The Strength of Latvia for the Long-term Development

Project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) National research programme Latvian Heritage and Future Challenges for the Sustainability of the State (2018–2022)

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The collective scientific monograph, edited by Dr. habil. oec. Baiba Rivža, **The strength of Latvia for the long-term development** has been produced based on the research results achieved within the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) under the national research programme Latvian Heritage and Future Challenges for the Sustainability of the State (2018–2022).
The monograph has been published with the financial support of the project Interframe-LV.

The monograph has been reviewed at the meeting of the Presidium of the Latvian Academy of Sciences on April 1, 2022 (protocol No. 1.1-6 / 44) and recommended to be published.
The publication contains a wide range of factual material, findings, conclusions and recommendations that could be used in decision-making at various levels of governance, in the development of policy documents, in the education system, incl. at all levels of university studies and lifelong learning, NGO activities etc.

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Photos: from the archives of participants, authors and experts of the project Interframe-LV; LAS photo archive (Jānis Brencis); LU photo archive (Toms Grīnbergs)

Monograph printed by:
Jelgavas tipogrāfija Ltd

ISBN 978-9984-48-394-8

Latvian Academy of Sciences
Latvia University of Life Sciences and Technologies
2022

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Foreword
Science Could and Must be Trusted

Ivars Kalviņš,
president and full member of the LAS,
Dr. habil. chem.

The Latvian Academy of Sciences (LAS) is among the scientific institutions that are actively involved in the implementation of research projects and programmes funded by the Latvian state and the European Union. One of them is the national research programme (NRP) Latvian Heritage and Future Challenges for the Sustainability of the State (2018-2022). The LAS implemented the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) under the mentioned programme. The results of the research project are included in the monograph The strength of Latvia for the long-term development, which has been published in Latvian and English.

Prior to that, ten projects were implemented under the NRP Ekosoc-LV (2014–2018), which were administered by the LAS. The projects were interdisciplinary and researched the transformation processes necessary for economic and social development, focusing on the economic and social potential of the regions. The project Interframe-LV successively continued researching some of the problems, incl. the knowledge economy and the development of the necessary technological and social innovations and their integration into economic and social development processes, yet with a new focus on sustainability in an international context.

Accordingly, the international background linking the goals and objectives of sustainable development with the planned recovery and resilience measures in the context of the Covid-19 pandemic has been carefully analysed, and this can be found in Chapter I of the monograph. Latvia needs to equally fit into this global, European and Baltic landscape, although the country is still lagging behind in many fields. Among other things, the development of innovations and research needs to be fostered so that Latvia gets out of last place both in terms of innovation performance and in terms of investment in science per capita, which is an important indicator.

When the project began, neither of the two major shockers of ordinary life was noticeable "on the horizon" – neither the pandemic nor the unjust and terrible war started by the aggressor country Russia against Ukraine. However, we can be pleased that our scientists were able to concentrate on their work and reorient themselves even under difficult circumstances, as evidenced by the continuation of project Interframe-LV research during the Covid-19 pandemic. The extension of the project completion period has proved to be fruitful, as data on the impacts of the pandemic on digitalization, employment, public sentiment and security, as well as government support etc. were collected, analysed and included in the monograph.

The consequences of the war and the associated sanctions for economic, political and social life, the unprecedented solidarity of humanity and the change in "minds and hearts" will, of course, be research problems in the future. However, the truth is confirmed once again that balanced development of all fields of science is necessary, and the social sciences are also indispensable in future national research programmes. I am convinced that it is particularly important to conduct research on the knowledge-intensive economy, in which one of the most important problems is knowledge transfer and the creation of a stable and functioning innovation ecosystem as an intermediate step between research and business.

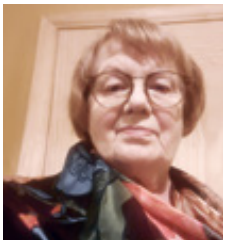
I have no doubt that the public trust science because they are convinced that the scientists do not tend to speak empty words and do not lie. However, if we look at whom journalists turn to in "hot" situations to explain current events to media audiences – these are scientists, specialists in various fields and experts who have scientific knowledge and are aware of the latest research findings. Unfortunately, we also often have a very narrow view of the importance of science and research at government level. However, it needs to be borne in mind that the processes of any professional field are based on science, be it vaccination or war tactics. Everyday people use scientific findings to an unimaginable extent at every step, which they are largely unaware of. It also seems that this phenomenon deserves researching, and so does the way how to take science off the "far, high shelf" in the public's minds.

