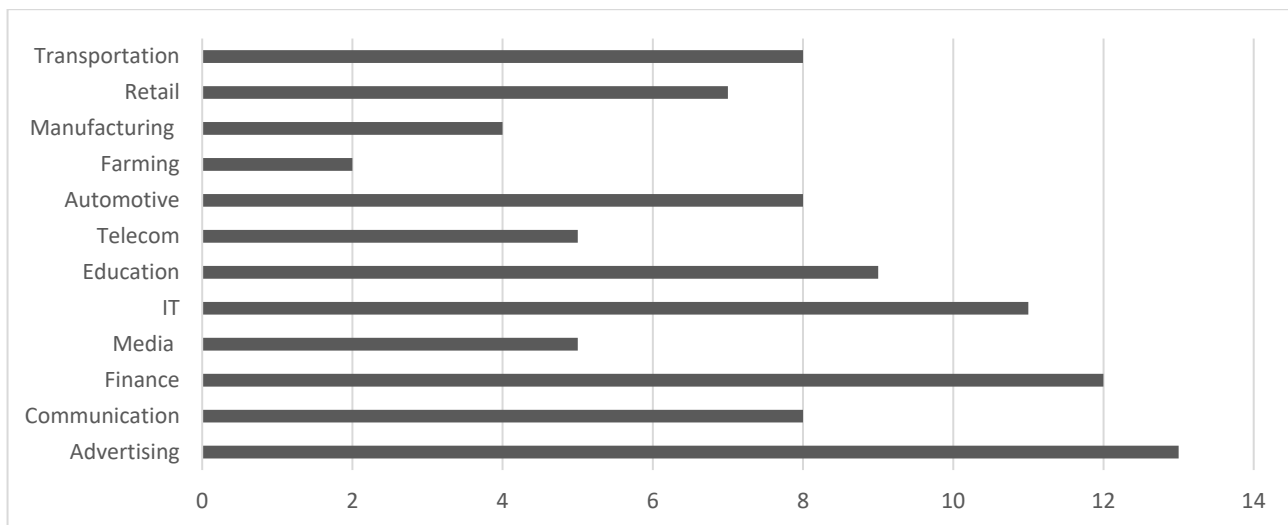
- Efficiency for consumers and users: consumers and users provide successful platforms.
- Simplified market access for product and service providers.
- Win-win situation for partners.
- Aggressive growth.



Source: author's creation based on own research

Fig. 5. Success formula for platform business models

The changes that are produced by platforms affect every aspect of the society. Several other businesses lose clients and market shares, while the labor market is changing its structure. As much as platforms offer a revenue for some people, they reduce the income level of others. In 2017, 642 tourism agencies closed their business only in Romania, as users switched to platforms like Airbnb. Also, other industries were affected by the new platform approach. Most affected are advertising, finance and IT, on the opposite side farming and manufacturing are less influenced by platform activities. More details can be seen in figure 6.



Source: author's creation based on own research

Fig. 6. Success formula for platform business models

With the rising of this new business model, other have to adapt and the process might affect the economic stability. Therefore, for countries' national economy the growth of platforms is rather a challenge than an opportunity, many states trying to find solutions to adapt or legislations to ban the platforms. London and Amsterdam have been more receptive to Airbnb, adapting to the business model by perceiving tourist taxes from Airbnb and even by letting legislations pass parliament, to allow their usage. Other haven't been so receptive though, cities like Santa Monica, Paris, and Barcelona wiped out nearly 80% of the Airbnb listings, Berlin band short-term rentals to be able to control the rental housing shortages and San Francisco allows only full-time residents to host tourists, while in Singapore it is still illegal. Other platforms deal with similar challenges, Uber has been banned in several cities or has to adopt a

taxi license, Facebook and Instagram are not permitted in China. As platforms continue to have a greater impact on the economy, other legislations continue to arise.

For Facebook and Instagram sharing personal information is one of the main aims, but for platforms sharing other products/services this might become an inconvenient. Airbnb, Uber, Amazon list personal information about the house owners, drivers and sellers to increase trust (Edelman & Luca, (January 10, 2014))

### Conclusions

Many companies have already integrated platforms into their business models. Here are just a few well-known examples: large technology companies such as Google, Facebook, Amazon or Apple. Companies like Uber or Airbnb were still startups a few years ago. Industrial heavyweights such as General Electric or Siemens, agricultural giants such as Bayer-Monsanto or John Deere have already integrated the business model of the platforms into their corporate activities.

Platforms offer unique benefits to their users. They do not have to build marketplaces or infrastructures themselves, they can simply use them. A platform becomes more attractive the more participants it has. This creates network effects. Already existing infrastructure can be scaled so easily, whereby the marginal costs for the operators are highly degressive or partially go to zero. This explains the exponential growth of successful platforms.

Platforms are powerful digital infrastructures, they connect people with new business ideas, create new business models and innovate / challenge the entrepreneurial world.

Platform users have the possibility to become part of the business. They can profit from the shared economy (Quattrone, et al., 2016) to earn a marginal or even main income, which also changes the labor market dynamics. Platforms are only functional through users' input who have great control over the platform's content (e.g. Facebook, Airbnb, YouTube, Instagram, Twitter).

They are available and accessible on an international level which eliminates the internationalization costs of other business models

Platforms are part of a global vision but the business is applied locally, even following the specificity of the place. Platforms like Airbnb offer more than housing, they are supporting traditional housing for every destination and are also recommending activities to tourist, replacing tourism agencies. The activities are also changing the usual approach, those being more focused on adventure tourism and authentic experiences, rather than sightseeing.

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## MODEL OF COMPLEX ANALYSIS OF INTERNET COMMUNICATIONS IN ST. PETERSBURG TOURISM MARKETING

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**Abstract.** Historical cities possessing outstanding cultural and architectural attractions, the impeccable and emotional way, have every reason to consider tourism the most important direction of their strategic development. The intangible nature of the tourism product makes marketing communications especially important. Nowadays, tourism is the most heavily influenced by information and communications technologies and implements new tools faster than many other industries. The Internet is becoming the most important channel of marketing communications; it is used not only for collecting and disseminating information, but also for the active cooperation with consumers and partners. Public authorities and local administrations actively participate and contribute to tourist flows increasing, build their own relationships and communications with stakeholders. Official websites of the tourism destination developed to promote the territory are main online platforms for the authorities. This article focuses on the first stage of the comprehensive study on the online recourses' quality, aimed at promoting St. Petersburg tourism. The purpose of the study was to design a coherent model for analyses of official tourism websites developed and administrated by the St. Petersburg executive authorities. The article describes the author's model and principles of complex website analysis for the first time. The proposed logic of the analysis makes it possible to assess not only website technical characteristics but to create a holistic view of its quality, compliance with the needs of consumers, functionality.

**Keywords:** *St. Petersburg tourism, official website, website analysis model.*

**JEL code:** L83, M31, M38

### Introduction

Tourist exchanges contribute to the dissemination of knowledge and information, emotions and impressions about the cities, to the creation of a positive image of the territory, the promotion of progressive ideas and values in other countries. The strategic development of the territories as a tourism destination is based on forecasting, strategies for increasing tourist flows, long-term investment planning and attracting competent specialists. Historical cities of Europe possessing outstanding cultural and architectural attractions, the impeccable and emotional way, have every reason to consider tourism the most important strategic resource of the long-term development.

State authorities, as well as local authorities, are not only stakeholders or actors of the policy-setting and legal frameworks for the successful destination development. They should actively participate and contribute to tourist flows increasing, support and in some cases finance tourism development programs from the budget, actively interact with other stakeholders (tourists, tour operators, tourism intermediaries, guides, public organizations, etc.) and even participate in active sales. Otherwise, they may lose control over the situation and processes in industries producing a tourism product that posed significant risks for achieving the strategic goals of territorial development.

Undoubtedly tourism is one of the industries that are more reflective not only of the effects of globalization, but also of increasing digitalization, smart technologies, new interaction and promotion forms on the Internet. Under the influence of Internet, traditional models of consumer behavior, forms of interaction with consumers, ways of promoting a product fundamentally change. This requires the inclusion of digitalization strategies and online promotion into the marketing strategy of tourism destinations.

Information support of the tourism product is performed through thematic websites and related pages in social networks, customer experience exchange blogs and websites, search and booking systems. State and local authorities are forced to be included into the communication space, it is the only way they can remain a subject involved into the



tourism destination development and promotion, to control the process, to achieve economic, political and ideological goals. The main platforms for the authorities are the destination official websites developed to promote the territory, and only then - related pages in social networks.

The article presents the experience of designing a coherent model for analyses of official tourism websites promoted by the St. Petersburg executive authorities.

This research starts with the literature review supporting the developed hypotheses:

- The online interaction is a mandatory tool not only for promoting the tourism destination. The intangible nature of the tourism product, quest of modern customers for the subject-subject interaction and the multiplicity of tasks that are solved with the help of websites require an integrated approach to their analysis and development.
- The website analysis model is based on the identification of the website's Target audiences and Purpose, after that it becomes possible to determine the research units and issues of analysis.
- Qualitative research requires collecting a wide range of quantitative and qualitative data, a combination of different analytics methods and tools for each issue should be used.

This article employs the model created and data collected as a part of the study conducted by the authors. In particular, the authors' conclusions are based on the results of websites content analysis, expert assessments and data of technical assessment conducted with the help of online tools (e.g. ru.readability.io, istio.com).

Changes in consumer expectations, the development of new technologies and current digitalization trends force the tourism industry to adapt its business models to new digital reality. At the same time, Information and communications technology is only a “smart” tool, although it enables to accumulate and analyze the experience of the industry, modern technologies should not be perceived as a panacea, a self-sufficient means of solving any problem. The quality of the developed Internet resources primarily depends on the ability to use the models of their complex analysis, to use the widest possible set of analytics tools.

### **Literature Review**

The analytical report “Travel and Tourism Competitiveness Report 2017” prepared within the framework of the World Economic Forum notes that the time when travels were a luxury has irrevocably passed; the tourist flows growth shows an unabated positive trend throughout the world, despite such negative factors as the economic downturn and geopolitical instability. The problem of the tourism impact on economic growth and its importance for the development of the territory and for improving the quality of life, are key issues of many scientific and empirical researches including Kotler F. et al., Bowen J.T., Makens J.C. (2017), Holloway C.J. (1998), Goeldner C.R., Ritchie J.R.B. (2009, 2012), Blawatt Ken R. (2005) and others. Although Yi-Bin Chiu (2016) emphasizes that there is no linear relation among the tourism growth, the economic growth, and other macroeconomic variables, the determinants affecting tourism performance are of key interest to the stakeholders. Therefore, countries with different socioeconomic and political conditions and with different resources for tourism development perceive and respond differently to external and internal changes. A review of empirical literature on the tourism development was made by Romero M.P., Molina J.A. (2013).

The international tourism industry is currently suffering from the effects of a weakening global economy. These tighter market conditions, in turn, have led to increased competition. As a result, countries, regions, cities and their tourism industries examine ways to improve their performance. They are looking for measures and tools to improve the effectiveness of promotion and extending marketing activities in domestic and foreign markets. (*Assaf G., Josiassen A., 2012*). The marketing communications development is one of the ways to reduce costs and optimize synergistic effect in tourism.

In many respects the difficulties of producing and promoting a tourism product result from its nature. Tourism product is inherently multi-component, it includes a wide range of attributes (utilities) designed to meet the tourist's needs before, during and after the travel, moreover, it is produced not only by the tourism industry, but also by related industries. (*Doswell R., 1997, Mckercher B., 2016, Kotler F. et al., 2017*) The tourism product includes not only services, products and activities related to travel as such, but also includes infrastructure components, a complex of historical, cultural and natural characteristics of the territory, as well as an ideological component. Introduction to culture and history is an important motivation force to people to travel. (*Liasidou S., 2018*) Tourism increases the authority of the state, improves the image of the country, strengthens inter regional and interstate friendly relations, and promotes the national culture, history and lifestyle. The same tourism product attribute may or may not be perceived by the target audience as a unique one. For example, not all the tourists perceive the opportunity to visit in Saint-Petersburg the Hermitage as something that increases the attractiveness of the city.

The success of the tourism product promotion depends on the quality of the attributes sets allocation that focused on meeting the needs of a specific, narrow group of consumers or an individual client. (*Kotler P. et al., 2017, Lambin J-J., Schuiling I., 2000*) Each selected attribute has its own "value", that is, the degree of its significance and perceiving by the consumer (*Medne I. et al., 2019*). Attributes measurement and evaluation enables to rank consumer preferences in relation to the selected attributes and to develop a "preferred" composition of the product offer for each target segment. Without a clear understanding of the specific target audience for whom the benefits associated with the product are designed, successful promotion in the market is quite challenging.

Changes in the consumer behavior and demands under the influence of the fourth industrial revolution have a significant impact on the modern marketing specifics. Modern consumers are more mobile, they are accustomed to receiving an immediate reaction to the need they formulated. Consumer expectations are shifting to the experience realm. The development of information and communication technologies leads to greater transparency, the amount of information provided to consumers' increases, and the number of alternative sources of information grows. At the same time, the degree of trust and traditional marketing communications impact are reduced, for example, the modern consumer has learned to ignore the traditional advertising almost completely. (*Stelzner M., 2012, Schwab K., 2016*)

Having more opportunities to assess the quality of goods and services, consumers have the opportunity not only to form, but also to broadcast their own opinion and attitude to the widest audience; the new reality shifts the power towards the consumer. The concept of subject-subject interaction, when the consumer is not only able to influence the marketing-content production, but also to produce it replaces the concept of subject-object interaction with the audience, which determines the passive role of the consumer. (*Schwab K., 2016*) In order to have the greater impact on the target audience, the producers of the tourism product should consider the issue of possible contacts with the consumer as an important part of their marketing program. It is necessary that the marketing appeal at each point of contact works to convince the consumer of the proposed product merits. (*Burnett, J., Moriarty, S.E., 1998*)

Tourism integrates into the complex digital world through its reliance on telecommunications technology and its tolerance for wide variations in political, economic and social conditions. (*Mowlana H., Smith G. 1993*) The intangible nature of the tourism product makes marketing communications especially important. Tourism is the most heavily influenced by ICT and implements new tools faster than many other industries. (*Jacobsen J. Kr., Munar A.M., 2012*)

Currently, the quality of the tourism product, destination attractiveness for tourists, and the possibility to influence the consumer choice depend on the functionality and usability of Internet resources (*Minghetti V., Buhalis D., 2010*). From the perspective of the Fourth Industrial Revolution, connectivity has increasingly become a must-have for countries along with tourism digital strategies. The evolution of the Internet from web 1.0 to 4.0 changes the format of marketing communications. There is a development from the information websites to the selling and interactive

website, the increasing use of web 2.0 applications generates numerous online user reviews. “Semantic” web 3.0 gives new opportunities to collect information and analyze customer experience. (*Patel K.D., 2013, YeQiang et al., 2011, Steen Jacobsen J. Kr., Munar A.M. 2012, Zeng B., Gerritsen, R., 2014, Xiang Z., et al., 2014, Buhalis D., Law R., 2008, Gretzel, U., 2011, Law R. et al., 2014*)

Traditional form of direct communications (word-of-mouth, direct sales), consumer’s own experience, web 1.0 sources are still highly resilient and influential but modern practice indicates a complementary nature of Internet communications of different innovation levels. (*Jani D. et al., 2013*)

Baggio R. (2003) in his research concludes that all the European countries have designed and implemented official tourism portals and websites to promote their tourism destinations. The tourism website may contain information about all industries that are related to the tourism business. Countries and cities, hotels, airlines, travel agencies and other businesses use websites to deliver information to their customers and actively interact with them. Since all tourists rely heavily on the information provided on tourism websites, it is vital that a tourism website contains quality information for the benefit of all users (*Saroj P., 2012*).

Empirical research, supported by quantitative and qualitative data, is needed to analyze the impact of tourism websites and portals on tourist’s behavior and travel planning, as well as on the ability of destinations to join the global tourism market. The biggest challenge is to formulate research questions in such a way that multiple factors can be combined into a common area of analysis (*Magnini V.P., Fesenmaier D.R., 2014*).

### **Research results and discussion**

To date, the following tourism information resources created by St. Petersburg executive authorities are presented on the Internet: official city tourism portal “Visit Petersburg” (<http://www.visit-petersburg.ru/>) with linked pages in social networks: Vkontakte, Facebook, Twitter, YouTube and Instagram; website “Travel Petersburg” (<http://www.tourism-spb.ru/>) of the Committee on Saint-Petersburg tourism development, and “City Tourist Information Bureau” (<http://ispb.info>) with linked pages in social networks: Vkontakte, Facebook of the State budgetary institution. For foreign tourists are addressed: application for smartphones TIC SPb “Visit Petersburg”, Youtube, Tripadvisor and LonelyPlanet blogs. However, studies show that a small part of foreign tourists makes decisions about their trips to St. Petersburg thanks to these resources, direct communications (friends or travel agencies recommendations) have a much greater impact, but these resources are used in the preparation for the subsequent trips.

Analysis of the listed Internet resources leads to the conclusion that their content, style, design and format do not fully conform to the requirements of modern content-marketing and online promotion. Success in promoting the tourism product of St. Petersburg depends on the ability to generate distinct profiles of the used marketing communications and promotion technologies to narrowly defined target audiences. Digitization in a pragmatic sense pursues the monetization goal: attracting new tourists, selling as many tourism products as possible, stabilizing, developing and stimulating demand. State and regional authorities, local administrations are faced with the task of website development and design, as well as the need to analyze the quality and efficiency of the developed Internet resources. Successful achievement of the envisaged targets is impossible without a preliminary, in-depth and professional audit of existing Internet websites.

The model of websites analysis

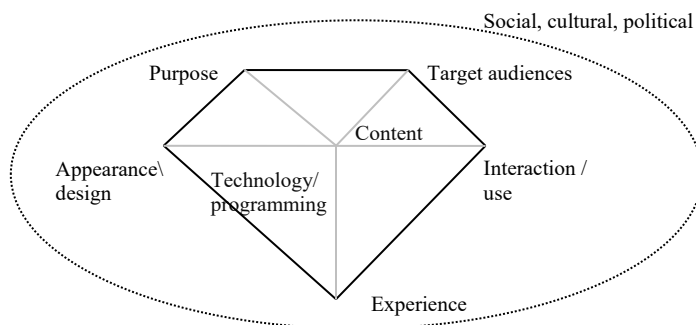
The problem of websites analysis in terms of compliance with the quality, technical perfection and usability is the object of many studies. The quality of the website can be measured by a wide range of characteristics, however, specific analysis models and approaches to the research procedures choice largely depend on the scope of researcher’s scientific and professional interests. An overview of different approaches to the website as an object of analysis is presented in the work of Engholm I. & Klasttrup L. (2010). In the framework of various empirical studies, the

specialists have been focused on the website technical characteristics, assessing its relevance and usefulness, design and layout. Further, the number of analyzed parameters was expanded by including aesthetic, emotional and affective characteristics.

Engholm I. & Klastrup L. (2010) identify the website as an autonomous and coherent analytical unit, “an artifact”, a completed product, “...a well-defined “editorial unit” gathered under the auspices of a shared URL-address” (Engholm I., Klastrup L., 2010). The website developed by a producer or designer is a unified system of pages, elements, online communication tools and interaction formats, cultural and aesthetic elements, services and experience in using that are able to control and modify. The authors emphasize that it is impossible to draw a clear line between design and communication. The main task of the website is to ensure customer satisfaction and loyalty, which implies regular visits to the site to obtain the necessary data to solve the problem or just to search for interesting information. Customer satisfaction is a critical factor of online communications because tourism product are delivered and purchased via internet in the forms of information (Saroj P., 2012).