I would also like to emphasize that during the period of the project Interframe-LV, the LAS has supported horizontal cooperation between all the five projects implemented under the NRP Latvian Heritage and Future Challenges for the Sustainability of the State in addition to regularly informing the public about the results achieved by the project Interframe-LV as well as the current developments in the gazette Zinātnes Vēstnesis (Science Bulletin). The LAS, in cooperation with regional universities and local governments, held regional forums on digitalization tools for business support throughout Latvia, as well as the LAS Institute of Economics in cooperation with Interframe-LV held the IV International Economic Forum. A mid-term conference for the NRP held by the LAS, for example, was among the joint activities of all the projects that was reported in the Science Bulletin. However, a summary of the results achieved by the NRP Latvian Heritage and Future Challenges for the Sustainability of the State that was reported in Part A of the magazine LZA Vēstis (LAS News) was discussed at a meeting of the LAS Senate, thereby gaining an idea in joint discussions with the project managers how relevant problems were also researched by the other projects, e.g. the genesis of the idea of statehood in Latvia, and how relevant it is right now to conclude that history has a direct connection with the culture of long-term thinking and living.

On behalf of the LAS, I would like to thank all the implementers of the project Interframe-LV, the doctoral students working side by side with academicians and producing their doctoral theses based on the results of the projects and defending eight doctoral theses, thereby contributing to the national economy and society as well as progress in science itself. I am especially grateful to Baiba Rivža, a full member of the LAS and the director of the Interframe-LV project.

Introduction
Synergy Between Sustainability and Recovery When the "World is Reeling"

Baiba Rivža, editor-in-chief of the monograph The strength of Latvia for the long-term development, director of the project Interframe-LV



Ausma Mukāne, editor-in-charge of the monograph The strength of Latvia for the long-term development

The scientific monograph in Latvian and English entitled Latvijas spēks ilgi pastāvēt/ The strength of Latvia for the long-term development is based on the research results achieved within the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) under the national research programme (NRP) Latvian Heritage and Future Challenges for the Sustainability of the State (2018-2022) focused on social sciences. The collective scientific monograph has been produced by an inter-institutional and interdisciplinary team of researchers. The leading institution of the project was the Latvian Academy of Sciences (LAS), while its partners were the University of Latvia (LU), Latvia University of Life Sciences and Technologies (LLU) and Riga Stradins University (RSU) which involved researchers from other research institutions, mostly regional universities.

Respecting and not questioning the power of English as the leading language of science, we have written and published a monograph in both English and Latvian. Under the current circumstances when, according to the author of Chapter I of the monograph on sustainability policies in the world and in Europe, Eugene Eteris, the world is reeling because of the pandemic and now the impacts of the crisis have been exacerbated by a war in Europe, it is necessary, at various levels, to broadly explain to the public the ambitious goals and challenges for sustainability that are currently linked to the goals and challenges for recovery and resilience in Europe. It is necessary to increase an understanding of the changes needed to be achieved and broadly explain what is going on, and we are convinced that the bilingual monograph will perform this function.

The project Interframe-LV in succession to the national research programme Ekosoc-LV

It should be emphasized that the project Interframe-LV has successively continued researching the problems of smart and sustainable development, incl. in international context, that were researched under the previous NRP Ekosoc-LV (2014–2018) implemented by the LAS, without separating economic and social development. Ekosoc-LV was significant because in Latvia, it was first national research programme focused on social sciences, which researched the development of the national economy and society in an integral and complex way from the perspectives of economic transformation, modern governance, legislation, the environment, demography and a knowledge society.

Comparing "then and now", the whole previous NRP focused on economic and social development, enabling 10 projects to cover a wider range of research problems, placing a particular focus on the economic and social potential of rural areas and proposing that all elements of intelligence – smart people, smart resources, smart governance and a smart economy – be developed in every municipality. For many, incl. for nihilists, the data acquired by the research on the feasibility of rural development were surprising, as it showed that the proportion of the knowledge economy, or high- and medium-high-tech products and knowledge-intensive services, has increased faster in rural areas than in cities. The results of "science-based stocktaking" of economic and social development aggregated from the fragmented information space were a useful contribution to decision-making, development planning, the performance of universities, NGOs etc.