In view of the wide range of characteristics and properties used in the websites' analysis, their choice largely depends on what tasks were set by developers when creating a site and on their perception of the nature, functions and capabilities of the resource being developed. In this study we propose to analyze the website through augmented model originally developed by Engholm I. & Klastrup L (2010).

The proposed model includes eight units of analysis: Purpose, Target audiences, Appearance / Design, Interaction and Use, Experience, Technology / Programming, Content (Fig. 1). Each analyzed unit may include a fairly broad set of estimated parameters and research tools.



Source: author's construction based on Engholm I. & Klastrup L., 2010

Fig. 1. The model of website analysis components

The units “Purpose” and “Target audiences” are the primary areas of analysis, this decisions lay the foundation for website development and design. Decisions on “Interaction /Use”, “Appearance” are based on those agreements regarding the genre and target audiences, which are determined by the developers of the website.

Decisions on “Technology/ programming”, “Content” must be correlated with and support all other units. “Technology/ programming” and “Content” include a study of communications on the website, both from a formal point of view (how and with what tools the website conveys information, how the interaction with users is designed) and from a semiotic, narrative, content-oriented point of view (what meanings the website conveys).

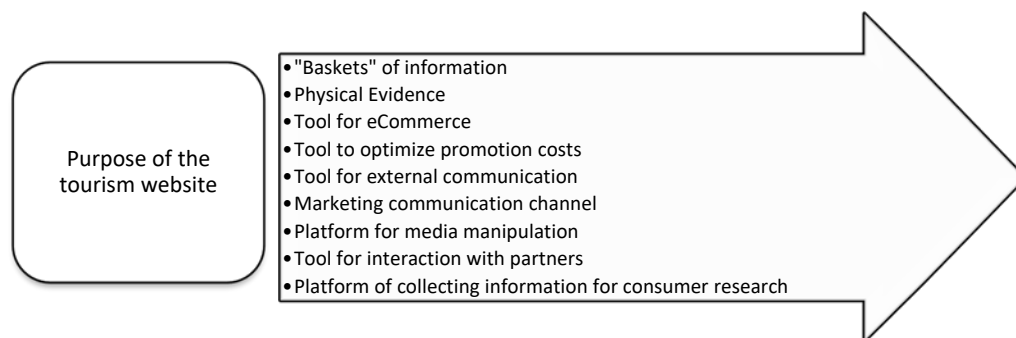
The analysis of the experience should be carried out through the assessment of the user's perception and assessment of the usefulness and quality of the decisions made in relation to all other units.

Target audiences and Purpose of the website

The development and implementation of any marketing tool, including a website, is the final stage of the marketing strategy development process, which begins with the market segmentation (determining the parameters of the audience) and the selection of target audiences. The emergence of a new consumer type due to the fourth industrial revolution

expands the number of segmentation criteria through new variables that define the features of the consumers' online preferences and behavior: free access to the Internet, the time of using Internet, experience of using mobile applications, online shopping experience, social network activity, networking habits, etc.

Purpose is determined by the website genre, its functions and perception by the developer, as well as the target audience both on a short-term and a long-term basis. (Engholm I. & Klastrup L., 2010) Possible alternatives of perceptions of the Purpose of the tourism website are presented on Fig. 2.



Source: author's construction

Fig. 2. Perception of the tourism website Purpose

The simplest perception of a tourism website is "a basket of information", a kind of tourism products and services catalogue needed to inform tourists (Saroj R., 2012). When the website is used to buy/sell specific products (visas, tickets, hotels, etc.) the site is perceived as a platform for e-Commerce.

The website is a platform for collecting information about customers and customer's experience. The use of analytics tools such as cookies and SEO helps to collect information without direct appeal to the client. Online surveys, customer reviews enable to collect information directly from users.

Tourism is an intangible service sector, but after promoting a tourism website, tourism services and products can become more tangible. The website visual content, images and videos, call center operators and even credit cards with which users pay for purchased services are elements that create Physical Evidence (Saroj R., 2012. Rafiq M., Pervaiz A., 1995).

The website as a Tool for external communication aims to aware the user of the product or service quality providing a reason to buy. Image, brand, logo of the territory, territorial products and manufacturers, their representation on the site send a signal to the customer guaranteeing quality, safety, and satisfaction. Marketing communication is an open system where consumers are influenced by multiple marketing communication tools. The Internet features both non-personal and personal communication forms, as customers interact with producers and marketers online as well as communicate and share information with one another through the social media use. An effective online communication strategy is now seen as a key element to achieve a competitive advantage in the market, meet the current and potential information needs of tourists in a highly competitive way and to attract new customers.

Public opinion can be expressed only through the channels provided by mass communication, without which there can be no propaganda (Coxall M., 2014) the perception of the tourism website to be a Platform for media manipulation is especially important for official resources, which are less focused on active interactions and more focused on the promotion of a destination's favorable image. It's a mark that the authorities are interested in propaganda of the tourism destination to attract tourists, to guarantee their safety, and to provide services of appropriate quality.

In view of the complex nature of the tourism product many service providers, contractors, representatives of related industries, and partners are involved in its production and promotion; they can be perceived as a kind of ecosystem.

Placing information about partners on the website facilitates the search for users. At the same time, the image of partners supports the image of the Internet resource.

Using websites to search for information and active consumer’s participation in the tourism product creation can not only lead to the online transaction, but also decrease time and sale costs both for the producer and the consumer (Mihălcescu C., Sion B., 2011).

Issues, methods and analytics tools of website analysis

Website analysis is a process of collecting, measuring, compiling and interpreting of data collected on selected units and issues of analysis. Currently, there is a huge choice of qualitative and quantitative analytics tools, which complicates these tools selection in a particular study. The general logic of the analysis pursues the aim of a website comprehensive study and includes the following stages: the identification of analysis issues by selected units and the choice of analytics methods and tools. Frequently in practice, excessive enthusiasm for the analysis of technical parameters and usability replaces the quality assessment of texts, the evaluation of the materials usefulness for the target audience, the monetization assessment.

Table 1 shows an example of the website analysis matrix that was constructed to analyze St. Petersburg official tourism websites.

Table 1

**The website analysis matrix**

Units of Website analysis	Issues of analysis	Methods of analyses / analytics tool
Target audiences	<ul style="list-style-type: none"> <li>• to identify target audiences</li> <li>• to determine pages, sections/ content intended for target audiences</li> </ul>	<ul style="list-style-type: none"> <li>• content analysis</li> <li>• marketing surveys (online and offline questionnaires)</li> </ul>
Purpose	<ul style="list-style-type: none"> <li>• to identify purposes of the website</li> <li>• to determine pages, sections/ content that support specific goals</li> </ul>	<ul style="list-style-type: none"> <li>• content analysis</li> <li>• expert interview</li> </ul>
Appearance (design)	<ul style="list-style-type: none"> <li>• the compliance with functions (is it immediately clear where the user got?)</li> <li>• corporate and territorial identity of the website</li> <li>• uniform style for all pages and sections</li> <li>• does the graphics complement the content</li> <li>• presence of high-quality "preview"</li> <li>• the colour palette corresponding to ideology and territorial image</li> <li>• presence of website animation / lack of annoying animation</li> <li>• the presence of banners, their non-intrusiveness, corresponding to the design</li> <li>• the readability of the font, matching the font to the background colour</li> <li>• the composition of the pages</li> </ul>	<ul style="list-style-type: none"> <li>• content analysis</li> <li>• marketing surveys (online and offline questionnaires)</li> <li>• SEO tools</li> <li>• narrative analysis</li> <li>• semiotic analysis</li> <li>• focus groups</li> <li>• marketing surveys (online and offline questionnaires)</li> <li>• expert interview</li> </ul>
Interaction and use	<ul style="list-style-type: none"> <li>• availability of feedback forms</li> <li>• time waiting for a response</li> <li>• availability of forms for online surveys</li> <li>• availability of customer reviews</li> <li>• availability of chat</li> <li>• completeness of contact information</li> <li>• availability of subscriptions</li> </ul>	<ul style="list-style-type: none"> <li>• content analysis</li> <li>• expert interview</li> </ul>
Experience	<ul style="list-style-type: none"> <li>• experience of using the site to solve the problem (successfully or not)</li> </ul>	<ul style="list-style-type: none"> <li>• marketing surveys (online and offline questionnaires)</li> </ul>
Content	<ul style="list-style-type: none"> <li>• sufficient content of the entire website, pages and sections</li> </ul>	<ul style="list-style-type: none"> <li>• content analysis</li> <li>• narrative analysis</li> </ul>



	<ul style="list-style-type: none"> <li>· informativeness of the website, pages and sections</li> <li>· adequate presentation of information</li> <li>· originality of the idea</li> <li>· unambiguous, easy to read blocks</li> <li>· errors (grammatical, syntactic, etc.)</li> <li>· compliance with copyright</li> <li>· the quality of preview</li> <li>· news updates</li> <li>· overload of information</li> <li>· language versions</li> </ul>	<ul style="list-style-type: none"> <li>· expert interview</li> <li>· tools for checking the readability of texts (ru.readability.io, istio.com)</li> <li>· comparative analysis of the informativeness</li> </ul>
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*Source: author's construction*

The proposed logic of the analysis makes it possible to assess any page or section from different points of view, thus creating a holistic view of their quality, compliance with the needs of consumers, functionality.

The quality of the developed analysis matrix depends on the decisions concerning the selected units of analysis, the set of issues for each unit and on how wide are the range of used analytics methods and tools. For example, the main issue for the Content unit is the quality of texts published on the website.

Traditionally, texts are analyzed through content analysis, which relies on the notion that text is a form of verbal human behavior. Content analysis is used to objectively, systematically and quantitatively examine the text, describing the manifest content of communication. Website texts contain information about past and current events; broadcast semantic images for each target audience. Without the narrative analysis it is difficult to develop the argumentation system, understandable to the audiences and reflecting their interests, to implement the system of linguistic means and the figurative, emotional, evaluative language typical for the particular category of people. At the same time texts are evaluated through such technical tools as SEO analysis for technical audit, or tools for checking the readability of texts.

### **Conclusions, proposals, recommendations**

1. The growth of the St. Petersburg tourism industry supporting economic growth of the territory depends on whether the authorities responsible for the culture and tourism policy are able to adapt to key trends and transformational processes that will affect the industry in the short, medium and long term. Given the high competitiveness and saturation of the tourism product market it is vital to understand how tourists belonging to different target segments, people of different cultures, habits and with different travel experience perceive the online information.
2. Public authorities and local administrations are also faced with the necessity of websites development and design, as well as the need to analyze the quality and efficiency of the developed Internet resources. Although the effectiveness of official websites is the issue that generates most discussion, there are very successful cases when state, regional or local authorities not only developed, but also successfully promote the tourism product of the territory.
3. A coherent analytical matrix of websites analysis should include 7 units of analysis. The identification of Target audiences and the clear definition of the Purposes are the basis of the analytical model. On their basis, the quality of "Appearance/design", "Interaction and use" and "Experience" decisions is assessed. Two units "Technology/Programming" and "Content" are somehow correlated with decisions regarding all other units of analyses.
4. The success of the analysis largely depends on how well analytics tools are chosen, a skilful combination of qualitative and quantitative methods of analysis, technical, sociological and semantic tools is a key requirement for a website coherent analytical model.

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## EFFICIENT FINANCE REGULATOR AS SUPPORTER FOR FINANCIAL STABILITY OF INHABITANTS

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**Abstract.** Recent developments in banking sector in Latvia especially related with PNB Bank where bank accounts of many retired people were located leads to requirements for proficiency of Finance Regulator which has to be efficiently financed, stable and professional. In different countries Finance Regulators have different models of their financing. Aim of the study is to investigate different approaches for Finance Regulator financing and analyse expert views on possible development of Finance Regulator financing model in Latvia. Research methods applied: scientific publications and previous conducted research results analysis and expert survey for possible financing model changes in Latvia. In expert survey for analysis of expert views in many cases it was used evaluation scale 1-10 to better analyse expert views. For analysis of expert views it was used indicators of descriptive statistics, cross-tabulations and factor analysis. Research results indicated that Latvia has a great challenge for best possible model of Finance Regulator financing as the current financing model causes problems as currently Finance Regulator is financed by existing finance institutions which Finance Regulator has to monitor.

**Keywords:** *account location for retired people, financial literacy, finance regulator, finance system stability.*

**JEL code:** G18, G28, G53, I38

### Introduction

The relatively recent global crisis has highlighted the need for supervisory models to change and the importance of regulation in the financial system, both nationally and globally. Recent developments in banking sector in Latvia especially related with PNB Bank where bank accounts of many retired people were located leads to requirements for proficiency of Finance Regulator which has to be efficiently financed, stable and professional. In different countries Finance Regulators have different models of their financing. The Single Supervisory Mechanism was established in Europe at the end of 2014, reinforcing macro-prudential supervision, which focuses on ensuring stability at the level of individual financial institutions to ensure the stability of the financial system as a whole and cooperation between ECB and EU competent authorities (financial market supervisors) (FKTK, 2014). Financial and capital market regulation and supervision in Latvia has become more prominent in 2018, with particular attention to certain aspects of supervision and its importance in combating financial crime in a global context. Due to the weaknesses of the financial system, as demonstrated by the situation with AS ABLV Bank, risk reduction in the financial sector has been initiated in Latvia, which in turn leads to a significant outflow of financing from Latvian banks. The share of foreign deposits in Latvian commercial banks in September 2019 is 19.5%, since 2015 this proportion has decreased by 34 pp (FKTK, 2019). This, in turn, poses a risk to the financing of the Latvian financial regulator.

In 2019, the banking sector is still questioning the public in the shadow financial supervision segment, as five Latvian commercial banks, which are almost a third of Latvian commercial banks, are exposed to high risk. This is also evidenced by the suspension and liquidation of AS PNB Banka, where many pensioners had their money. In addition to the ability of the financial regulator to be effectively funded, there is a very significant ability to communicate with the public about financial literacy issues

The status of the Latvian financial regulator analyzed in the study is a derivative public entity with the status of an autonomous public authority and with its own resources, and its purpose is to regulate and supervise the Latvian financial and capital market and its members and to encourage investors, depositors and insurers. Protection of personal interests and development and stability of the financial and capital market in Latvia.

The topic of the research is topical because the financing of the Latvian financial regulator has become very topical both for the regulator and society, because finance regulator needs to obtain the necessary funds for its financing. The financial market regulator needs to develop a financing model that can cover the operating costs of the regulator, as well as capital and development-oriented costs, both for research, functional audits and change management consultancy, in order to fulfill its regulatory and the priorities set in the monitoring strategy. In order for the financial regulator to purposefully provide the prerequisites for it to function as a modern and socially beneficial organization that ensures systemic protection of clients' interests and financial market stability, safe financial market regulation according to Latvian conditions, it needs an appropriate financing management solution corresponding with best praxis in developed countries.

The aim of the study was to study the financing models in the world for financial and capital market supervisors, and to find out the financial and capital market supervisors' opinion with the results of the survey and financial sector experts with the results of the Latvian financial regulator principles for improving the financial regulator's finances.

The research question was to ensure the sustainability of the FCMC's funding, is there a need to change the FCMC's funding principles?

Tasks of the research included analyzing special literature on sustainable financial planning, analyzing financing models of foreign financial sector supervisors, analyzing the activities of Latvian financial regulator and regulating its activities, including financing legislation, as well as financial sector expert, opinion on the current financing model of the Latvian financial regulator and possible changes, to find out the opinion of Latvian financial and capital market participants on the financing of their supervision, to analyze and evaluate the FCMC's goals, tasks for sustainable development,

The research methods were scientific literature and legislation of the Republic of Latvia, foreign law, data analysis published by foreign competent authorities; the justification of their application are based on scientific articles, publications, databases and internet resources of empirical management scientists and economists and empirical methods: empirical data acquisition method – expert survey of financial and capital market participants, as well as industry experts' survey; data processing methods (qualitative data processing with discourse analysis, quantifiable questions with descriptive statistics characteristics - central tendency or location indices (arithmetic mean, mode, median), indicators of variability - range, standard deviation, standard error of arithmetic mean standard error correlation analysis, factor analysis with varimax rotation. Empirical data analysis performed with SPSS data processing software,

## **Literature Review**

### **Structural reforms of financial system regulators in the world**

The rapid development of the financial system has led to structural reforms of financial regulators, which also include financing issues.

Supervision and regulation of the financial sector is vital to the development of the financial system and the economy. In Latvia, the stability, competitiveness and development of the financial and capital market are promoted by the Financial and Capital Market Commission (FCMC), which regulates and supervises the activities of Latvian financial and capital market entities.

A 2009 personal analysis by S.Seelig and A.Novoa (Novoa, Seelig, 2009.) of the governance structure and practices of supervisory authorities and policies related to public transparency and accountability in the world ((Novoa, Seelig, 2009), covers 140 organizations from 103 countries, and Table 1 shows the variety of types of monitoring structures that exist in the world.

Table 1

**Types of Finance Regulation Supervisory Authorities in 2007**

	Number	Proportion,%
Banking supervision	44	31
Insurance supervision	16	11
Supervision of the financial instruments market (securities market)	25	18
Consolidated supervision <sup>1</sup>	18	13
Integrated supervision <sup>2</sup>	32	23
Another	5	4

Source: Author's construction based on IMF documents

Latvia currently represents the consolidated supervisory model and, as Table 1 shows, is not the dominant supervisory body. Among the surveyed, 31% was represented by the European region, covering 74% of the potential European bodies. In his study, E. Wymeersch found that several models of financial supervision in Europe have evolved over time: from the traditional three-pillar or institutional model (banking, insurance and securities) to an intermediate "double-peak" model closer to the functional approach, Unified or Integrated Model (Wymeersch, 2007).

The IMF study (Novoa, Seelig, 2009) have indicated that the independence (in the context of the study, it is defined as the ability of a financial supervisor to carry out its activities without undue political or commercial interference, focusing on operational independence) of the financial sector supervisor is one of the key factors influencing supervisory effectiveness. Such aspects are evaluated as very important also by other researchers (Preda, 2005; Fallon, 2015; Qiao, 2013). According to IMF study (Novoa, Seelig, 2009), 60% of financial sector supervisors are managed by a board or council and have the following functions:

- defining and monitoring the strategic direction of the institution;
- development of regulatory and supervisory policies;
- approve / ratify key supervisory activities, including sanctions and license revocations.

In accordance with good management practice, many financial supervisors managed by a board of directors are entrusted to the executive director and only a small majority of the supervisory board is chaired by the head of the supervisory authority, as is the case with Latvia. Such a management model is not common (Novoa, Seelig, 2009) in the management of consolidated supervision.

The independence of the Latvian financial sector supervisory authority is enshrined in the Law on the Financial and Capital Market Commission (Saeima, 2000). It does not follow from this law that decisions taken by the FCMC should be challenged, nor does it determine the higher authority to which the FCMC would be subject to its functions (Supreme Court of the Republic of Latvia, 2019). Accordingly, other regulatory enactments, which detail the competence of the FCMC and provide for control of the legality of its decisions (eg, Law on Credit Institutions, Law on Payment Services and Electronic Money, Law on the Financial Instruments Market) do not provide for contestation of the FCMC's decisions (Supreme Court of the Republic of Latvia, 2019). Thus, the decisions of the FCMC can be appealed immediately in court. Consequently, the claim for compensation for the losses caused by the decision of the FCMC must also be filed in court (Supreme Court of the Republic of Latvia, 2015). The FCMC Council has the right to approve the FCMC budget and to determine the payments of financial and capital market participants to finance the activities of the Commission, presenting them to the FCMC advisory financial and capital market council, which has the right to express their opinion on them. These decisions of the FCMC Council are also not open to challenge. Thus, it can be concluded that in Latvia the independence of the financial supervisory authority from the legal point

<sup>1</sup> Single, fully consolidated supervisors supervising the entire financial sector (banks, insurance and securities firms).

Single, fully consolidated supervisors overseeing the entire financial sector (banks, insurance and securities market companies).

<sup>2</sup> Integration of different levels of supervision, usually through the supervision of different combinations of two types of financial intermediaries (eg banks and insurance companies, banks and securities firms, etc.).



of view is ensured, thus, there are preconditions for the institution to achieve high operating results, also ensuring its efficiency.

With regard to the financing of supervisory authorities, the study by the IMF (Novoa, Seelig, 2009) indicates that an important factor for both the independence of the supervisory authority and its effectiveness is its ability to determine its budget and funding allocations. Nearly 60% of all supervisors in the financial sector indicated that they had these opportunities. With the exception of the Integrated Supervisory Authorities, most supervisors have indicated in the survey that they have de facto power to set final budgets and allocations. This relationship exists geographically, with the exception of Latin American countries, where supervisory authorities are more likely to lack budgetary independence. Given that the quality of financial sector supervision depends to a large extent on the ability of the supervisory authority to attract and retain sufficient qualified staff, the ability to determine wages and the number of employees is a very important factor in the supervisory mandate.

The IMF study identifies three sources of funding for supervisors:

- central banks;
- regulated entities or supervisory entities;
- Government grants.

The study (Novoa, Seelig, 2009) points out that central bank money is the most important source of funding for financial sector supervisors. 90% of supervisors at central banks are financed mainly by their central banks. In addition, central bank money is often used to cover the costs of financial sector supervisors outside the central bank.

The second largest source of funding for supervisors comes from the fees charged to supervisors. About 76% (Novoa, Seelig, 2009) of insurance and securities market regulators alone receive funding from market participants – this argument is supported also by other researchers (Palepu, et al., 2008; Haslam, 2010; Holland, 2009). However, only 35% of bank regulators depend on bank payments. The IMF study (Novoa, Seelig, 2009) concludes that a much higher percentage outside central banks depends on the income from market payments. Some researchers have stressed communication importance (Liff, Wahlström, 2018) and also money laundering aspect has to be taken into account (De Koker, 2009).

Slightly more than a quarter of supervisors receive grants from their central government, according to an IMF study (Novoa, Seelig, 2009), with 45% of securities regulators citing government appropriations as the second most important source of funding. A quarter of insurance regulators receive state funding, but only 8% of banking supervisors receive state funding.

With regard to supervisory authorities whose revenue comes from payments made by supervisors, half of them have indicated that fees are set by law. The majority of other supervisors (36%) (Novoa, Seelig, 2009) imposed regulatory payments, which often involve consultation with the responsible government body, the ministry, according to an IMF study.

The authors (Novoa, Seelig, 2009) have mainly researched the funding models of supervisors in EU Member States and concluded that supervisors are financed by:

- from the state budget;
- from the state budget, but the supervisors cover the operating expenses of the supervisory authority according to the prescribed procedure by making payments to the state budget;
- from central bank financing;
- from payments made by supervisors, with contributions paid into the supervised current account.

Accountability mechanisms are one of the most important tools by which governments protect and improve the functioning of public sector organizations. The key question is: how will public sector responsibility become more

effective? (Schillemans, 2016). And stresses importance of the role of the government (Cooray, 2011). Thomas Schillemans has stressed that in order to answer this question, it is necessary to combine two largely separate lines of research: public administration research on real-world organizations and pilot studies on the impact of different forms of accountability on decision-making. T. Schillemann has developed a calibrated model of public accountability (the CPA model) that can be used to explore how accountability can be calibrated to meet the requirements of organizations' tasks.

In modern governance systems, many (quasi) public organizations provide public policy. This has made responsibility increasingly important for regulating, coordinating and controlling organizations involved in public policy (Christensen, Læg Reid, 2011). Public sector organizations are now operating in an increasingly frequent "accountability network" where they need to explain and justify their decisions and performance to various "accountability forums" (Bovens, Schillemans, Goodin, 2014) such as government audits, auditors, critical clients and the media. Over the last decade, research interest in 'accountability' has doubled across different academic disciplines (Schillemans, 2016), on failures of bank management and problems in finance regulator activities (Holland, 2019), on legal aspect challenges (Zekos, 2003). Several researchers have pointed out problems in regimes of regulators (Murphy, 2006). On those issues some other aspects could be researched deeper.

### **Research results and discussion**

#### **Characteristics of the factors characterizing the financial market of Latvia for the structure of financing**

In order to find out the opinion of Latvian financial market subjects on FCMC financing issues and their close relation with the supervision and regulation service provided by the FCMC, a targeted survey was conducted - to find out and summarize the views of market participants:

- 1) the most appropriate components for determining funding;
- 2) the adequacy of the payment base to market participants;
- 3) on changes in the financing of the functions of the FCMC;
- 4) the independence of supervision and the adequacy of the payment for the service.

The paper will analyze survey questions that address factors that share common features in the relationship between a supervisor / regulator service and funding, or the size, relevance, distribution, or other proportion of funding.

At the end of 2017, the FCMC oversaw 309 market participants, but by mid-2018 they were already 314 without capital market participants.

The survey included 43 insurance market participants, 24 monetary financial institutions, 7 monetary non-financial institutions, 14 financial instruments and seven private pension funds. Unfortunately, neither the depositary, the stock exchange nor the issuers participated in the survey.

The financial market participants were prepared with 11 statements, which they had to answer on a scale of 1 to 10. The scale evaluated the extent to which the respondent agreed with these statements, with 1 strongly disagreeing and 10 strongly agreeing.

The analysis of the replies to the claims led to the conclusion that they are united by common factors resulting from a complex factor analysis, the results of which are presented in Table 2.

Table 2

### Results of factor analysis of survey ratings

Initial factors evaluated by experts	Complex Factors			
	1	2	3	4
FCCM funding to be provided by market participants (those overseen by the Financial and Capital Market Commission)	0,454	0,755	0,066	-0,025
Direct financing through payments from market participants provides independent market monitoring and regulation	0,437	0,812	0,022	-0,071
The payment base currently set for the market participant you represent is adequate for determining the payments for FCCM financing	0,849	0,132	0,000	0,019
The amount charged to market participants is currently fair across market segments (conditionally related to industry monitoring / regulatory costs)	0,798	0,149	-0,018	0,010
Market participants should provide / finance supervision / regulation of other market participants (if a segment is small / underdeveloped / other reasons)	0,149	-0,109	0,803	0,034
Market participants should be categorized according to their risk profile and, accordingly, be assigned an increase in funding for riskier market participants and a reduction in funding for less risky market participants	-0,050	0,379	0,631	-0,332
Market participants are to be classified according to their size, grouped into groups and fixed for each year according to their size	-0,010	0,198	0,679	0,163
All market participants need to set a minimum annual fee to fund the FCCM	0,002	0,572	0,345	0,229
It is necessary to limit the maximum annual payments to all market participants in the financing of the FCCM	-0,306	0,302	0,029	0,754
Financial technology start-ups, which represent the innovative segment, should facilitate the financing of the FCCM	0,333	-0,171	0,066	0,775
Payment made to FCCM provides appropriate monitoring / regulation service	0,695	0,216	0,148	0,030

*Method of Extraction of Complex Factors: Principal Component Analysis*

*Rotation method: varimax with Kaiser normalization. . Rotation converged in 8 iterations*

*Source: Author's construction based on Rita Vajnaga conducted expert survey in 2019,*

*Evaluation scale 1-10, where 1- not important; 10-very important*

As result of factor analysis there were calculated four complex factors indicating main principles could be taken into account from big amount of initial factors.

Factor analysis focused the factors - the authors' calculations show four complex factors for the initially 11 identified factors:

Complex Factor I: Finance market participants' satisfaction with existing financing arrangements: consisting of initial factors: The payment base currently set by the market participant you represent is adequate for determining payments to the FCCM; The level of the fee charged to market participants is currently fair across market segments (determined relatively according to industry monitoring / regulatory costs); Payment made FCCM provides appropriate monitoring / regulation service.

Complex Factor II: Supervisory interaction (and its financing) factor consisting of initial factors: The FCCM must be funded by market participants (those supervised by the FCCM); Direct financing through market participant payments provides independent market monitoring and regulation; All market participants need to set a minimum annual fee to fund the FCCM.

Complex Factor III: The classification factor for market participants consisting of initial factors: Market participants should quote / finance supervision / regulation of other market participants (if segment is small / underdeveloped / new segment or other reasons); Market participants should be categorized according to their risk profile and, accordingly, be assigned an increase in funding for a more risky player and a decrease in funding for a less risky player; Market participants should be categorized according to their size by grouping them and fixing a fixed level of funding according to their size on an annual basis.

Complex Factor IV: Factor in the granting of incentives to market participants consisting of initial factors: It is necessary to limit the maximum annual payments to all market participants in the financing of the FCMC; Financial technology start-ups, which represent the innovative segment, should facilitate the financing of the FCMC.

To analyse deeper the expert opinions it was calculated main indicators of descriptive statistics on expert evaluations related to incentives of financial market participants – main results are included in table 3.

Table 3

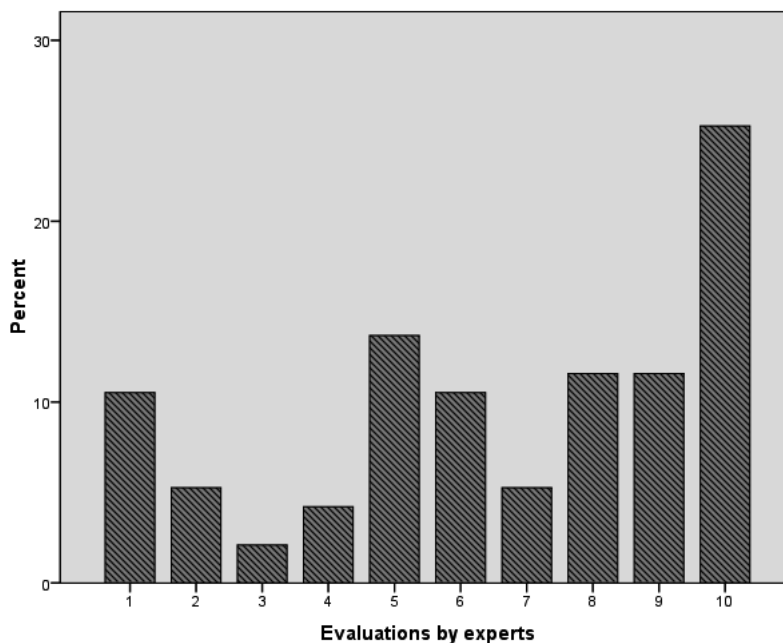
**Main indicators of descriptive statistics on expert evaluations on incentives to market participants**

Statistical Indicators	Financial technology start-ups, which represent the innovative segment, should facilitate the financing of the FCMC.	It is necessary to limit the maximum annual payments to all market participants in the financing of the FCMC
N Valid	95	95
Missing	0	0
Mean	5.49	6.62
Standard Error of Mean	0.306	0313
Median	5	7
Mode	5	10
Standard Deviation	2.982	3.046
Range	9	9
Minimum	1	1
Maximum	10	10

Source: Author’s construction based on Rita Vanaga conducted expert survey in 2019,

Evaluation scale 1-10, where 1- not important; 10-very important

As data included in table 3 indicate that the expert views are quite different as the whole evaluation scale is covered with bigger variability for evaluated aspect “It is necessary to limit the maximum annual payments to all market participants in the financing of the FCMC” with arithmetic mean 6,62 and most often given evaluation – 10, characterised by mode; half of experts gave evaluation 7 or less and half of experts gave evaluation 7 or more. Distribution of evaluations of experts are included in figure 1.

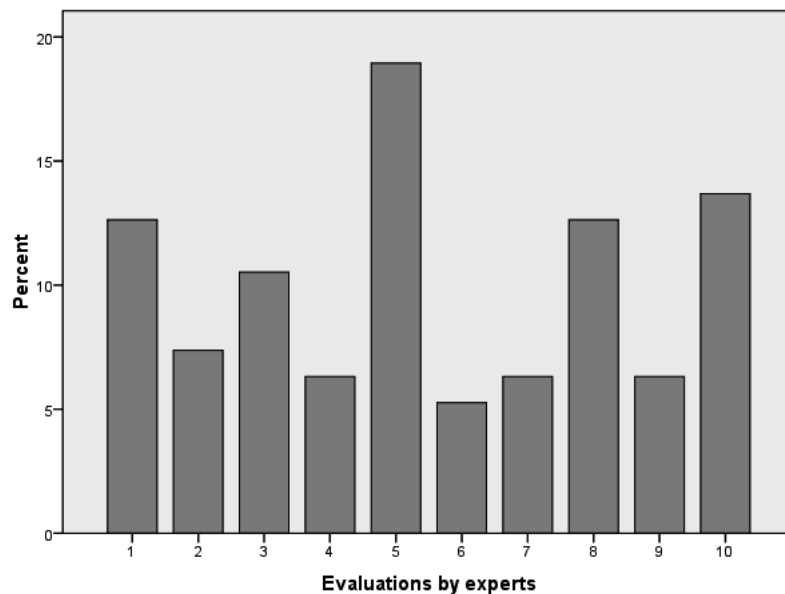


Source: Author’s construction based on Rita Vanaga conducted expert survey in 2019,

Evaluatuon scale 1-10, where 1- not important; 10-very important

**Fig. 1. Distribution of evaluations by experts on analysed aspect “It is necessary to limit the maximum annual payments to all market participants in the financing of the FCMC”**

As data included in table 3 indicate that the expert views are quite different as the whole evaluation scale is covered also for evaluated aspect “Financial technology start-ups, which represent the innovative segment, should facilitate the financing of the FCMC” with arithmetic mean 5,49 and most often given evaluation – 5, characterised by mode; half of experts gave evaluation 5 or less and half of experts gave evaluation 7 or more. Distribution of evaluations of experts is included in figure 2.



Source: Author's construction based on Rita Vanaga conducted expert survey in 2019,

Evaluation scale 1-10, where 1- not important; 10-very important

**Fig. 1. Distribution of evaluations by experts on analysed aspect “Financial technology start-ups, which represent the innovative segment, should facilitate the financing of the FCMC”**

Results of expert evaluations indicate that the financing model of finance regulator in Latvia has to be prepared using more detailed analysis of advantages and disadvantages of each financing model in other countries – more detailed research of experience in other countries could be studied in bigger detailisation and used for preparation of decisions.

### **Conclusions, proposals, recommendations**

1. Different models of finance regulator's organisation, management and financing have several advantages and disadvantages as it is indicated in experience analysis and research results investigation.
2. Most important aspects are related to public trust for finance regulators to avoid problems for society, especially most sensitive part of inhabitants to those aspects – retired persons and not so well educated persons of society.
3. Expert views in Latvia are related to four most important factors affecting finance regulator financing aspects: finance market participants' satisfaction with existing financing arrange; supervisory interaction (and its financing) factor; the classification factor for market participants.
4. Financing model of finance regulator in Latvia has to be prepared using more detailed analysis of advantages and disadvantages of each financing model in other countries.

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# A STUDY OF MALE AND FEMALE MANAGERS BETWEEN ECONOMIC SECTORS OF LATVIA USING EU-SILC SURVEY

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**Abstract.** Gender pay difference has been a widely recognized issue worldwide and one of the most popular research topics between various researchers, as there is still a relatively low share of women representing roles in senior management.

The aim of this study is to analyse recent scientific findings on wage gap between male and female managers, and to explore possible occupation segregation in Latvia, as well as employment differences between male and female managers in the context of economic sectors and salary levels.

Research methods used to prepare this particular study are analysis of the following: scientific publications, statistical data obtained from the database of European Union Statistics on Income and Living Conditions (EU-SILC). The databases are analysed using Statistical Package for Social Sciences (SPSS) and the functions provided, especially data filtration and case selecting, crosstabulations, descriptive statistics and frequencies.

The results indicate that based on researches done before the wage gap in upper management and executive roles can be formed due to low women representation, although some still argue that gender inequality exists especially in context of occupational segregation. Data analysis shows the presence of horizontal gender segregation in Latvia, as well as employment differences between various economic sectors in context of managers.

**Keywords:** *wage gap; managers; gender segregation; EU-SILC.*

**JEL code:** M12, J4, B42

## Introduction

Nowadays gender pay differences are seen as possible determinants of gender inequality between many researchers, as a result various companies and institutions have been developing internal policies as part of corporate social responsibility to promote equal working environments and possibilities for both men and women, and certain countries have even developed various policies to regulate the proportion of women and men in the executive roles. Some still argue that gender pay differences should be considered as common sense due to fact it can be influenced by various factors such as level of education, personal preferences and choice of economic sector. It is still discussed whether gender pay differences should be seen as a very important issue in companies and countries.

The aim of this study is to analyse recent scientific findings on wage gap between male and female managers, and to explore possible gender segregation (occupation segregation) in Latvia, as well as employment differences between male and female managers in the context of economic sectors and salary levels.

By taking into account all the mentioned above, the aim of this study is achieved by performing the following tasks:

- 1) Analysing recent scientific publications on gender wage gap;
- 2) Exploring researches on income indifference between male and female managers;
- 3) Exploring information on gender segregation and *glass ceiling* phenomena;
- 4) Conducting analysis on managers in EU-SILC Survey in context of household net disposable incomes and economic sector.

Research methods used to prepare this particular study are analysis of the following: scientific publications, statistical data obtained from the database of European Union Statistics on Income and Living Conditions (EU-SILC). The databases are mostly analysed using Statistical Package for Social Sciences (SPSS) and the functions provided, especially data filtration and case selecting, crosstabulations, descriptive statistics and frequencies.

### Literature Review

Gender income indifferences have attracted attention both in public and private sectors. A study conducted by one of Big Four companies KPMG in 2016 (KPMG, 2016) have stated that there are various factors present in the labour market, influencing the gender pay gap, few of them being gender discrimination, age, gender horizontal and vertical segregation in companies and institutions, as well as factors related to labour market such as part-time job and length of time for which the individual can be considered to be economically inactive. Working at public or private sector also influences formation of pay gap, as well as there are various other influencing factors related to organizations and labour market that possibly form gender inequalities not only in context of income, but also career advancement and living conditions.