The main idea of the project Interframe-LV was to assess the impacts of global developments in the context of the most significant challenges to the sustainability pattern of the national economy and society, including the above-mentioned knowledge economy. The project examined in depth the structural changes of the knowledge economy, the aspects necessary for improvement, incl. the knowledge economy in the context of the innovation ecosystem, as well as the role of the pandemic as an accelerator in the progress and use of technologies. As regards the long-term viability of the country, incl. the regions, the opinions of the population of Latvia have become more optimistic than those found by the previous research, as more people were aware that they were able to influence development, and a lot depended on them. In Latvia, there has been a hopeful trend in recent years that residents choose the countryside not only as a place to relax but also as a permanent place to live and work. Besides, the newcomers to rural areas who deliberately move to the regions and get involved in community life gradually shape a new perspective for the local population (see Annex 5).

It should be emphasized that the monograph dedicated to the results of the single project Interframe-LV is as extensive as the monograph Beyond a Century. The Smart Latvia. The partial succession of the research teams is logical. The succession is also evident in the emblem, with the yellow beeswax cells representing Ekosoc-LV and symbolizing active wisdom and therefore making the Interframe-LV project more colourful, along with the global context and the United Nations (UN) 17 Sustainable Development Goals (SDGs) and their achievement in Europe, the Baltics and Latvia.

The sustainable development goals are as follows: (1) poverty elimination; (2) sustainable agriculture and hunger elimination; (3) good health and wellbeing; (4) quality education; (5) gender equality; (6) clean water and sanitation; (7) available and renewable energy; (8) decent work and economic growth; (9) innovation, production and infrastructure; (10) reduced inequalities; (11) sustainable cities and communities; (12) responsible consumption and

production; (13) climate action; (14) life in water; (15) life on land; (16) peace, justice, good governance; (17) cooperation. These are people-centred goals, including the protection of nature and the environment (such an objective was proposed by Ekosoc-LV, without detaching the management of specially protected nature areas from eco-technological and socio-economic solutions in the lives and economic activities of local people, as this appears to prevent the deterioration of the areas and contribute to their sustainability and balanced development, contrary to the usual approach).

Sustainability – the strength to last long and develop

Sustainability is the strength to last long and develop, as stated by the President of Latvia, Egils Levits. The definition of the European Commission is as follows: sustainability is part of Europe's DNA. Sustainability means ensuring that future generations have the same or better opportunities than we do, while respecting the limited resources of our planet.

An objective of Latvia is to develop a strategy for sustainable and smart development in the rapidly changing conditions through both adapting to the processes occurring in the world and implementing the interests of Latvia as an independent state. The European Innovation Scoreboard 2021 rated Latvia as a future innovator (Estonia was a strong innovator, Lithuania was a moderate innovator). However, the so-called fourth industrial revolution in the world is in full swing, and Latvia needs to act quickly to not only catch up with many other European Union (EU) Member States in various growth positions but also to continue to develop further. Unfortunately, according to research data, Latvia has a relatively high proportion of the population at risk of poverty, a high tax burden on low-wage earners and income inequality, a marked lack of quality housing and many people have poor health, which together results in low levels of satisfaction compared with most other EU Member States.

In the monograph The strength of Latvia for the long-term development, the information on research and activities during the project implementation is structured in 3 chapters and 7 annexes. Theoretical and practical priorities, analyses, conclusions and recommendations on the problems important for sustainability in Latvia give an idea of what hinders or, on the contrary, increases the capability of Latvia to develop in order to last for a long time. A great value of the monograph is the involvement of experts and the opinions that complement the results of their research.

Chapter 1 gives a broad overview of the implementation of sustainability policies in the world and in Europe, analysing the UN's 17 Sustainable Development Goals to be achieved by 2030 (the recent global turmoil is clearly delaying the deadline, yet the trend is clear), the EU Sustainable Development Strategy and sustainability strategies for the Baltic Sea Region in interaction with each other. It is important that these previously adopted documents are considered in the current context of adaptations made in the context of the Covid-19 pandemic (as a "wake-up call") and the latest policies aimed at generating recovery and sustainability synergies, incl. green and digital transformations, the circular and the digital economies. It also gives insight into the financial resources allocated to policy instruments for change, incl. research and innovation, and available to the Member States. Education about sustainable development issues is emphasized as a new approach.