Most of the scientific research findings done so far concentrate on exploring gender pay gap as a determinant of gender inequality especially in context of disadvantages that women face in the labour market. There have already been various researches performed in the Baltic countries, e.g. when analysing income difference tendencies in the Baltics (Šilingiene, Radvila, 2014), exploring public-private sector wage gap in Latvia while using Labour Force Surveys (Vilerts, 2018), as well as analysing women employment throughout years 2007 to 2013, concentrating on the women working full and part-time, and taking into consideration their income levels and number of children (Vaivade, Brekis, 2015). There have been important researches conducted on gender equality in city councils (Zake, 2007) as well as analysis on the data collected from Labour Force Survey between years 2015 to 2018 in context of managers, economic branches of employment and net income intervals (Vasina, Sloka, 2019). Labour Force Surveys have also been analysed in countries outside the EU, e.g., in China in 2017 researchers concluded that wage gap is smaller between those employed in the public institutions, and after conducting linear regression analysis it was concluded that income indifferences vary between sectors and regions (Francesconi, Parey, 2018). Income indifferences in general have also been related to technological advancement. Researches state that due to technological evolution, the middle-class jobs are slowly disappearing from the labour market, therefore forming pay difference between people working on either high-paid or low-paid professions in various countries (Williams, Bol, 2018). Similar ideas have been also stated by a research conducted in the US (Shim, Yang, 2018) as well as Portugal (Fonseca, Lima, Pereira, 2018). Researches conducted on the wage gap and age analysis state that the gender pay gap between young employees and recent graduates becomes lower when the minimum wage in the country is raised (Majchrowska, Strawinski, 2018). When related to age, income gap has been analysed between recent graduates in various researches, stating that more women choose to be employed in the public sector where the salaries are lower, therefore men earn higher salaries for full-time jobs, also marking the importance of occupational choice (Parcheta, Kaifi, Khanfar, 2013). Some of the researches have also stated that the pay gap becomes higher when the income level is raising, showing a phenomena of *glass ceiling*. There has also been a registered sign of *sticky floor* effect, which is related to gender segregation and indicates barriers of career advancement in the labour market (Hara, 2019). *Sticky floor* effect has also been registered in India especially between those receiving high wages, being less severe for low salary receivers, also related to social norms (Deshpande, Goel, Khanna, 2018). Statistics on Income and Living Conditions (EU-SILC) have also been analysed in the EU in context of wage gap and work-family reconciliation policies (Christofides, Polycarpou, Vrachimis, 2018). Nevertheless, there is a limited amount of research done on gender pay gap between those employed in top management or leadership roles, especially in the EU, and when discussing the pay gap and possible gender inequality between managers, the gender representation must be taken into account. Most of the researches done on public companies state that some parts of wage gap can be simply explained with underrepresentation of women in the upper management roles. Pay gaps between managers have been analysed

in public companies in Australia between 2006 and 2010 (Duong, Evans, 2016). Although women representation between CFO's was only 7.73%, their average salaries were 34% lower with statistical significance. Another research conducted on public company CEO's in the UK showed that women CEO's receive 15% lower salaries and 20% lower bonuses than their male counterparts (Geiler, Renneboog, 2015), as well as in China it was found that in economic sectors which are male-dominated in sense of proportion the income wage gap is 20.47%, as well as women CEO's are underrepresented making only 5.78% of the total CEO count (Wang, Markozy, Sun, Peng, 2018). Some researches conducted on other companies have found that women make up only 2.5% of total CEO's, with a gender wage gap of 45%, as well as women working in the upper management roles represent smaller companies (Bertrand, Hallock, 2001), therefore the wage gap is formed due to financial outcomes.

Such terms as occupational, vertical, and horizontal segregation have been discussed in researches in context of gender wage gap. Occupational segregation describes a situation in which the wage gap is formed due to representation levels, but also possible inequalities in individuals' status and rewards. It has been believed that gender occupational segregation exists in every country, region as well as social and culture environments, resulting to differences in gender pay between various professions and economic branches (Williams, Bol, 2018). Horizontal segregation describes various representation levels of men and women between different economic branches, e.g. low women representation in construction sector, but vertical segregation explains differences between representation of women and men between organizational levels, such as men being more managers than women (European Institute for Gender Equality). U.S. Department of Labour has stated that a profession can be considered to be female-dominated if they make up more than 75% of the total employed in this profession (U.S. Department of Labour, 2014), but some methodologies state that a profession or economic branch is one-gender represented if the proportion is 60% and over (The Workplace Gender Equality Agency, 2017). Several steps are taken in many countries to reduce the wage gap.

### Research results and discussion

The authors of this research conducted analysis on European Union Statistics on Income and Living Conditions in Latvia between years 2014 to 2017. The statistics databases are available on the webpage of Central Statistical Bureau of Latvia, and there are two datasets available for each year- dataset H, which contains detailed information on households and their living conditions, and dataset R\_P. To research data on managers, the R\_P dataset was used, which contains information on economic branch, profession, age intervals and other criteria available for analysis on IBM SPSS software. To analyse managers results deeper there were used various data filtering options as well as crosstabulations, descriptive statistics and frequencies. Table 1 indicates the total number of men and women respondents participating in this survey every year, as well as the share in percent of those participating based on their gender.

Table 1

**Gender proportion in Latvia between years 2014 to 2017 (count and %)**

	2014		2015		2016		2017	
	N	%	N	%	N	%	N	%
Men	6105	43.4	6077	43.6	6093	43.9	5932	44.1
Women	7949	56.6	7846	56.4	7771	56.1	7525	55.9
Total	14054	100	13923	100	13864	100	13457	100

Source: Authors' calculations based on data from Central Statistical Bureau of Latvia: Statistics on Income and Living Conditions (EU-SILC) in 2014, 2015, 2016, 2017

It is indicated on the table that the largest amount of total respondents was in 2014, 56.6% of them being women and 43.4% men. It can be concluded that over the 4 year period share of women, in comparison to the share of men,

has been for 12.5 percentage points higher on average. The biggest gap has been registered in 2014, where women share was over 13 percentage points higher in comparison to men.

Using the data filtering method, the authors further analyze the available information on executives, marked as "1-Managers" in the dataset section PL051. The EU-SILC survey data includes information on respondents according to the Classification of Occupations as defined by Regulation No.264. The Occupational Classifier provides workforce break down consistent with international practice and classifies groups according to the International Standard Classification of Occupations 2008 (ISCO-08) of International Labor Organization. The occupational classification consists of occupations grouped into 10 basic groups and their corresponding sub-major and minor groups. The Classification of Occupations covers the basic qualification requirements and the tasks relevant to the professions. Table 2 includes information on proportion of male and female managers between 2014 and 2017 in EU-SILC surveys.

Table 2

**Proportion of male and female managers in Latvia in 2014 and 2017 (count and %)**

	2014		2015		2016		2017	
	n	%	n	%	n	%	n	%
Men	321	45.4	329	46.2	326	46.8	344	47.7
Women	386	54.6	383	53.8	370	53.2	377	52.3
Total	707	100	712	100	696	100	721	100

Source: Authors' calculations based on data from Central Statistical Bureau of Latvia: Statistics on Income and Living Conditions (EU-SILC) in 2014, 2015, 2016, 2017

Table 2 shows that the proportion of female managers was higher during the analysed period. Number of female managers was the highest in 2014, when female executives were 386 or 54.6%. The highest number of managers was observed in 2017 with 721 managers, of whom 52.3% were women and 47.7% were men. In 2014, the number of female managers in this survey was the highest - 386 women, while in 2017 - the highest number of men - 344 men. The authors conclude that, considering the proportion of women and men in this period, the proportion of men in management roles is increasing, but the proportion of women in management is decreasing – share of men has increased by 2.3 percentage points between 2014 and 2017. This survey shows that there is a relatively small gap in the distribution of managers by gender, which is also confirmed by Eurostat data for the country as a whole - Latvia ranks first in Europe with the lowest gender gap between manager roles in sense of gender representation. In 2017 female managers in Latvia were 56%. Nevertheless, the authors conclude that there is no vertical segregation detected in sense of EU-SILC surveys and shows almost a similar proportion for both genders employed in managerial levels as backed up by the statistics of Latvia already.

Data included in table 3 indicate the share of female managers employed in various economic sectors in Latvia between 2014 and 2017.

Table 3

**Proportion of female managers occupied in various Economic Sectors in Latvia between 2014 and 2017 (count and %)**

Economic activity of main job local unit	2014		2015		2016		2017	
	n	%	n	%	n	%	n	%
Agriculture, forestry and fishing	9	2.3	10	2.6	8	2.2	5	1.3
Manufacturing, mining and quarrying	28	7.3	28	7.3	29	7.8	26	6.9
Construction	5	1.3	6	1.6	5	1.4	4	1.1
Wholesale and retail trade, accommodation and food service activities	48	12.4	40	10.4	38	10.3	45	11.9

Transportation and storage, information and communication	19	4.9	11	2.9	17	4.6	19	5.0
Financial and insurance activities; real estate activities; professional, scientific and technical activities	48	12.4	44	11.5	40	10.8	26	6.9
Public administration and defence; compulsory social security	36	9.3	39	10.2	41	11.1	40	10.6
Education	23	6.0	24	6.3	23	6.2	23	6.1
Human health and social work activities	10	2.6	10	2.6	11	3.0	14	3.7
Other local units	14	3.6	19	5	15	4.1	22	5.8
Not applicable / Empty field	146	37.8	152	39.7	143	38.6	153	40.6

Source: Authors' calculations based on data from Central Statistical Bureau of Latvia: *Statistics on Income and Living Conditions (EU-SILC)* in 2014, 2015, 2016, 2017

The highest proportion of female executives in the analysed period in Latvia can be observed in Wholesale and retail trade, accommodation and food service activities, where the average representation rate is 11.3%, as well as in 2014-2016 the majority of women were managers in the financial, insurance and real estate services sector. Compared to 2016, this indicator has decreased by 3.9 percentage points in 2017, reaching 6.9%. On average, 10.3% of female managers are also employed in Public administration and defense sector.

The lowest share of female managers in this survey were in Construction, where the average share of managers were 1.3% over a 4-year period, yet in 2017 it was the lowest amongst all sectors, reaching 1.1%. The representation of women leaders is also low in Agriculture, forestry and fishing branch, reaching the lowest point of 1.3% in 2017.

Table 4 indicates representation of male managers in various economic sectors between years 2014 and 2017. Compared to women, a large proportion of men occupy positions in sectors where the average net salary is one of the highest in Latvia according to the data provided by Central Statistical Bureau of Latvia.

Table 4

**Proportion of male managers occupied in various Economic Sectors in Latvia between 2014 and 2017 (count and %)**

Economic activity of main job local unit	2014		2015		2016		2017	
	n	%	n	%	n	%	n	%
Agriculture, forestry and fishing	19	5.9	20	6.1	12	3.7	15	4.4
Manufacturing, mining and quarrying	45	14.0	50	15.2	40	12.3	42	12.2
Construction	33	10.3	32	9.7	27	8.3	27	7.8
Wholesale and retail trade, accommodation and food service activities	43	13.4	46	14.0	40	12.3	36	10.5
Transportation and storage, information and communication	22	6.9	36	10.9	43	13.2	37	10.8
Financial and insurance activities; real estate activities; professional, scientific and technical activities	30	9.3	37	11.2	40	12.3	44	12.8
Public administration and defence; compulsory social security	13	4.0	18	5.5	18	5.5	22	6.4
Education	3	0.9	3	0.9	6	1.8	9	2.6
Human health and social work activities	3	0.9	3	0.9	4	1.2	2	0.6
Other local units	7	2.2	5	1.5	6	1.8	6	1.7
Not applicable / Empty field	103	32.1	79	24.0	90	27.6	104	30.2

Source: Authors' calculations based on data from Central Statistical Bureau of Latvia: *Statistics on Income and Living Conditions (EU-SILC)* in 2014, 2015, 2016, 2017

During the analysed period, it can be concluded that men represent sectors where the average monthly net salary is one of the highest in the country, for example, a high proportion of male managers are employed in Manufacturing, mining and quarrying sector, where the average net income, according to Central Statistical Bureau of Latvia, reached

726 euros net in 2017. The share of managers in the financial, insurance and real estate services sectors has increased during 2014 to 2017, reaching an average of 11.4%. In Transportation and storage, information and communication sector, which is of a high average monthly net salary, especially reaching 872 euros net in the country in year 2017, the employment rate of male managers on average is 10.5% - in comparison to men, women managers represent this sector only by 4.3% on average. The sector, both men and women are employed equally is Wholesale and retail trade, accommodation and food service activities, with the rate of male managers averaging 12.5% and female managers 11.3% between 2014 and 2017. The authors of this research see possible challenges regarding employment of women and men managers in either high or low paid economic sectors.

Authors conclude that in Latvia women tend to be employed in sectors where the average net salaries are lower, for example, in Education sector, where in 2017 were employed 84,53% women in general, not in the context of managers, resulting to a possible pay gap. Education is a sector with the lowest net salary between all sectors, same as in Human health and social work activities, where overall women representation makes up over 85% of the total, therefore is a sign of horizontal segregation between various sectors in Latvia, which might also affect career opportunities and form a gender pay gap on a national level.

The incomes of women and men executives are most often in the 5<sup>th</sup> income quintile, but the disposable incomes of their households vary. In the table 5, the authors depict the disposable income of managerial households between households of men and women managers, as well as additionally measure medians of income, standard deviation, indicators of skewness and kurtosis.

Table 5

**Net disposable income in households of male and female managers between 2014 to 2017, euro**

Statistical indicator	2014		2015		2016		2017	
	Women	Men	Women	Men	Women	Men	Women	Men
	386	321	383	329	370	326	377	344
Weighted arithmetic mean (euro)	8733.29	9658.16	9731.46	11044.27	10390.02	11882.67	10299.99	11106.59
Median (euro)	7036.00	8186.00	8139.00	9931.00	8240.50	10019.50	8706.00	9906.50
Standard deviation (euro)	6922.88	7128.42	7062.68	6736.29	8301.29	8718.96	6706.18	6573.49
Skewness	3.096	2.825	1.804	1.520	3.590	2.744	1.076	0.953
Kurtosis	0.248	13.591	4.733	3.890	0.253	0.269	0.933	0.774

Source: Authors' calculations based on data from Central Statistical Bureau of Latvia: *Statistics on Income and Living Conditions (EU-SILC) in 2014, 2015, 2016, 2017*

The authors note that there are in fact certain limitations when analysing EU-SILC datasets, e.g., there is no mentioned count of people in the household, as well as no seniority level of these managers, which most definitely impact salary levels. Nevertheless, it is possible to analyse net disposable incomes and identify possible challenges or differences for both genders. It can be concluded that households where the managers are men tend to have higher disposable net income levels, which can be affected by various reasons mentioned before, such as seniority level or even field. The largest difference between the disposable income of male and female managers in households during this period was in 2016, where the average household income of male managers was 14.37% higher (11 882.67 eur/net), and in 2015, when it was 13.49% higher (11 044.27 eur/net). The average income gap was the smallest in 2017, where the income of male managers' households was 7.83% higher. There is also a difference in median incomes, where the households of male managers seem to be wealthier, as well as considering standard deviation there are possible



inequalities both between salaries of men and women managers- in 2017 average net disposable income of women-manager households was in interval  $10\ 299.99 \pm 6\ 706.18$  euros, but for men  $11\ 106.59 \pm 6\ 573.49$  euros. After analysing the Skewness value, the authors conclude that for both women and men manager net disposable incomes there is a positive asymmetry present, meaning the right side of the distribution tail is longer, therefore more households are with high levels of income. The Kurtosis values show that net disposable incomes between both genders have been the most equal in 2016, but most unequal in 2014, meaning that net disposable incomes between men manager households were highly unequal.

### **Conclusions, proposals, recommendations**

Although there have been certain limitations regarding datasets in contexts of this analysis, the authors conducted a research on latest findings on gender wage gaps between male and female managers, as well as explored possible challenges for male and female managers in Latvia using EU-SILC surveys between years 2014 and 2017. The most relevant conclusions are related to the EU-SILC survey outcomes, where authors of this research gathered information on 55 298 respondents, 56% of them being women, 2836 of the total occupied as managers. The main conclusions are as following:

1. Regarding the data available on EU-SILC, there is no vertical occupation segregation in context of managers and on average 52.1% between all managers are women. Similar data has also confirmed in national level by Eurostat, as Latvia is a leading country with equal numbers of both genders in managerial levels. Nevertheless, the seniority levels of these managers must be taken into account which was not indicated in this study therefore was a limitation and can still form a pay gap.
2. The study shows there is a possible horizontal gender segregation among managers in Latvia regarding different sectors, e.g., male managers hold positions in Manufacturing, mining and quarrying sector, as well as Agriculture, forestry and fishing sector. There are less male managers occupying positions in Education or Health and Social work. In contrast, great proportion of women managers are employed in other sectors, such as Wholesale and retail trade, accommodation and food service activities; Financial and insurance activities; real estate activities; professional, scientific and technical activities; Public administration and defence. Interestingly, a great amount of women in general are employed in Health and social activities, but are not managers, therefore different kind of specialists.
3. There are yet possible income disparities between households of male and female managers in context of net disposable incomes. Households of men managers tend to be more prosperous, having higher median and average disposable incomes, yet it is possible that households differ accordingly to the managerial levels, therefore are also unequal between themselves in context of one gender.

The authors propose that data collection could be carried out in more detail, avoiding missing data points which makes a big impact on analysis of these datasets as some values are missing. As there are still more to study using EU-SILC, further studies could be carried out in the future, performing cross-sectional analysis regarding regions and other data EU-SILC provides which might be useful to analyse living conditions in Latvia for various professions and specialities.

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## THE EUROPEAN BUSINESS EXCELLENCE MODEL AND ITS IMPROVEMENT

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**Abstract.** Nowadays the practice of self-assessment is the strategy recommended by the EFQM Excellence Model for organizations aiming for improvement on organizational performance. Rigorous self-assessment helps large, small and medium companies work more efficiently, and it is a comprehensive, systematic and regular exercise for the evaluation of companies' activities and results.

Today's customers have higher requirements than ever before. Therefore, in order to be competitive in the twenty-first century, organizations need to improve continuously, meet the standards of excellence in quality and performance. One of the ways to achieve excellence is the use of Business Excellence Models.

The aim of the research is to investigate the improvement possibilities of the performance quality assessment in Latvian enterprises basing on EFQM business excellence model. The hypothesis states that the improving of the EFQM business excellence model used in the performance quality assessment in Latvian companies by including important topical criteria and integrating them into conventional criteria of the model could drive the company to higher level of excellence. The tasks are the following: to study the principles of European business excellence model; to provide the assessment and verification the assumptions included in the EFQM business excellence model with author's improvements by Latvian and foreign business excellence and quality experts; to draw the conclusions and make proposals.

**Keywords:** *European Business excellence model, improvement, assessment.*

**JEL code:** L15, L26, M11

### Introduction

Organizational excellence is the level that all organizations aim to achieve. Usually, they already have a mature quality management system and are self-motivated to move to total quality management (TQM), expressing it proactively, even when customers had a significant influence in implementation of ISO 9001 (Claver, Tari', Molina, 2002). On the other hand, the social responsibility of organizations has become increasingly important with the emergence of ethical issues, with environmental and social aspects, which enable organizations to increase global perspectives and the integration of several aspects of quality through the Excellence Organizational Models (Talwar, 2011).

The change of paradigm is neither an easy nor a straight process. In fact, despite considering the competitive advantages of the ISO 9000 series extinguished, many organizations do not opt for different models of quality management because of the constraints of different levels. (Wayhan, V.B., Balderson, E.L., 2017). The most common are economic constraints or those related with organizational culture. Therefore, to progress from an ISO 9000 series standard to a position where they can compete by the recognition gained through an EFQM Award there is a long way to go. For the beginning of the self-assessment process, aligning the organizational management with the principles of organizational excellence is mandatory.

According to the statements by L. Porter and S. Tanner, the EFQM business excellence model is a substantial tool of diagnostics providing to the stakeholders learning opportunities aimed to realize the strengths of the company and to discover the possibilities of improvement (Porter, Tanner, 2001). Besides, the aforementioned model can give a company the chance to calculate the difference between the best practice and actual performance (Sampaio, Saraiva, Monteiro, 2012). Due to the model's popularity, practicableness and wide applicability, the author chose it as a basic tool for further research and elaboration of the practical part of her study.

The author points out that a company can avoid the waste of resources via thorough assessment of initial activities, enabling the possibility to channel these resources to the business operations that would facilitate the implementation of business excellence guidelines.

The aim of research is to investigate the improvement possibilities of the performance quality assessment in Latvian enterprises, basing on EFQM business excellence model. The hypothesis states that the improving of the EFQM business excellence model used in the performance quality assessment in Latvian companies by including important topical criteria and integrating them into conventional criteria of the model could to drive the company to higher level of excellence.

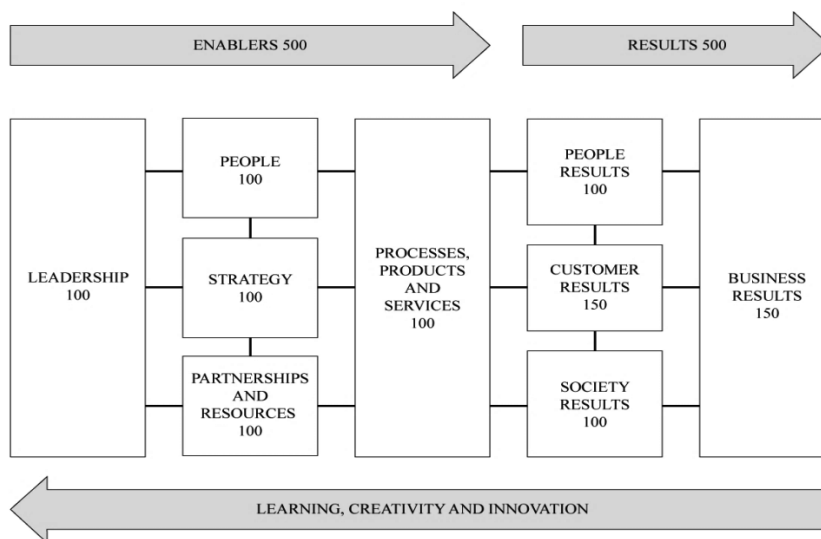
The tasks are the following: to study the principles of European business excellence model; to provide the assessment and verification the assumptions included in the EFQM business excellence model with author's improvements by Latvian and foreign business excellence and quality experts; to draw the conclusions and make proposals.

In order to complete the tasks set by the author regarding the need of EQFM improvement, first and foremost it is necessary to study the guidelines of the EQFM business excellence model and changes to the standard ISO 9001:2015 to identify the corresponding improvable components of the EFQM business excellence model.

### **Literature Review**

The EFQM Excellence Model is the most popular model in Europe and is considered a holistic and integrative approach, in which strategic, managerial and operational control processes are integrated into the model (Dahlgaard-Park, Dahlgaard, 2007). It covers all the most important organizational areas and defines exactly what requirements should be fulfilled therein. Thus, the model serves as a complex tool of self-assessment and simultaneously an approach to excellence. Self-assessment highlights for the organization the strengths and areas of improvement. (Duh, Hsu, Huang, 2012).

The *EFQM* Excellence Model is based on a set of European values, first expressed in the European Convention on Human Rights (1953) and the European Social Charter (revised in 1996). This treaty is ratified by 47 member states of the Council of Europe and the principles are incorporated into national legislation. The Fundamental Concepts of Excellence base on the foundation of these basic human rights, assuming they are universally applied. Recognizing the role business can play in supporting the broader goals of the United Nations (UN), the UN global Compact (2000) was established (Ghicajanu, Irimie, Rares, 2015). This initiative encourages organizations to apply these values actively, set out as principles for sustainable and socially responsible business, across their global operations. Whilst a number of these principles are explicitly covered in the *EFQM* Excellence Model, a number are implicit, including those relating to human rights, corruption, bribery and forced labor, as these are already legal requirements in Europe. For *EFQM* Business excellence model see Fig.1.



Source: Heras-Saizarbitoria, Marimon, Casadesis, 2012

Fig.1. **EFQM Business excellence model**

The model has 9 criteria (*Leadership, People, Strategy, Partnership and Resources, Processes, Products and Services, People results, Customer results, Society results, Key results*) and 32 sub-criteria. Model has 2 parts: Enablers and Results. Total Core 1000 points is divided in 500 points for Enablers and 500 points for the part of Results. The model bases on Fundamental Concepts of Excellence:

1. Leading with Vision, Inspiration and Integrity. Excellent organizations have leaders who shape the future and make it happen, acting as role models for its values and ethics.
2. Developing Organizational Capability. Excellent organizations enhance their capabilities by effectively managing change within and beyond the organizational boundaries.
3. Adding Value for Customers. Excellent organizations consistently add value for customers by understanding, anticipating and fulfilling needs, expectations and opportunities.
4. Creating a Sustainable Future. Excellent organizations have a positive impact on the world around them by enhancing their performance whilst simultaneously advancing the economic, environmental and social conditions within the communities they touch.
5. Harnessing Creativity and Innovation. Excellent organizations generate increased value and levels of performance through continual improvement and systematic innovation by harnessing the creativity of their stakeholders.
6. Managing with Agility. Excellent organizations are widely recognized for their ability to identify and respond effectively and efficiently to opportunities and threats.
7. Succeeding through the Talent of People. Excellent organizations value their people and create a culture of empowerment for the achievement of both organizational and personal goals.
8. Sustaining Outstanding Results. Excellent organizations achieve sustained outstanding results that meet both the short and long-term needs of all their stakeholders, within the context of their operating environment (Sampaio, Saraiva, Monteiro, 2012; Balbastre-Benavent, Canet-Giner, 2011).

Year 2015 brought significant changes to ISO 9000 standards. Subsequently, the author considers important to take into account these changes upon identification of the assumptions to be included into the improved EFQM business excellence model, therefore a general overview of standard sections and comments on necessity of inclusion of other particular issues and their usefulness in context of the improved EFQM business excellence model are provided.



The changes in approach of application are set in the sections of the new ISO 9001: 2015 standard displayed in Table 1.

Table 1

**Sections of standard ISO 9001:2015**

<b>No.</b>	<b>The parts of Standard</b>
1.	Scope
2.	Normative References
3.	Terms and Definitions
4.	Context of the Organization:
4.1.	Understanding the organization and its Context
4.2.	Understanding the needs and expectations of interested parties
4.3.	Determining the scope of the quality management system
4.4.	Quality Management System and its processes
5.	Leadership:
5.1.	Management commitment:
5.2.	Quality Policy;
5.3.	Organizational roles, responsibilities and authorities
<b>No.</b>	<b>The parts of Standard</b>
6.	Planning;
6.1.	Actions to address risks and opportunities
6.2.	Quality Objectives and planning to achieve them
6.3.	Planning of changes
7.	Support
7.1.	Resources
7.2.	Competence
7.3.	Awareness
7.4.	Communication
7.5.	Documented Information
8.	Operation;
8.1.	Operational planning and control
8.2.	Determination of requirements for products and services
8.3.	Design and development of products and services
8.4.	Control of externally provided products and services
8.5.	Production of products and services
8.6.	Release of products and services
8.7.	Control of nonconforming processes outputs, products and services
9.	Performance evaluation
9.1.	Monitoring, measurement, analysis and Evaluation
9.2.	Internal audit
9.3.	Management review
10.	Improvement
10.1.	General
10.2.	Nonconformity and corrective action
10.3.	Continual Improvement

Source: *Quality Management Systems. Requirements, 2015*

Risk assessment-based thinking allows the organization to diagnose factors that could create derogations from its processes and the forecasted results of the quality management system, apply preventively the management tools and methods to reduce negative impacts and take the new opportunities, which is essential for a company striving for business excellence.

Risk-assessment based analysis is important in order to achieve an efficient quality management system. The concept of risk-based thinking has been indirectly included in the previous issues of the international standard ISO 9001, i.e. in application of preventive measures aimed to dissolve possible incompliances, analysing of any emerged incompliances, carrying out the activities proportional to the impact of incompliance in order to prevent the repetition of inadequacy (Hunt, Dominguez, Williams, 2016). In order to comply with the requirements of the aforementioned

international standard, the organization must plan and implement the activities that include risks and opportunities (Abuhav, 2017). Risk consists of the impact of incertitude, which can be positive or negative. Risk-based positive deviation can give the opportunity, but not all positive impacts of risk will. Therefore, thinking of companies striving for excellence from the point of view of a successful business, risk assessment must be included in EFQM business excellence model (Peckford, 2016).

Basing on new parts of ISO 9001:2015 standard, the author points out that a comprehensive information analysis is one of the most important aspects to be included in the EFQM model and put among the main criteria, since it is the core condition of successful business. Information analysis can include the data on external environment and the results can be applied to increase the competitiveness of the company.

Basing on guidelines of EFQM business excellence model and standard sections of ISO 9001:2015, the author suggests adding to the criteria of leadership and strategy “*the principles of sustainable development and risk assessment*”. It means that nowadays the business must take into account the sustainable development, taking care of environment, work environment and society in general, which is possible only under guidance of strong leader and well-elaborated business strategy (Hoyle, 2017).

As for the criterion “Products, services and processes”, it should include sustainable development. It means, that organizing its business the company must use not only environmentally friendly technologies, but also consider the broadening the range of environment-friendly products (Robitaille, 2015). The sub-criterion “Social perception” must be supplemented by the improvement of company’s image, adding the sustainability component (Cianfrani, West, 2015). The efficiency indexes of this criterion should include the solutions of the environmental problems, thus pointing at the fact, that environment effects are important to the company striving for excellence in business performance (Cochran, 2015). And last, but not least criterion suggested by the author is “Business sustainability” related to the impact of the projects related to natural, working and social environment, which is an integral and significant part of business excellence (Dahlggaard-Park, 2008).

Regarding the assessment of the existing criteria of different business excellence models and changes introduced in ISO 9001:2015 standard, considering the guidelines of business excellence model, the author in her research suggests approbating several assumptions that could essentially improve the EFQM business excellence model to ensure more efficient implementation. These assumptions include Internal and external suppliers; Labour safety and healthcare; Risk assessment; Suppliers; Business excellence; Improvement; External environment of the company and its impact; Comprehensive information analysis and risk assessment; Business sustainability.

### **Research results and discussion**

In order to prove the hypothesis, in June-July 2018 the author carried out the survey of 20 experts – 8 experts from Latvia and 12 experts from abroad with proper experience in assessment of EFQM business excellence model. All persons included in experts’ list are appreciated Latvian and foreign EFQM and quality management specialists; therefore, their participation is of high value. Thus, for instance, among Latvian experts in the survey took part expert A., whose personal qualification is EFQM internal assessor, which means a certification with right to participate in assessment of EFQM business excellence model implementation process as full-scale evaluator. Another expert was experts B., member of the board of Eurofortis, a licensed EFQM IAT coach and the assessor of EQFM Excellence award. One more opinion was provided by expert C., from State Gymnasium, representative of GOA-Solutions (Expert of EFQM excellence model). Latvian experts shared their experience and exchanged opinion with expert D., a qualified assessor of EQFM business excellence model from Italy, expert E., from Greece, who represented EFQM organization and works at Certification department. Experts’ evaluations regarding the importance of EFQM model criteria, sub-criteria and particular aspects in the common EFQM model are displayed in Table 2.

The criteria/sub-criteria and aspects offered by the author and displayed in Table 2 comply with the EFQM model and ISO 9001:2015.

Table 2

**Experts' evaluations regarding the importance of EFQM model criteria, sub-criteria and particular aspects in the common EFQM model**

Criterion/sub-criterion	Arithmetic mean	Mode	Median	Standard deviation	Significance of the criterion in the model
1. Criterion: Leadership. Proportion of the criterion in model 10.	9.6	10	10	0.3	9.7
Sub-criterion. 1.a Leaders develop the mission, vision, values and ethics and act as role models. Proportion of the sub-criterion in criterion 15.2.	9.3	9	10	0.5	9.4
Sub-criterion 1.b Leaders define, monitor, review and drive the improvement of the organisation's management system and performance. Proportion of the sub-criterion in criterion 13.5.	8.0	8	8	0.4	8.3
Sub-criterion 1.c Management encourages the creation, implementation and continuous improvement of efficient management system basing on principles of sustainable development and risk assessment and taking into consideration both short and long term goals. Proportion of the sub-criterion in criterion 14.6.	8.8	9	9	1.3	9.0
Sub-criterion 1.d Leaders engage with external stakeholders. Proportion of the sub-criterion in criterion 13.8.	8.8	9	9	1.0	8.5
Sub-criterion 1.e Management sustains the culture of excellence among employees basing on sustainable development. Proportion of the sub-criterion in criterion 15.3.	9.5	9	9	1.6	9.5
Sub-criterion 1.f Leaders ensure that the organization is flexible and manage change effectively. Proportion of the sub-criterion in criterion 12.9.	8,3	8	8	1.7	8.0
Sub-criterion. 1.g Management identifies the necessary changes to the company and leads their implementation basing on principles of sustainable development and risk assessment in long term. Proportion of the sub-criterion in criterion 14.6.	8.3	8	8	1.9	9.0
2. Criterion – Strategy. Proportion of the criterion in model 9.5.	9	9	10	0.1	9.2
Sub-criterion 2.a: Strategy is based on understanding the needs and expectations of both stakeholders and the external environment. Proportion of the sub-criterion in criterion 16.8.	9.3	9	10	1.3	9.1
Sub-criterion 2.b: Strategy bases on understanding of needs and wishes of the interested stakeholders and external environmental requirements in terms of sustainable development as well as on risk assessment. Proportion of the sub-criterion in criterion 17.3.	9.0	8	9	1.2	9.4
Sub-criterion.2.c: Strategy bases on assessment of current situation and potential opportunities. Proportion of the sub-criterion in criterion 16.2.	8.5	8.5	9	1.4	8.8
Sub-criterion 2.d: Strategy bases on assessment of current situation and sustainable development. Proportion of the sub-criterion in criterion 15.5.	8	8	9	1.2	8.4
Sub-criterion 2.e: Strategy and the respective supporting activities are elaborated, reviewed and updated according to the principles of sustainable development and risk assessment. Proportion of the sub-criterion in criterion 17.7.	9.5	9	9	1.5	9.6
Sub-criterion 2.f: Strategy and supporting policies are communicated, implemented and monitored. Proportion of the sub-criterion in criterion 16.6.	8.8	9	8	1.1	9.0
3. Criterion – People. Proportion of the criterion in model 10.	9.5	10	9	1.1	9.7
Sub-criterion.3.a: People plans support the organization's strategy. Proportion of the sub-criterion in criterion 14.2.	8.3	8	8	1.0	8.7
Sub-criterion.3.b: Staff employment bases on equal opportunities of the employees, ethic conducts and sustainable thinking. Proportion of the sub-criterion in criterion 14.1.	8.0	8	8	1.8	8.6

Sub-criterion 3.c: Inclusion of employees with special needs in work environment. Proportion of the sub-criterion in criterion 12.9.	7.5	7	7.5	0.9	7.9
Sub-criterion.3.d: People's knowledge and capabilities are developed. Proportion of the sub-criterion in criterion 14.3.	9.0	9	9	0.7	8.7
Sub-criterion 3.e: People are aligned, involved and empowered. Proportion of the sub-criterion in criterion 13.8.	8	7	7.5	1.3	8.4
Sub-criterion. 3.f: Efficient employees' communication system and reduction of the related risks. Proportion of the sub-criterion in criterion 15.7.	9.8	10	9	0.3	9.6
Sub-criterion 3.g: People are rewarded, recognised and cared for. Proportion of the sub-criterion in criterion 14.9.	9.0	9	9	1.0	9.1
4. Criterion: Partnerships and resources. Proportion of the criterion in model 9.5.	9	9	9	0.6	9.2
Sub-criterion 4.a: Partners and suppliers are managed for sustainable benefit. Proportion of the sub-criterion in criterion 22.1	9.8	9	10	0.5	9.7
Sub-criterion 4.b: Finances are managed to secure sustained success. Proportion of the sub-criterion in criterion 18.5	8.3	8	8	1.1	8.1
Sub-criterion 4.c: Buildings, equipment, materials and natural resources are managed in a sustainable way. Proportion of the sub-criterion in criterion 19.9	9	9	9	1.3	8.7
Sub-criterion 4.d: Management applies technologies to support the strategy implementation in long term. Proportion of the sub-criterion in criterion 20.1	9	8	9	1.3	8.8
Sub-criterion 4.e: Managed information and knowledge, assessment of the related risks in order to support the adoption of efficient decisions and increase the competitiveness of the company both in short and long term. Proportion of the sub-criterion in criterion 21.2	9.0	9	9	1.3	9.3
5. Criterion: Processes, products and services. (Proportion of the criterion in model 10)	9.5	9	9.5	0.3	9.7
Sub-criterion 5.a: Elaboration and management of processes in order to increase their value according to the needs of interested stakeholders, assessment of possible risks. Proportion of the sub-criterion in criterion 19.5	8.5	9	8.5	0.6	8.9
Sub-criterion.5.b: Development of products and services in order to increase their value according to the customers' needs in long term. Proportion of the sub-criterion 20.6	9.0	9	9	1.0	9.4
Sub-criterion 5.c: Products and services are effectively promoted and marketed. Proportion of the sub-criterion in criterion 18.2	8.5	8	8.5	1.4	8.3
Sub-criterion 5.d: Products and services are elaborated, supplied and lead according to the principles of sustainable development. Proportion of the sub-criterion in criterion 20.6	9.0	9	9	1.0	9.4
Sub-criterion 5.e: Company improves relationship with customers basing on principles of sustainable development. Proportion of the sub-criterion in criterion 21.2.	9.3	9	9	0.7	9.6
6. Criterion: Customer results. Proportion of the sub-criterion in criterion 10.	10.0	10	10	0.1	10
Sub-criterion.6.a: Perceptions. Reputation and image, product and service value, product and service delivery, Customer service, relationship and support, Customer loyalty and engagement. Proportion of the sub-criterion in criterion 53.3.	9.8	9; 10	10	0.4	9.8
Sub-criterion 6.b: Performance Indicators. (Product and service delivery, Customer service, relationships and support, Complaints handling, Involvement of customers and partners in the design of products, processes, etc. Proportion of the sub-criterion in criterion 46.7.	8.8	9	9	0.9	8.6
7. Criterion: People results. Proportion of the sub-criterion in criterion 10.	10.0	10	10.0	0.1	10
Sub-criterion 7.a: Perceptions. Satisfaction, involvement and engagement, Motivation and empowerment, Leadership and management, Competency and performance management, training and career development, Effective communications, working conditions. Proportion of the sub-criterion in criterion 53.5.	9.8	9	10	0.3	9.9