Chapter 2 includes research papers on challenges to the sustainability of Latvia and the potential solutions in the fields on which LAS and LLU scientists worked together with the partners involved from other research institutions: the knowledge economy; digitalization of small and medium enterprises; employment; the bioeconomy and the circular economy as elements of

a green economy; education and digital competences; the fields researched by LU researchers: a wide range of research on population aging and stratification: social protection and income inequalities, evidence-based decision-making in social sustainability policies, various aspects of pension system enhancement, regional stratification and its impact on municipal development, promotion of public participation in public administration decision-making, development of social entrepreneurship aimed at marketing competence and recognition in society, a contribution of professional education towards the reduction of inequality and towards business innovation, growth potential for seafood and related employment in the Baltic Sea Region; economic consequences of populism and misconceptions; and the research fields of the RSU researcher team: entrepreneurship, income and risk management in the contexts of value and social security (the paper is also based on an analysis of data from a nationally representative survey of the Latvian population, see Annex 1).

Chapter 3 is devoted to determining the most important priority for the sustainable strategy of Latvia by the Analytic Hierarchy Process (AHP) and the Analytical Network Process (ANP). The main purpose of the analysis was to determine the readiness of Latvia and the most important priority for sustainable development, which was digital transformation; value orientation of the society; sustainability of education; the Green Deal (incl. the bioeconomy, the circular economy); economic restructuring; (with sub-priorities: reducing regional stratification; involving the labour market in the development of digital skills; increasing the role of lifelong learning; involving the public in decision-making and providing feedback; the impacts of climate change adaptation on regional development). Undoubtedly, all the priorities are important for the sustainability of Latvia, yet the analysis of expert opinions showed what was valued higher and what was valued lower. For example, economic restructuring was considered a priority, while the impacts of climate change adaptation on regional development was undervalued. This helps to assess and guide processes at various levels of government, identify risks and build the necessary awareness.

The **annexes** mostly focus on the activities carried out during the project implementation, explaining the research results to the general public and cooperating with various audiences and institutions interested in the research findings throughout Latvia. For example, Annex 2 gives an overview of 5 regional forums held in Zemgale, Vidzeme, Latgale, Kurzeme and Pieriga on digitalization tools for business support. Judging by the great interest of the forum audiences in new information, there is a need for much broader and more intensive education of the population on technologies, as well as that the 4th Industrial Revolution or Industry 4.0 created needs in the fields of education, the labour market, skills and competences, and principles of the Green Deal and the circular economy.

Annex 4 provides information on the IV International Economic Forum held by the LAS Institute of Economics, in the organization and group work of which Interframe-LV scientists participated, stating that during this event LAS President Ivars Kalvins, President of the Estonian Academy of Sciences Tarmo Somere and President of the Lithuanian Academy of Sciences Jūras Banis signed a memorandum of cooperation between the Baltic Academies of Sciences. However, Annex 6 reports about a significant achievement within the project Inteframe-LV – 8 doctoral theses were developed during the project implementation.

Education about sustainable developed matters

A sustainable development education initiative set in connection with the Sustainable Development Goals is particularly important, see Chapter I of the monograph. The need for

training in the principles of sustainability was emphasized with regard to the Global Survey on Sustainability and the SDGs (published in 2020), which showed that an awareness of the SDGs was relatively low worldwide, incl. also in the field of education and science. There is not enough research on the processes of change, and this also affected the economy. It is therefore recommended that knowledge of the SDGs be integrated at all levels of education in order to "inspire the idea of sustainability". Best practices need to be introduced, for example, the University of Southern Denmark has introduced a master programme in 2020 that covers all the 17 SDGs. Higher education institutions need to provide graduates, future national decision-makers, with the instruments and skills to manage the implementation of the SDGs. We believe that the project Interframe-LV and this monograph are focused on the sustainability of Latvia in the context of the SDGs. This should be continued within new NRP projects.