Sub-criterion 7.b: Performance Indicators. Involvement and engagement activities, Competency and performance management activities, Leadership performance, training and career development activities, Internal communications. Proportion of the sub-criterion in criterion 46.5.	8.8	8;9	9	0.3	8.6
8. Criterion: Society results. Proportion of the criterion in model 10	9.5	9	9.5	0.2	9.7
Sub-criterion 8.a: Perceptions. Image of the organization – as employer, responsiveness in contacts; performance of organization as a responsible member of the society – ethical conducts; role of the organization in the life of the local community – involvement in education and training – support in sports and recreation activities, accidents and health risks, noises and smells, image regarding the sustainability assurance. Proportion of the sub-criterion in criterion 53.6.	8.8	9	9	0.8	9.0
Sub-criterion 8.b: Efficiency indexes. Cooperation with authorities in such issues as certification, import/export, new products, solutions of environmental problems. Proportion of the sub-criterion in criterion 46.4.	7.5	8	8	1.1	7.8
9. Criterion: Business results. Proportion of the criterion in model 10	9.8	10	9.5	0.6	9.7
Sub-criterion 9.a: Business Outcomes. Financial outcomes, Business stakeholder perceptions, performance against budget, Volume of key products or services delivered, key process outcomes). Proportion of the sub-criterion in criterion 51.6.	9.5	9	9	0.5	9.8
Sub-criterion 9.b: Business Performance Indicators. Financial indicators, project costs, key process performance indicators, partner and supplier performance, technology, information and knowledge). Proportion of the sub-criterion in criterion 48.4.	9.3	9	9	0.2	9.2
10. Aspect “External environment of the company and its impact”. Proportion of the sub-criterion in criterion Proportion of the aspect in model 90.	9.0	9	9	0.9	9.3
11. Aspect ”Comprehensive information analysis and risk assessment”. Proportion of the aspect in model 90.	8.5	9	9	0.3	8.8
12. Aspect. Business excellence 100.	9.7	10	9.5	0.2	9.9
13. Criterion: Business sustainability. Proportion of the criterion in model 100.	9.6	10	10	0.2	9.7

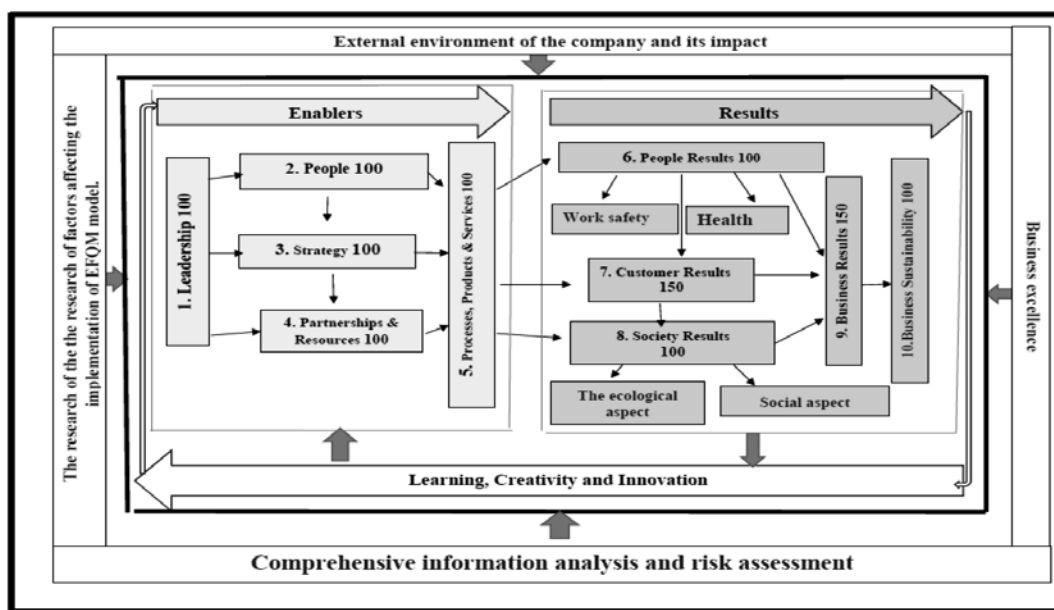
*Author’s calculations based on survey in 2018 (n=20)*

*Rating scale 0-10, where 0- criterion is not important for the inclusion in EFQM model, 10 – criterion must be included in EFQM model*

To summarize the opinion of the experts, the author used Google Forms questionnaire aimed to find out the importance of different criteria, sub-criteria and particular aspects of EFQM business excellence model offered by the author in the context of common EFQM model. Basing on evaluations provided the author elaborated an improved EFQM excellence model. The author applied the rating scale from 1 to 10, where 1 meant that the criterion, sub-criterion or aspect was not qualifying for inclusion in EFQM model, but 10 meant that the criterion, sub-criterion or aspect must be included in the model. In addition to the importance of criteria and sub-criteria in the common model, the experts had to assess the “weight” of each of the indicated criteria, sub-criteria and aspects. The author concludes that in total the importance and “weight” were assessed similarly due to the experience and perception of the experts regarding the significance of the criterion, its impact to the competitiveness or role in excellence of the company. Different personal experience could generate some particular differences in ratings. At the end of the questionnaire, the experts had the opportunity to express their opinion regarding the criteria, sub-criteria and aspects that should be included in EFQM business excellence model providing the “weight” of the elements in the model, respectively. Due to the fact, that some aspects, such as “Internal and external suppliers”, “Risk assessment” and “Improvement” scored less than 5 points, the author excluded them from the approbated model.

According to the table, in total the expert evaluations, the dominating values in rating of the criteria, sub-criteria and particular aspects were 8 to 10 points out of 10, which means, that the overall rating of the elements included in the questionnaire was high with few exceptions.

The new EFQM business excellence model should include such important aspects as the external environment and its impact on the company, comprehensive information analysis and risk assessment, and business excellence. Experts participating in the approbation of the model named all aforementioned criteria important. Thus, for instance, the mean value of the aspect “External environment and its impact on the company” was 9 (Mode-9, median-9). The mean value of the aspect “Comprehensive information analysis and risk assessment” was 8.5 (mode-9, median-9). The mean value of the criterion “Business sustainability” was 9.2 (mode-9, median9-9.0), meanwhile the mean value of the sub-criterion “Indexes of the impact from the projects related to nature, working and social environment” reached 9.5 (mode-9, median-9.0). Thus, the high importance of the improvements suggested by the author and approved by the experts in the context of common EFQM business excellence model are proved, concluding, that these criteria should be included in the model.



Source: elaborated by the author basing on Survey (n=20) and standard ISO 9001:2015  
 Rating scale 1-10, where one-the criterion is not important for the inclusion in EFQM model, 10 – criterion must be included in EFQM model

Fig 2. Improved EFQM business excellence model

Based on a study, the author points out that:

1. In order to comply in due quality with the guidelines of EFQM business excellence model aimed to achieve short- and long-term goals, which is important for the implementation of company’s strategy and risk identification, the sub-criteria of the criterion “Leadership” should be supplemented by the indication about sustainable development.
2. In order to guarantee the successful the company’s activities in long term in the constantly changing business environment, the author suggest amending the sub-criteria of the criteria “Strategy” adding the indication about necessity of sustainable development and risk assessment.
3. To reduce the amount of incorrect or imprecise information, the criterion “Human Resources” should include the sub-criteria with indication on guaranteed equality, sustainable thinking as well as risk reduction in communication with staff.
4. To make the company implement its strategy in long term and reduce possible risks related to the insufficient knowledge and information for the decision-making, the sub-criteria of the criterion “Partnerships and resources” are supplemented with the indication about risk reduction possibilities.
5. In order to comply precisely with the needs and wishes of all interested stakeholders as well as in order to ensure the company’s operations basing on principles of sustainable development, the sub-criteria of the criterion “Products, services, processes” are supplemented with the indication about risk assessment.



6. In order to strengthen the positive image of the company in the society the sub-criterion of the criterion “Social results” is supplemented with the indication on image in the context of sustainability, making long-term contributions, respectively.

The author believes that the model shall keep the conceptually adopted principle of the existing model regarding the sequence: approach – results followed by the training and improvements, but the implementation mechanism needs changes, including in the model some particular aspects and a new criterion – “Business sustainability”, which is directly related to business excellence.

Before introduction of the EFQM business excellence model, the management of the company must assess the stimulating and impeding factors in order to reduce the possible obstacles to the implementation of the model and encourage the competitiveness by maximizing the influence of the stimulating factors.

The aspect of comprehensive information analysis and risk assessment interacts with the implementation of every criterion since the quality of the decision-making depends on analysis (interpretation) and scope of available and necessary information in order to define strengths and weaknesses of the company, change strategy, introduce improvements, reduce possible business risks etc. Dealing with risks and opportunities is the first step to efficient quality management system in order to improve the results and prevent negative impacts. The opportunities can emerge in the situation that is favourable to achieve the expected results, for instance, in circumstances allowing the organization to attract customers, elaborate new products and services, reduce losses and improve the productivity. The activities for taking opportunities may include the consideration of the related risks.

The analysis of the external environmental factors of the company envisages taking into account the impact of the external environment in the context of each criterion. For example, in the criterion “Employees”, while planning the human resource management, the company should consider the common trends of the employment market.

#### **Conclusions, proposals, recommendations:**

1. Author’s hypothesis that “the improvement of the EFQM business excellence model to be applied in the quality assessment process in Latvian companies, including new criteria and integrating them with the conventional criteria of the model, can give the opportunity to increase the business competitiveness and drive it towards higher level of excellence” is proved by the data approbation of the qualitative research carried out by the author.
2. The Fundamental Concepts of Business excellence model are following: Leading with Vision, Inspiration and Integrity, Adding Value for Customers, Creating a Sustainable Future, Harnessing Creativity and Innovation, Developing Organizational Capability, Sustaining Outstanding Results, Succeeding through Talent of People, and Managing with Agility.
3. Basing on guidelines of EFQM business excellence model, experts’ opinion and changes introduced in the standard ISO 9001:2015, the author has elaborated an improved version of EFQM business excellence model, including the aspects: “External environment and its impact to the company”; “Comprehensive information analysis and risk assessment”; “Business excellence”; criterion “Business sustainability” with a corresponding sub-criterion **“Indexes of impact from projects related to natural, working and social environment”**, all of them aimed to achieve higher level of business excellence.
4. In order to prove company’s readiness to take part in solutions of different environmental issues aimed to improve its public image, the sub-criterion of the criterion “Social results” is supplemented with the indication about the dealing with environmental problems.

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## FISCAL POLICY AS AN INSTRUMENT FOR REDUCING INCOME INEQUALITY: CASE OF LATVIA

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**Abstract.** With the help of fiscal policy, government may influence both overall demand and the disposable income of the population, as well as solve social equality challenges in the society by allocating income among different groups of population. Income inequality in Latvia, which is expressed by the Gini index of disposable income, is the third highest in the European Union, so the question about the most effective instruments for reducing income inequality is pressing. Inequality results in reduced efficiency of social capital and economic distribution, worsening of population health indicators, rising social tension, increased crime and rising poverty, which can have a negative impact on long-term economic growth. The objective of the research is to evaluate how fiscal policy has influenced income inequality in Latvia by using the Gini index based on disposable income and the Gini index based on market income.

Results of the research indicate that the Basic Guidelines of the State Tax policy 2018-2021 have not been an effective instrument of fiscal policy to reduce income inequality; according to actual data income inequality in Latvia in 2018 has increased by 3.2% compared to 2017. Thus, to reduce income inequality the use of benefits policy is required, including Means-Tested benefits, which are only granted to people with the lowest income.

**Keywords:** *fiscal policy, income inequality, tax reform.*

**JEL code:** E62, O15

### Introduction

Income inequality is a widely discussed social problem in scientific literature. Although there are mixed conclusions in the scientific literature on the short-term impact of income inequality on economic growth, there is some consensus on the long-term negative impact on the potential output of the economy. One of the most widely used indicators of income inequality among the population is the Gini index. Income inequality is a major challenge in the economy of Latvia. In 2018 Latvia had the third highest Gini index of disposable income in the European Union, exceeded only by Bulgaria and Lithuania. In order to maintain high potential output for Latvia in the future, the government needs to pursue appropriate fiscal policy to reduce income inequality.

The aim of the research is to evaluate how fiscal policy has influenced income inequality in Latvia by using the Gini index based on disposable income and the Gini index based on market income (salary, self-employed income, property income and other income after income taxes and social contributions, but before pensions and social benefits).

To achieve the aim of the research the following tasks were determined: analyse the dynamics of inequality in Latvia and compare it to average indicators in euro area countries, evaluate the impact of fiscal policy on income inequality in Latvia, assess whether the Basic Guidelines of the State Tax policy 2018-2021 contributed towards a reduction of income inequality, and based on population income distribution determine the optimum fiscal policy instrument for the reduction of population income inequality.

Scientific methods used in the research: analysis of scientific literature on income inequality and the impact of fiscal policy on the reduction of income inequality, empirical analysis, grouping, comparison and decomposition of data.

The novelty of the study is the assessment of the impact of fiscal policy on reducing inequality using Gini index comparisons, as well as the evaluation of the impact of the Basic Guidelines of the State Tax policy 2018-2021 on income inequality according to actual data for 2018 is carried out.

Research restrictions: Data on the Gini index in Latvia are only available for the period from 2005 to 2018.

Theoretical and methodological basis of the study is specialised economic literature, foreign scientific research papers, including studies by economists of IMF and European Commission, Cabinet of Ministers of the Republic of Latvia regulations, as well as EUROSTAT and EUROMOD statistical data.

### **Theoretical background**

Income inequality is a widely researched issue in scientific literature - its causes and consequences, impact on the development of the national economy and well-being of the population, as well as the impact of fiscal policy on the reduction of income inequality. Income inequality is characterised by an unequal distribution of income within society. One of the most widely used indicators of income inequality among the population is the Gini index. If the value of the Gini index is zero, then all members of the society have equal income, but if the value of the Gini index is one - all income in the society is earned by one individual. Scientific literature describes that the value of Gini index is increasing over time, resulting in an increasing income gap between the richest and poorest deciles of the population (Cingano, 2014). In the EU and OECD countries, the value of the Gini index has increased from 0.228 to 0.373 over the last 30 years, with fluctuations ranging from 0.2 to 0.33 at the beginning of the observations (Toth, 2013). However, the increase of the Gini index in developed countries has not been equal, for example, Gini index has not significantly increased in the EU countries such as Austria and Belgium, but it has increased considerably in Latvia, Lithuania, Estonia (Toth, 2013). A similar situation is also observed in developing countries where the income inequality has significantly increased in the last thirty years (Simson, 2018).

Scientific literature mentions various factors for income inequality, including, the development of technology, labour market demand, globalisation, availability of education, etc. (Dabla-Norris, et al., 2015). According to the author, these factors are not separable and operating through a complex system has a significant impact on income inequality. Due to the development of technology, the paradigm of the labour market has considerably changed. The requirement for more qualified (more educated) employees increases, thus the income also increases, while the income of less qualified workers remains the same or decreases, and the overall demand for less qualified employees decreases (Acemoglu, 1998 and OECD, 2011). Globalisation, similar to technology development, also increases the income gap between qualified employees and less qualified employees, leading to a higher income inequality (Gozgor and Ranjan, 2015). Access to education also plays a significant role. Through education, the individual also obtains skills required for the labour market and increases its productivity, while productivity closely correlates with income (Stiglitz, 1973). Improving the access to education could help to decrease income inequality (Coady and Dizioli, 2018).

Scientific literature does not provide an unequivocal answer as to whether income inequality is hampering economic growth. There are studies, where a negative correlation between income inequality and economic growth has been established (Vo, et al., 2018 and Panizza, 2002), while other studies have mixed results (Bahmai-Oskooee, 2008), as well as there are studies, which have found that the increase of income inequality has a positive impact on economic growth (Li, et al., 1998 and Kuznets 1955). For example, Kuznets emphasises in his work that initially only the wealthy are capable of saving and investing, thus increasing their wealth and the gap between themselves and poor population. As economic growth in the country continues, and considering political, economic and social factors, the income of the poorest in the form of wages or social benefits also increases. Such economic growth in scientific literature is called the Kuznets curve (see Fig. 1).



Source: Kuznets, 1955

Fig. 1. **Kuznets curve**

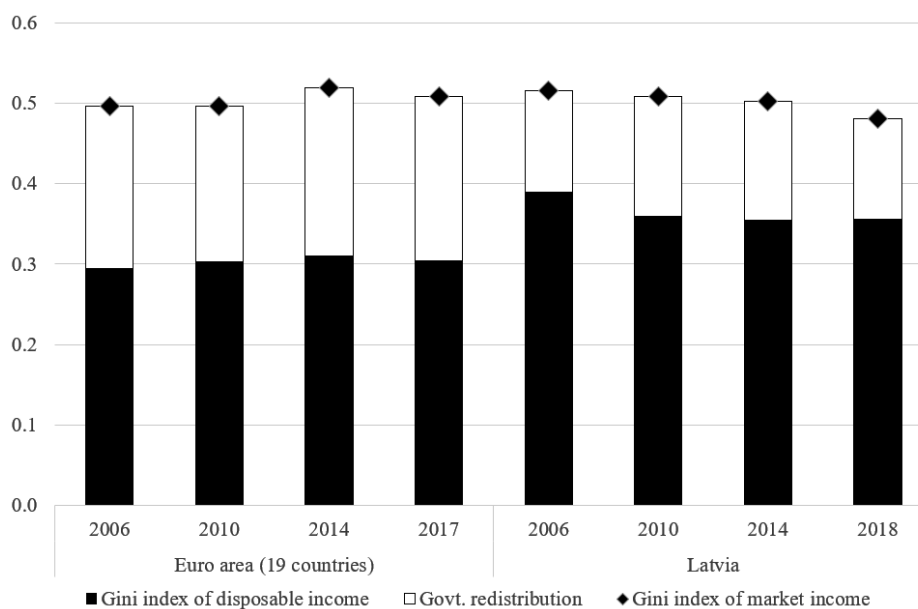
The Kuznets curve hypothesis assumes that initially national economic growth increases social inequality, but once it reaches a certain level, social inequality begins to decrease. One of the opponents of Kuznets theory was Piketty, who insists in his work that economic growth by itself does not necessarily ensure the decrease of income inequality. If the income of the wealthier population increases, so does their economic and political impact, resulting in political and economic decisions which are beneficial for the wealthier (Piketty, 2014). Since studies have different results, the authors agree to the conclusions of the Dominicis study, that the difference in the results of studies can be explained by various methods, data quality and individual characteristics of countries (Dominicis et al., 2008). Although there is no unambiguous answer about the impact of income inequality on economic growth, most scientists point out the negative impact of income inequality on rising crime rates, low health level, decreasing education level (Wildman, 2003, Fajnzylber, et al., 2002, Campbell, et al. 2005). Taking into account that education and health levels increase the value of human capital, thus they increase the amount of potential output in the future. The authors agree with the studies, which confirm that in the long term, income inequality affects the amount of economic growth. To reduce the income inequality, the government must apply fiscal policy (e.g. Piketty, 2014, Lyubimov, 2017 and Dabla-Norris et al., 2015).