Latvia has become smarter

Not only the recent wave of rapid technological solutions but also the lessons of two major world-shattering events – the pandemic and the anti-democracy and anti-independence war started by the Russian Federation against Ukraine – has given the society intelligence. One of them is the need to assess the existence of a democratic state, not taking it for granted, but devoting efforts to the protection and development of democracy. A lot of attention has been paid to this problem in research studies conducted within other projects under the NRP Latvian Heritage and Future Challenges for the Sustainability of the State.

The second important lesson is that the strength of Latvia to last for a long time could be possible together with other EU Member States and world democracies, implementing the goals of sustainability, and during this process also scientists both adopt best practices and share their own practices. At present, the shoulders of like-minded people in particular are needed for the rather disrupted world order.

Chapter I
Sustainability Policy

The author of Chapter 1, Eugene Eteris, gives a broad insight into the implementation of sustainability policies in the world and in Europe, analysing the sustainable development goals in the currently relevant context of adaptations made by the Covid-19 pandemic (as a “wake-up call”) and of the latest policies aimed at generating recovery and sustainability synergies, incl. green and digital transformations. Chapter I also gives insight into the financial resources allocated to policy instruments for change, incl. research and innovation, and available to the EU Member States. Education about sustainable development issues is emphasized as a new approach.

Sustainable Issues in Global and European Context

Eugene Eteris,
Ph. D., professor,
researcher, Denmark

The UN-2030 Agenda for Sustainable Development was launched at the end of 2015 with several plans from putting an end to poverty and creating peaceful world, to setting prosperity and general welfare guidelines for people and protecting a healthy planet. The 17 Sustainable Development Goals (SDGs) accompanied the Agenda demanded a sort of fundamental transformation of the existing financial, economic and political systems to guarantee the human progress in the years to come. The world leaders recognized that to implement SDGs extensive efforts were needed by all states to deliver the needed changes which require immense political will and ambitious socio-economic actions all stakeholders. After five years in action, so far these efforts have been rather insufficient, jeopardizing the Agenda's promise to current and future generations. The COVID-19 pandemic represented an unprecedented crisis which caused a further disruption to the SDG progress, with the dramatic negative effect to workers, businesses and governance.

When the UN General Assembly at the end of 2015 adopted 17 ambitious sustainable development goals (so-called SDGs) to be reached by 2030, the goals have been widely-spread: from ending extreme poverty and combating inequality to addressing climate changes' emergency, to health care, to air and water quality and so on and so forth. The progress towards SDGs delivery among the European states is monitored in a dual-action: i.e. by both the EU institutions and the authorities in the member states; however, after five years in action, the process is far from being optimal and in some SDGs the situation is even reversing.

After five years in the functioning of the SDGs, it seems that the initial task of a "quick way through the SDG journey" to achieve the global goals by 2030 needs additional efforts and energy. Even before the COVID-19 outbreak, progress had been uneven, and more focused attention was needed in most areas. The pandemic abruptly disrupted implementation towards many of the SDGs and, in some cases, turning back some achievements. The crisis has touched all segments of the population, all sectors of the economy, and all areas of the world. Not surprisingly,

it is affecting the world's poorest and most vulnerable people the most. It has exposed harsh and profound inequalities in modern societies and is further exacerbating existing disparities within and among countries. Governments and businesses should learn from the pandemic's wake-up call to formulate the kinds of transitions needed to build a healthier, more resilient and more sustainable world.

UN report (reveled in June 2020) has underlined some drastic negative examples[1]:

- about 71 million people are expected to be pushed back into extreme poverty in 2020, the first rise in global poverty since 1998. Lost incomes, limited social protection and rising prices would affect even previously secure people at risk of poverty and hunger;
- unemployment due to pandemic would hit some 1.6 billion already vulnerable workers in the informal economy – half the global workforce – with their incomes estimated to fall by 60 per cent;
- school closures have kept 90 per cent of students worldwide (1.57 billion) out of school and caused over 370 million children to miss out on school meals they depend on. Lack of access to computers and the internet at home means remote learning is out of reach by many;
- about 70 countries (one-third of the total) reported moderate to severe disruptions or a total suspension of childhood vaccination services during March and April of 2020.

Existing controversies

The famous UN Declaration "Transforming our world: the 2030 Agenda for Sustainable Development" (adopted in September 2015 just after two years of public consultations) formulated several "targeting and stimulating" actions in the "next fifteen years" in the following "areas of critical importance", with the following "priorities": *people, planet, prosperity, peace* and *partnership*.