Although scientific literature states that there is no one unambiguous recipe on how to fight income inequality, three channels are pointed out on how fiscal policy can reduce income inequality: 1) tax progressivity; 2) social benefits and transfers; 3) government expenditures for education and healthcare (Dabla-Norris et al., 2015, IMF 2017, IMF 2014). Application of tax progressivity results in higher income being taxed at higher rates. In its studies, the IMF stresses the importance of the progressiveness of personal income tax and corporate income tax in fighting income inequality (IMF, 2017). However, other studies have found that excessive progressivity can encourage entrepreneurs towards a tax avoidance, thereby reducing the amount of redistributive resources (Slemrod, 2006), and in some cases, tax progressivity can increase income inequality, especially in countries with a high proportion of shadow economy and low force of law (Duncan et al., 2008). State social benefits and transfers play a key role in reducing income inequality. Distribution of funds within fiscal policy must be compatible with sustainability of fiscal policy. Firstly, optimum fund allocation is not equal in all countries, and depends on priorities set forth by the government - to fight income inequality or poverty. Secondly, benefits from the distribution of funds must be comparable with benefits from increasing expenditures in other fields, for example, in public infrastructure to support sustainable growth (IMF, 2014). It is also important to note that by allocating government expenditures towards income inequality reduction and by introducing tax progressiveness, a compromise between efficiency and equity must be established (Munielo-Gallo, et al., 2013). Thirdly, fiscal policy must be consistent with fiscal sustainability,

contributing to economic growth and the ability to provide the necessary funds for fiscal redistribution in the long term (IMF, 2014).

### Impact of fiscal policy on reducing income inequality

Income inequality in Latvia is significant - the Gini index of disposable income in 2018 was the third highest in the European Union (0.356), exceeded only by Bulgaria (0.396) and Lithuania (0.369). The Gini index of disposable income in Latvia in 2018 was higher than the average in member states of the euro area (30.4) (see Fig. 2.). Similar trends can also be observed historically. According to Fig. 2, for all years the Gini index of disposable income in Latvia was higher than in euro area countries. However, a different situation can be observed if the Gini index is based on market income. If the Gini index in 2006 and 2010 was higher in Latvia, then in 2014 and 2018 the Gini index of market income was higher in euro area countries. The difference between the Gini index for disposable income and the Gini index for market income is made up of social transfers<sup>1</sup>, which is a direct, quantitative result of fiscal policy in the reduction of income inequality (IMF, 2014). According to Fig. 2, fiscal policy in euro area countries for reporting years reduced the Gini index of market income by 0.193-0.209, while in Latvia only by 0.125-0.15. The author concludes that fiscal policy through benefits and pensions in euro area countries reduces income inequality more than in Latvia.



Source: author's construction based on Eurostat database

Fig. 2. Gini index based on disposable and market income in Euro area<sup>2</sup> and Latvia

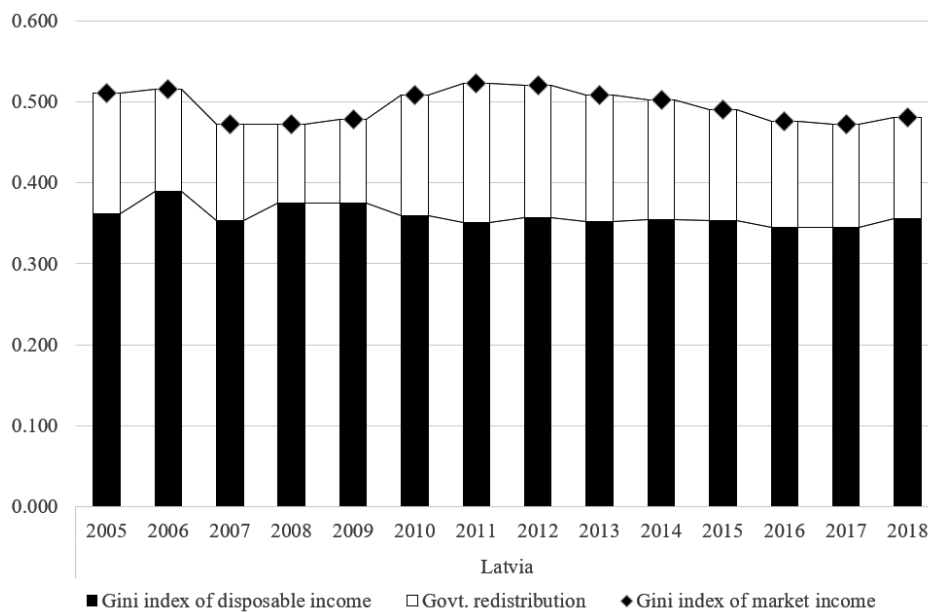
Since 2005 the Gini index of disposable income has been higher than 0.345, reaching the lowest value in 2016 and 2017 (see Fig. 3.). The Gini index of market income also reached its lower value in 2017 (0.472), which was equal to the Gini index of market income in 2007. The highest value of the Gini index of market income was reached after the financial crisis in 2009 (0.523 in 2011). Whereas, the Gini index of disposable income after the financial crisis in 2009 remained relatively unchanged until 2015 - from 0.351 to 0.357. After the financial crisis in 2009, the Gini index of disposable income remained relatively stable due to government social transfers, which in 2008 was 0.097 of the Gini index of market income, while after the financial crisis period in 2011 it reached 0.172 of the Gini index of market income. The authors conclude that social transfers in the period from 2005 to 2018 reduced income inequality

<sup>1</sup> According to the Eurostat Glossary social transfers cover the social help given by central, state or local institutions. They include old-age pensions, unemployment benefits, family related benefits, sickness and invalidity benefits, education-related benefits, housing allowances, social assistance and other benefits.

<sup>2</sup> Data about Gini index based on disposable and market income in Euro area for 2018 is not available.



determined by the Gini index of market income on average by 25.9%, except after the 2009 financial crisis (2010-2013), when social transfer reduced income inequality by more than 30%.



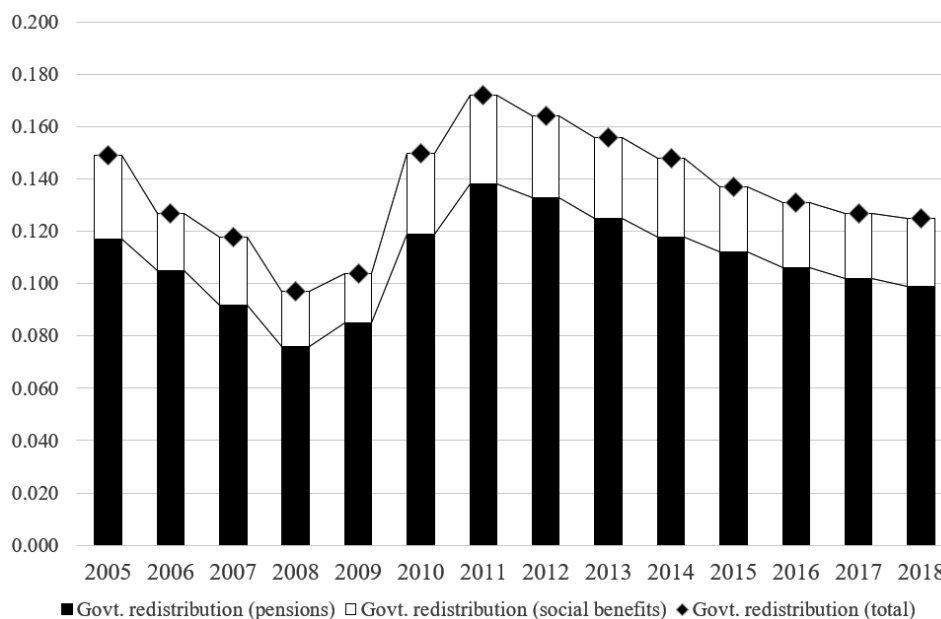
Source: author's construction based on Eurostat database

**Fig. 3. Gini index of disposable and market income, and government redistribution in Latvia from 2005 till 2018**

Reducing inequality was one of the tasks of the previous government's Declaration of Intentions (Cabinet of Ministers, 2016). Inequality reduction was also one of the main objectives in the Basic Guidelines of the State Tax policy 2018-2021 (Cabinet of Ministers, 2017). To reduce income inequality, the Basic Guidelines of the State Tax policy 2018-2021 introduced progressive personal income tax which, according to the scientific literature, is an appropriate fiscal policy mechanism to reduce personal income inequality. According to the Basic Guidelines of the State Tax policy 2018-2021 it was planned that the Gini index of market income would decrease from 0.4774 to 0.477, but according to actual information the Gini index of market income in 2018 increased up to 0.481 or by 0.009 compared to 0.472 in 2017. Gini index for disposable income also increased from 0.345 in 2017 to 0.356 in 2018. Compared to 2017, government social transfers in 2018 reduced the Gini index of market income by 0.002 less than in 2017 (in 2017 social transfers reduced the Gini index of market income by 0.127, while in 2018 by 0.125). The Basic Guidelines of the State Tax policy 2018-2021 have not been an efficient fiscal policy instrument for the reduction of income inequality. Similar forecasts were made by the European Commission, which predicted that the implementation of tax policy guidelines would increase income for all population groups, but would be costly to the general government budget and would have an insignificant impact on poverty and inequality (European Commission, 2018). A study by the Ombudsman of the Republic of Latvia and the University of Latvia (2019) also concludes that the Basic Guidelines of the State Tax policy 2018 -2021 did not reduce income inequality in 2018.

In the period 2005-2018 approximately 20% of social transfers consisted of social benefits, the rest was provided by pensions (see Fig. 4.) The amount of social transfers decreased after joining the European Union, while it increased considerably after the financial crisis in 2009. The increase of social transfers is explained by the automatic fiscal stabilisers (unemployment benefit) and the people's choice to retire, rather than by the discretionary fiscal policy pursued by the government. While the unemployment rate increased to 19.5% of the economically active population in 2010 (CSB, 2019), the number of unemployment benefits in the period from January 2008 to January 2010 increased by 52.8 thousand reaching 82.1 thousand (SSIA, 2019). Whereas the residents entitled to state pension actively used the opportunity to retire, as a result of which the number of recipients of retirement pensions increased

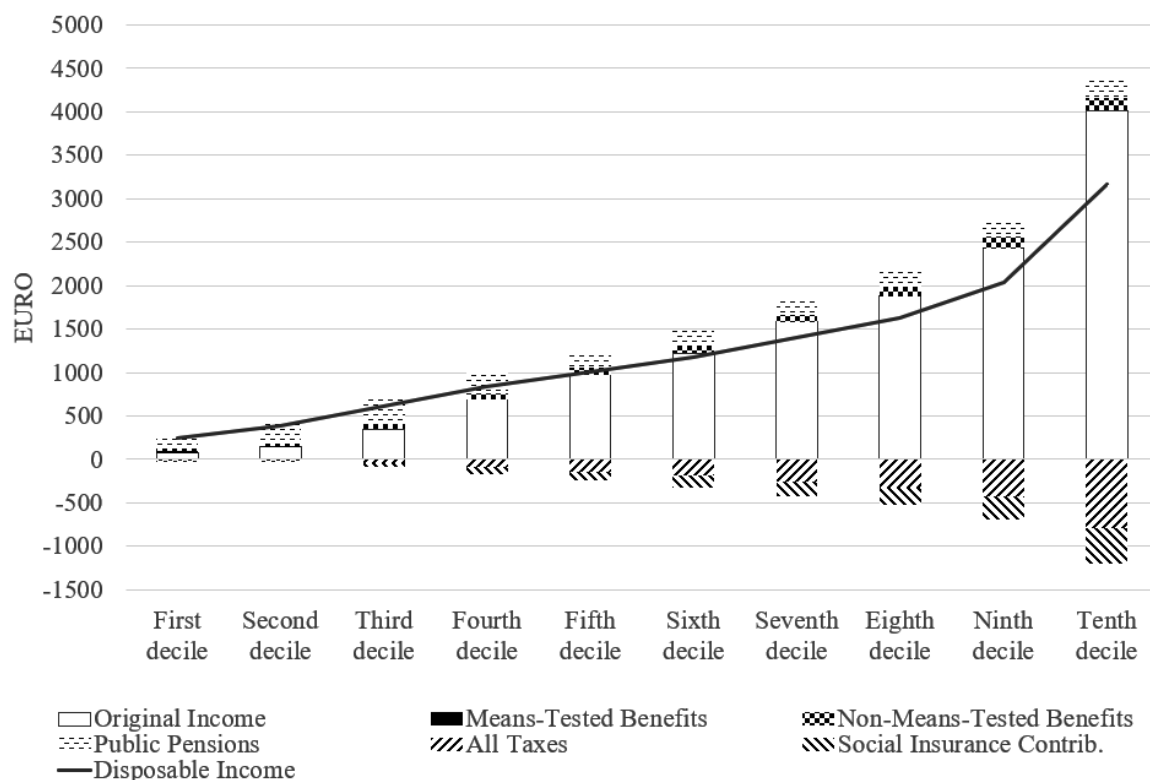
by 16.9 thousand from the end of 2007 to the end of 2012. The overall amount of social transfers has been steadily declining since the higher point in 2011, reaching 0.125 in 2018, mainly due to a decline in the number of retirement pension recipients.



Source: author's construction based on Eurostat database

Fig. 4. Government redistribution in pension and social benefits in Latvia from 2005 till 2018

Analysing income inequality by deciles of personal income, it is possible to conclude why the Basic Guidelines of the State Tax policy 2018-2021 has not been an effective instrument to reduce income inequality. According to the available results of simulations of EUROMOD about 2018 in Latvia, the personal income of the population from the market (salary, self-employed income, property income and other) is below the minimum monthly salary in the first three deciles (see Fig. 5.). In the first decile, resident income from the market is only 74.1 euros, supplemented by Means-Tested benefits (GMI and housing benefits), other benefits and pensions, as a result the disposable income increases to 242.1 euros. Considering the fact that personal income in the first decile is very low, changes in the tax policy actually do not affect these residents, for example, differentiated non-taxable minimum in 2018 was set at 200 euros, which significantly exceeds the amount of resident income from the market in the first decile. Based on the available information, the authors conclude that, in order to efficiently reduce income inequality, changes must be made not only in the tax policy, but also in the benefits policy, including Means-Tested benefits. According to EUROMOD simulations, Means-Tested benefits are received by the population with the lowest income, thus changes in these benefits would be the most effective way to promote the reduction of income inequality.



Source: author's construction based on EUROMOD simulations

Fig. 5. Income deciles in Latvia in 2018

The Gini index of disposable income indicates the distribution of income among the population, but does not indicate the difference in the level of income between different groups of the population. According to Fig. 5. in 2018, the disposable income of residents in the tenth decile of income was 13.1 times higher than the disposable income for residents in the first decile, which is the second worst figure in European Union. The difference in income levels in 2018 was greater only in Lithuania, where the disposable income of the tenth decile was 13.4 times higher than income of the first decile (EUROMOD, 2019).

### Conclusions

1. Scientific literature does not provide an unambiguous answer as to whether income inequality in the short term has a negative impact on economic growth, because different results are obtained due to various methods and specific characteristics of countries, however, there is a consensus on the long-term negative impact of income inequality on potential output through channels that hamper human capital development - increasing crime rates, low health level and reducing education levels.
2. Income inequality in Latvia, which is expressed by the Gini index based on disposable income, is the third highest in the European Union.
3. Fiscal policy through benefits and pensions in euro area countries reduces income inequality more than in Latvia.
4. With the help of social transfers in the period from 2005 to 2018, income inequality determined by the Gini index of market income was reduced by 25.9% on average, except for after the 2009 financial crisis (2010-2013), when social transfers reduced income inequality by more than 30%.
5. The increase of social transfers after the crisis is explained by the automatic fiscal stabilisers (unemployment benefit) and the people's choice to retire, rather than by the discretionary fiscal policy pursued by the government.
6. The Basic Guidelines of the State Tax policy 2018-2021 have not proved to be an effective instrument of fiscal policy to reduce income inequality - according to actual data, the income inequality determined by the Gini index of disposable income in 2018 increased by 3.2 percent compared to 2017.

2. The population with the lowest income is basically not affected by changes in tax policy, thus, to reduce income inequality, the use of a benefits policy, including Means-Tested benefits, which are granted to lower-income individuals only, is required.

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## MACRO-SOCIAL MARKETING AS A GOVERNMENT'S OPPORTUNITY TO MAKE A POSITIVE INFLUENCE ON SOCIETAL BEHAVIOUR

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**Abstract.** Governments work hard to make their district a better place to live, sometimes when society does not recognize what has been done and it indicates the real issue – information asymmetry. To improve information flow between government and society as well as active social change it is possible to use macro-social marketing. In a few cases, it is already happening but there are many more where it could be used by the government.

Problem statement – there is information asymmetry between government and society, that reflects on the social development of the country on a macro-level.

Aim – to investigate macro-social marketing and its ability to improve the communication flow between government and society while making a positive impact on society.

Main research methods used – scientific publications and previous conducted research analysis, for empirical part a quantitative non-parametric method for statistical. The authors study macro-social marketing and its implementation of good practice, CSDD, in Latvia.

First, it is important to get a common understanding of what macro-social marketing is and how it differs from micro-social or social marketing.

Second, macro-social marketing is already in use but not always governments are aware that they are using it, so authors will stimulate awareness by mentioning successful cases where macro-social marketing has been used in addition by doing one in-depth case study of a Latvian government organization called CSDD that is responsible for road traffic security in Latvia.

In the end, there will be available main conclusions, proposals, and recommendations for the Latvian government that can be used to positively influence society as well as other stakeholders.

Main results and findings of the paper – the article provides new information about macro-social marketing and its ability to make a positive impact on society if used right by the Latvian government and public institutions. Analyze macro-social marketing Latvia CSDD case; make conclusions about macro-social marketing and assemble recommendations for Latvian government. Overall, the article answers do macro-social marketing is a way for the government to make a positive influence on society.

**Keywords:** *macro-social marketing; social marketing; society; government; public sector.*

**JEL code:** M310, M380, M390

### Introduction

Recent scientific publications and previously conducted research have indicated that there is information asymmetry between government and society, which reflects on the social development of the country on a macro-level.

**Aim** of this research is to investigate macro-social marketing and its ability to improve the communication flow between government, public institutions and society while making a positive impact on society and recognize where the Latvian government already has successfully used it and what benefits it can offer if used in other situations as a communication tool between government and society.

#### Tasks:

- 1) To determine the difference between micro-social or social marketing and macro-social marketing;
- 2) To analyze successful macro-social marketing examples;
- 3) To determine macro-social marketing's possible applications by the Latvian government.



**Main research methods used** – scientific publications and previously conducted research analysis, for empirical part a quantitative non-parametric method for statistical analysis. The authors study macro-social marketing and its implementation of good practice, CSDD, in Latvia.

To make the article more sophisticated authors are drawing attention to different country experience including Latvia example – government’s organization called CSDD that already is successfully using macro-social marketing. CSDD is a Latvian government organization, which is responsible for road traffic security. All the information about the CSDD case is available online.

Research limitations/implications – the in-depth case study refers to a single national context. Future investigations are required in a broader geographical context as well with more regional cases where macro-social has been used.

We must also take into consideration that even though this article answers many important questions it leaves space for future research. As one of the most important questions to answer next is – why governments try to limit their marketing and macro-social marketing expenses while successful companies spend so much money on marketing to accomplish their business interests by influencing behavior? In addition, why society is much more exposed to commercial marketing than to social marketing?

### **Literature Review**

Although social marketing is looked at as an effective consumer-oriented approach to promoting behavioral change and improved well-being for individuals and communities, its potential for generating societal change is still under-researched (Truong, 2016). Social marketing has been mainly outside the scope of macro marketing. Previous articles on social marketing are scarce mostly because much of social marketing has had a general focus on individual-level behavior change and community-centered approaches (Kennedy, 2016). Macro-social marketing is advanced as a separate area of social marketing even more recently making it more contemporary and relatively unknown. Both of those factors have influenced information available and assumptions made about the topic in this article.