However, in the SDGs' actions, these priorities have been slightly changed: the process of achieving sustainable development was concentrated in the "three dimensions" – *economic, social and environmental,* in a so-called "balanced and integrated manner". Important to note that the 2030-deadline was not actually regarded by the global leaders as a final destination: but only as "*conditions* for "sustainable economic growth, shared prosperity and decent work for all, which shall be created during that period.

Hence, the SDGs have been regarded as the lasting process rather than "an end in itself".

Thus, SDGs serve as a means in shaping a general picture of a sustainable "world": so many have been already "in action" since "Our Common Future" in 1987! But, as is seen in the UN-2030 Agenda, it is peoples' socio-economic needs that are becoming more important, followed by the nature and environmental protection. That makes the whole concept of SDGs *anthropogenic-centered*, instead of tracing an evidently more methodologically correct nature-environment-centered approach…

This paradigm makes governing elites think about "cautious and responsible" attitude to nature (which is to be a primary substance for human survival) from all the transformative anthropogenic activities (which are secondary); both consequently depend on corporate profits and peoples' wellbeing: the latter is a non-stop development, as is well-known.

Therefore, the SDGs look presently as a great "chain of survival": to make it happen, all "partners" are involved -workers and businesses, governments and politicians; they shall be

[1] Reference to "Sustainable Development Goals Report 2020" – UN Publish., June 2020, in: https://www.un.org/development/desa/publications/publication/sustainable-development-goals-report-2020

unanimous in safeguarding a healthy society and environment, i.e. the "connection" which is difficult and even hardly possible in a modern "destructive world". At the same time, the SDGs are not to be seen as simply new "social invention": it is rather an urgent necessity for mankind to survive on Earth; in this regard all education policies shall be extensively used to reveal to people and decision-makers the right path in the right direction.

The informative and analytical aspects of the abovementioned issues are supposed to make the whole system of modern growth patterns to calibrate the policies around three main "sectors" that presumably define cross-sectoral facilities in global and national decision-making: a) for workers, skills and the labour market in general; b) for all corporate sectors and business communities, and c) for the governance, which includes political economy, culture, nationalism, religion, values, etc. These cross-sectors' participants are quite aware that the SDGs transition works differently in different socio-economic models, though the "uniting factors" have been already specified in the UN-2030 Agenda: social, economic and environmental; only in this combination the present generation can grasp a comprehensive view of necessary efforts in reaching a sustainable and resilient future[2].

It is being realised that in implementing SDGs there are two conflicting issues: first, is about whether, in principle, these goals are technically and financially feasible: secondly, whether the SDGs are likely to be accomplished under current post-pandemic circumstances and reshaping policies. For example, of the SDG-17, just two goals (eliminating preventable deaths among newborns and getting children into primary schools), were close to being achieved in the pre-pandemic period[3].

SDGs and pandemic issues

Present COVID-19 pandemic has irreparably altered some of the SDGs' underpinning assumptions; when the goals were set in 2015, the global economy had been on the rising path with sufficient economic growth and positive international cooperation. In the latter, two other vital global challenges were formulated: combating negative effect on climate (which led to the Paris climate agreement) and digital technology's "revolution" - both have been essential to meeting many of the SDGs' targets.

Presently, when the world is reeling from coronavirus and is on the brink of a once-in-a-century depression, governments are much less cooperative; crucial international agendas on protecting the climate, biodiversity, nature and environment have been postponed.

Under proposals from a group of UN science advisers, the 17 SDGs and 169 associated targets would be redistributed into 6 "decisive points": 1. human well-being (which would include eliminating poverty and improving health and education); 2. Sustainable economies; 3. Access to food and nutrition; 4. Access to energy resources and de-carbonization; 5. Urban development; and 6. Reaching so-called "global environmental commons", to combine biodiversity and climate change issues.

Some other experts divided the SDGs achievements' process into another 6 options called "transformations": education, gender and inequality; health, well-being and demography; energy de-carbonization and sustainable industry; sustainable food, land, water and oceans; sustainable cities and communities; and digital revolution for sustainable development[4].