(Micro) Social marketing and macro-social marketing is a relatively new topic that could bring freshness in communication between government and society. To do so authors are looking at the history of social marketing’s and macro-social marketing’s definition as well as distinguishing the difference between both terms to make clear objective that needs to be reached with macro-social marketing used by the government. A leading expert in macro-social marketing is Ann-Marie Kennedy who has done research on her own as well as collaborated with others to widen the field of macro-social and social marketing.

#### **1. Macro-social marketing and its purpose (history)**

Governments and public sector organizations have used marketing for not only the promotion of particular services (e.g. the provision of a free flu jab) or promotion of public transport but also – voluntary or recommended behavior (e.g. campaigns against racism or gun crime). “The use of marketing tools and techniques by governments is noticeable as a natural adoption of private-sector-based approaches in the organization of public services. This introduction of market rationalities and tools into public management issues has been defended on the basis that it improves efficiency and focuses more on people’s needs. Although the umbrella term for this field of marketing application is “public sector marketing”, when referring to voluntary behavior change for the benefit of the individual or society as a whole, the term “social marketing” is seen as more appropriate” (Raftopoulou, Hogg, 2010, p. 1208).

That means public sector marketing refers to any marketing activity undertaken by organizations in the public sector (commercial and social marketing). (Kotler, Zaltman, 1971). Social marketing is noticeable as a type of public sector marketing when it is used by public organizations to promote social objectives (Buurma, 2001). Deriving on this, acceptable definition and cause of social marketing consists of “the adaptation of commercial marketing technologies to programs designed to influence the voluntary behavior of target audiences to improve their personal

welfare and that of the society of which they are a part” (Andreasen, 1994). Social marketing literature sometimes also includes public sector marketing campaigns as a part of it because public sectors social marketing is related to public sector marketing (Goldberg, Fishbein, Middlestadt, 1997; Buchanan, Reddy, Hossain, 1994; Hastings, 2003; Raftopoulou, Hogg, 2010). Authors indicate that misunderstandings about what is social marketing and macro-social marketing are still happening so it is always important to clarify the term to make a united view about the subject.

The primary reason for not having a united understanding of the “macro-social marketing” definition is that social marketing is a relatively new area in marketing. The first time “social marketing” as a term is mentioned in 1971 by Kotler and Zaltman where they highlight social marketing’s main focus - influencing the acceptability of social ideas by designing, implementing and controlling marketing in a specific way (Kotler, Zaltman, 1971). Therefore, the term “macro-social marketing” has developed even more currently by differencing it from micro-social or social marketing. In general, making macro-social marketing new and relatively unfamiliar.

Until this social marketing is at risk of not meeting its full potential because of several barriers that partially consist of existing perception. The barriers are also the result of the absence of a clear understanding of the field, its role, and the field’s relation to other approaches to social change (Andreasen, 2002). Lack of clarity in the field of social and macro-social marketing is the key obstacle to reaching fields’ full potential.

To be on the same page it is vital to establish a common understanding of micro-social or social marketing and macro-social marketing. Based on that we will be able to unveil the potential of macro-social marketing in a more detailed setting and analysed its past, present and possible future (Brychkov, Domegan, 2017) as well as role of corporate social marketing (Polonsky, 2017).

Social marketing involves activities undertaken by public and private individuals and organizations with the purpose of achieving specific social goals. Social marketing is the use of adapted standard marketing principles in order to change the attitudes and behaviors of individuals and groups, to help minimize social problems and enhance the general welfare of society. The main objective of social marketing is to encourage positive social behavior (Bašić, Mihanović, 2018). Authors derive that marketing and social marketing, and macro-social marketing has the same foundation – activities done according to standard marketing principles or marketing-mix, but with a different purpose.

Micro-social or social marketing creates some sort of exchangeable “product” to drive behavior change; often this equals to alternatives to the behavior (e.g. electronic cigarettes) or programs for behavior management (e.g. smoking cessation programs). These “products” are then ostensibly what the social marketer markets using marketing-mix. Micro-social marketers are unable to affect the actual product in question (e.g. cigarettes) except through lobbying of government or counter-marketing or remarketing where a negative view of product use is desired (Kennedy, Parsons, 2012). In other words, micro-social marketing would not solve the problem by addressing the root cause rather than advancing to a quick solution that has a greater good than the existing one.

Macro-social marketing seeks to decrease the efficiency of the traditional marketing mix surrounding the desired behavior change. In cases where social marketing is directed at changing the levels of use of a product (e.g. smoking, drinking, and birth control), aspects of the traditional marketing mix for the product can be directly influenced by the government. Here the government shapes the societal context of product usage, by limiting the effectiveness of commercial marketing techniques, with the aim of societal level or macro-level behavior change for the benefit of society. It is possible to classify that as the polar opposite to popular thought regarding what social marketing is. However, given the definition of social marketing as the use of the traditional marketing mix, this can still be classified as social marketing, but at a macro-level (Kozinets, Hemetsberger, Schay 2008; Kennedy, Parsons 2012). Several aspects of social fairness and social marketing are rised by researchers (Kennedy, A., Santos, N., 2019) to analyse integrative justice approach in creating an ethical framework for social marketers. It suggests that macro-level

behavior change on society can be done best if it is done by the government and it can include not only solving the root problem by introducing something new but also by trying to decrease the value of something existing (demarketing). Researchers cover not only the best gains from macro – social marketing but are investigating also critical aspects (Truong, *et al*, 2019) where the researchers have identified issues that need to be addressed if social marketing to become a more system-oriented means for positive influence of societal change with implications for theoretical and practical development of the social marketing field.

Macro-social marketing is the use of social marketing techniques to shape the social context of behavior change. Macro-social marketing seeks societal rather than individual behavior change. There are many strategic ways how to execute macro-social marketing and create macro-level change, e.g., upstream, midstream, and downstream social marketing, community participation, de-marketing, and systems social marketing (Hamby, Pierce, Brinberg 2016; Kennedy, 2016). One of the largest differences social marketing has from macro-social marketing is its macro-level scale – seeking societal change, not individual.

The main challenge any governments' institution has with macro-social marketing is having a systematic approach and it is important because society's values and attitudes reflect on the success potential of social marketing. Without a systematic approach, it is not possible to make a change in society's values and attitudes. Influencing it is vital due to much of the individual's environmental milieu affects an attitude, but attitude is determined mostly by an individual's values. Social ideas or attitudes are concerned with stating that something is "right or wrong," "good or bad," etc., and these concepts form the individual's value system (Robin, 1974). It is debated that if social marketing's purpose was to change people's attitudes towards social ideas, it must first be acknowledged that a person's attitudes were shaped by their values. Therefore, social marketing's real purpose was to change a person's values – a formidable task (Kennedy, Parsons, 2012). This clearly shows that macro-social marketing would not be a quick fix that would last for a while but rather a long-term fix that would take time to show results as well as it would make a long-lasting shift. The scale at which macro-social marketing can operate is enormous and in every case, the resources need to be adequate including time for getting first results.

## **2. Case studies from several countries**

Recent scientific publications confirm that there are many researchers in many countries are analyzing aspects in social behavior change by influence of social marketing (Wood, 2019) and taking into account several strategies possibilities and their influence on society (Wymer, 2011). In United States of America social marketing influence is analysed in great extent (Hamby, et al., 2017) focusing on social entrepreneurship, community action and social marketing. While field-leading researcher Ann-Marry Kennedy has researched anti-smoking campaigns in Canada (Kennedy, 2016), Van Dao Truong (Truong, 2016) has researched different macro-social marketing examples in Vietnam, researchers group leading by Duffy have analysed several aspects of macrosocial marketing in Iceland (Duffy, *et al*, 2017), aspects in Ireland are analysed in detail for possible future developments (Brychkov, Domegan, 2017). New – Zealand experience is covered (Kemper, Ballantine, 2017) stressing that “Obesity, climate change and poverty are some of the most serious health, environmental and social issues of the 21st century. Current initiatives to address these wicked issues typically focus on the individual and community, with social marketing being a common tool.” (Kemper, Ballantine, 2017).

The Canadian anti-smoking campaign (CAS) started in 1985 with a \$1.5 million anti-smoking social marketing campaign aimed at youth, and regulations that banned tobacco sponsorship of amateur sports events. This was the beginning of a systematic strategy to decrease the use of and exposure to tobacco products (Hay, 1996) in Canada under the tenets of “prevention, protection cessation and product regulation” (Kennedy, Parsons, 2012). To date, the CAS is considered one of the most successful in decreasing tobacco usage and users (Kennedy, Parsons, 2012) and is

seen as an example of positive social engineering (Hay, 1996). Data shows that in 1983 there were smoking 37,5% of people in Canada, in 2000 it decreased to 24% (Kennedy, Parsons 2012), and in 2018 there were only 15,8% people who smoked on a regular basis (Statistics Canada. 2019). Macro-social marketing can make a significant impact, to do so it needs to be early and clearly focused.

Research done by Van Dao Truong shows that the Global Adult Tobacco Survey (GATS) indicated significant improvements in different social aspects and influenced behaviors of Vietnamese adults with respect to cigarette smoking. The proportion of smokers reduced to 48.8 percent. From 2002 to 2010, the percentage of male smokers fell from 56.1 to 47.4, while that of females decreased from 1.8 to 1.4. The survey also suggested that 95.7 percent of adults believe smoking causes serious illnesses, 55.5 percent believe smoking causes stroke, heart attack, and lung cancer, and 87 percent believe exposure to tobacco smoke causes serious illnesses in nonsmokers. Moreover, nearly 95 percent believe cigarettes are addictive and nearly 70 percent plan to quit smoking (World Health Organization. 2010). In 2013, the proportion of smokers was reportedly 42.8 percent (Truong, 2016).

In addition, the Alcohol-free Journeys program has contributed to the considerable decrease in road traffic accidents, from 27,993 in 2002 to 12,441 in 2011. In the same period, the number of deaths and injuries also decreased, from 13,186 to 10,543 and from 30,999 to 9,671, respectively. Before the program, drunk driving accounted for about eight percent of the total number of road crashes. In recent years, drink driving causes five percent of road accidents, which is much lower than speeding and overtaking. However, Table 4 also suggests that the number of road traffic crashes has increased dramatically since 2012 but the number of deaths appears to be decreasing. Thousands of lives been saved from the increased helmet-wearing rate as noted above (Truong, 2016). In both cases significant role plays that macro-social marketing contains not only a campaign but also regulations that go hand in hand with the campaign, making it monolith and maximizing its impact.

### **Research results and discussion**

The most of discussion is around macro-social marketing's definition and its ability to solve complications faced by society. In addition, in this article authors will inspect how macro-social marketing has been used in different countries as well as how it is and could be used in Latvia.

Research shows that different governments already have successfully used macro-social marketing. It indicates that macro-social marketing can be a useful tool to address social issues along with improving communication between government and society. Overall, authors have evidence that macro-social marketing has improved the situation in different countries including Latvia. In Latvia, authors examined the CSDD case whereby using macro-social marketing campaigns amount of road traffic accidents has decreased.

#### **In-depth case study - Latvian Government's "CSDD campaigns"**

CSDD is a government company that is responsible for road traffic security including the registration of vehicles and watercraft, qualification of drivers as well as all the information and services that come with it. Since 2007 CSDD has emerged with social campaigns which are a representation of good macro-social marketing in use by the government.

CSDD has created social campaigns with one main goal – to decrease the amount of road traffic accidents. To do so they are aiming to change drivers' and pedestrians' behavior. The approach used in these campaigns creates a link between disobeying the rules and experiencing strong, negative emotions. Only a few campaigns from 39 are not linked to experiencing strong, negative emotions. Since 2007 when the first campaign was launched it is evident that the number of road traffic accidents has been decreased drastically. Latvia is experiencing a decrease in road traffic accidents, deaths total, deaths per 100,000 population, injuries total, and injuries per 100,000 population since the

CSDD social campaigns were launched for the first time. Except for a few fluctuations between 2007 and 2019 tendency shows that roads are getting safer because fewer people are dying – the main data are included in table 1.

Table 1

**Road traffic accidents in Latvia from 2007 to 2018**

Year	Road traffic accidents (resulting in death or serious injury)	Deaths total	Deaths per 100,000 population	Injuries total	Injuries per 100,000 population
2007	4 781	419	19	6 088	277
2008	4 196	316	15	5 408	248
2009	3 160	254	12	3 930	184
2010	3 193	218	10	4 023	192
2011	3 386	179	9	4 224	205
2012	3 358	177	9	4 179	205
2013	3 489	179	9	4 338	216
2014	3 728	212	11	4 603	231
2015	3 692	188	10	4 566	231
2016	3 792	158	8	4 648	237
2017	3 875	136	7	4 824	248
2018	3 975	148	8	4 798	249

Source: Central Statistical Bureau of Republic of Latvia (CSB, 2019)

If we take off the focus from year to year development but focus more on how the situation has changed in Latvia between 2007 and 2018, we can see that in 2007, there were 4 781 road traffic accidents and in 2018 less than four thousand, experiencing 17% decrease (Table 2). In 2007, there were 419 deaths but in 2018 only 148 and that is 271 deaths less, experiencing a 65% decrease (Table 2). In 2018, Latvia lost 8 people per 100,000 population compared to 19 people per 100,000 population in 2007, experiencing 58% decrease (Table 2). The same situation is with injuries, in 2007 there were 6 088 injuries related to road traffic accidents but in 2018 only 4 798, and it is a 21% decrease (Table 2). Injuries per 100,000 population have decreased (10%) as well, if in 2007 there were 277 than in 2018 there is 249 (Table 2).

Table 2

**Road traffic accident comparison between 2007 and 2018**

Year	Road traffic accidents (resulting in death or serious injury)	Deaths total	Deaths per 100,000 population	Injuries total	Injuries per 100,000 population
2007	4 781	419	19	6 088	277
2018	3 975	148	8	4 798	249
Decrease between 2007 and 2018, %	17%	65%	58%	21%	10%

Source: Central Statistical Bureau of Republic of Latvia (CSB, 2019)

CSDD has addressed 4 different types of complications – passengers are not using seatbelts; drunk driving; pedestrians not using reflectors; mobile device usage while driving. To do so as good as possible they have used different classical marketing-mix elements, marketing channels and made marketing materials that are catchy and easy to understand (Figure 1-4). These marketing materials connect with the target audience not only on a technical level by providing necessary information for safe travel but also on an emotional level by making them feel the consequences of disobeying the safety measures.

Since 2007 CSDD has made 39 campaigns 4 of them are addressing the importance of seatbelt usage. They have targeted drivers as well as passengers and in Figure 1, there is an example of a campaign from the fall of 2019 that is addressing the issue of insufficient usage of seatbelts and how important it is to use a seatbelt in a backseat as well in a front seat.

Figure 1 is only a part of the social campaign. It also includes different articles in the press, radio and video appearances, surveys and even some gorilla marketing elements – seatbelt effectiveness simulator. Seatbelt effectiveness simulator allows a person to sit in a car seat and put on a seatbelt, right after it is done, a car seat simulates and impacts a person gets when the car experiences a crash or a very sharp and long push on brakes. These simulators were installed at gas stations. Once more CSDD is a connection with the target audience on an emotional level.



Source: CSDD website, CSDD, 2019)

Fig. 1. CSDD campaign in 2019 highlighting importance of seatbelt usage

The most addressed issue by CSDD is drunk driving. They have produced 10 campaign highlighting that it is better to be angry and sober up than drive while being intoxicated. In Figure 2, there is an example of one of these campaigns from 2011. The social campaign also includes articles for the press and a few videos.



Source: CSDD website, CSDD, 2014

Fig. 2. CSDD campaign in 2014 highlighting importance of sobering up before driving

From 39 social campaigns, 4 have been made to address the importance of reflectors and reflective vests. Figure 3 shows one example of these campaigns. The message sent by this campaign is that being visible means being alive. This campaign contains many articles for the press and one video.

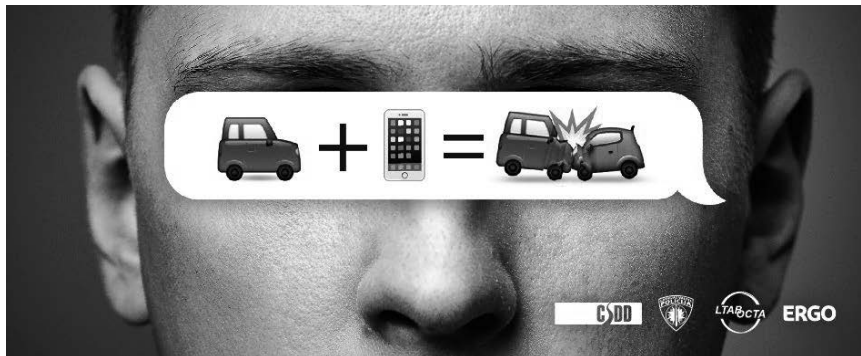


Source: CSDD website, CSDD, 2014



**Fig. 3. CSDD campaign 2014 highlighting importance of using reflectors, specifically reflective vests**

The popularity of mobile devices is at its all-time peak and it only continues to rise. Since 2007 CSDD has made only 3 social campaigns addressing the issue of mobile device usage while driving but the amount of social campaigns addressing this issue might arise in the near future. Figure 4 shows an example from 2015. This campaign contains many articles for the press and one video and two TV show appearances. In this campaign, CSDD used a catchy way to raise target audiences' awareness of mobile devices bad influence on driving safety.



Source: CSDD website, CSDD, 2015

**Fig. 4. CSDD campaign in 2015 highlighting importance of not using mobile devices while driving**

In a survey done by CSDD, 55% of respondents admitted that road traffic culture has positively changed in the last ten years (CSDD, 2017). Overall, the CSDD is among the most successful realizers of macro-social campaigns in Latvia having a significant influence on society and their activities.

#### **Conclusions, proposals, recommendations**

1. Research results confirm macro-social marketing's ability to make a positive influence on society. Many developed countries use of macro-social marketing to influence societal behavior and analysis of activities.
2. Macro-social marketing must include marketing activities as well as regulations on the issue supporting the solution macro-social marketing campaign is addressing.
3. Macro-social marketing systematically used by government and public institutions can make a positive impact on societal behavior and positively influence all stakeholders. It has already used by different governments worldwide including the Latvian government.
4. Government and public institutions could use macro-social marketing in communication with society more often. Good experience in many countries has confirmed that it is possible to use macro-social marketing to address social issues and introduce society to new regulations, legislation, taxation, policies, and programs as well as educate society by stressing important aspects.
5. Macro-social marketing can serve as a healthy way of addressing the main misunderstanding between Latvian government and society as well as it can be aimed at decreasing informational asymmetry.
6. Since 2007, social marketing activities carried out by CSDD of Latvia suggest that macro-social marketing used more often by the Latvian government can positively influence societal behavior in Latvia in such a way it benefits all stakeholders.
7. Results highlight the potential of macro-social marketing as a communication tool between the Latvian government institutions and society. It takes a closer look at the CSDD case that represents a good way to effectively use macro-social marketing.
8. It is proposed to make further research on social marketing in Latvia in order to examine specific areas before and after social marketing campaigns to measure the impact of social marketing campaigns in Latvia.

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