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[2] See more in: https://www.integrin.dk/2020/10/25/post-covid-effects-on-modern-governance-and-political-economy/
[3] More in: Nature, Editorial pp. 331–332; 14.07.2020; in: https://www.nature.com/articles/d41586-020-02002-3
[4] More in: "There is nothing else to replace the SDGs right now" – Nature Editorial pp. 331–332; 14.07.2020; Guido Schmidt-Traub, the SDSN's executive director, told Nature the SDGs should still guide post-COVID-19 recovery. Source: https://www.nature.com/articles/d41586-020-02002-3

The global community has confirmed an unwelcome suspicion: the coronavirus pandemic has put the sustainable development goals "out of reach". Most of the goals to end poverty, protect the environment and support well-being by 2030 were already off course; the little progress which had been made during last five years has been stopped in its tracks.

In June 2020, the government representatives join a virtual UN meeting to decide how best to achieve the SDGs as it cannot be business as usual to reach the goals by 2030. Researchers both outside and inside the UN are questioning whether the goals are fit for the post-pandemic age. However, the goals' ambition is as important as ever, but fresh thinking is needed on the best ways to achieve them.

The governments around the world are facing unprecedented challenges: even before the pandemic, ideas were being floated to find ways to make the goals more achievable. One priority is to decouple the SDGs from economic-growth targets: it is not that growth is unachievable (at least for the foreseeable future) but that there is evidence that the benefits have not been equitably shared, and that it assigns value to undesirable things and create perverse incentives for policy-making. For example, in 2015, world powers subsidized fossil-fuel industries by about $ 5 trillion, the figure which have been constant during last decade: that is the industry that is among the principal damaging causes of climate change and unsustainable growth.

Instead, huge financial resources shall be used in achieving the SDGs, not to undermining them.

Another idea expressed by experts, is so-called "recalibrating the SDGs" - especially in the post-pandemic period, which is reflecting the need to change approaches to SDGs' more feasible implementation.

Along changes in modern governance influenced by the pandemic, it is expected that radically altering existing political economies, the same kind of actions is expected in implementing SDGs with tackling poverty and inequality, health, education, biodiversity and climate, to name a few[5].

1.1. European approaches to sustainability: new trends in political economy

Sustainable development has been a fundamental European idea during at least last two decades; besides, the concept is enshrined in the EU basic law (art. 3 TEU): the EU "… shall contribute to peace, security, the sustainable development of the Earth, solidarity and mutual respect among peoples, free and fair trade, eradication of poverty and the protection of human rights…"

Since 2005, the EU statistical service *Eurostat* is regularly producing monitoring reports of the EU Sustainable Development Strategy (EU SDS), based on the EU set of Sustainable Development Indicators (SDIs).

The EU SDS' initial version was adopted by the European Council in June 2001 and then renewed in 2006, as measuring progress towards sustainable development goals was an integral part of the EU SDS. Eurostat also monitors the Europe 2020 Strategy, which promotes smart, sustainable and inclusive growth in the EU; more specific and fundamental SDGs monitoring in Europe started in 2017[6].

5 More in: Nature, Editorial; 14.07.2020; https://www.nature.com/articles/d41586-020-02002-3

6 References to: Council of the European Union (2006), Review of the EU Sustainable Development Strategy (EU SDS), Renewed Strategy, 10917/06; European Commission, Europe-2020: Strategy for smart, sustainable and inclusive growth, COM (2010); European Commission (2016) "Next steps for a sustainable European future: European action for sustainability", COM (2016) 739.

The global SDGs have been on several occasions confirmed by the EU institutions and the member states as an integral part of the European values. The SDGs call on all nations to combine economic prosperity, social inclusion and environmental sustainability. The SDGs are intimately linked with the Paris-2015 Climate Agreement (which is directly incorporated in SDG-13); the "climate package" shall be viewed in combination with the SDGs: the latter are oriented towards 2030 and the former - oriented towards climate-neutrality by 2050, with major progress by 2030; the 2020 targets for biodiversity are scheduled to be updated in 2020.

However, in the EU there are some specific approaches; thus achieving the EU SDG strategy in the member states needs at least three specific ones: *first*, tackling most pertinent to the SDG's ideas the states, e.g. have to implementing the European Green Deal requirements in such sectors as energy decarbonisation and circular economy; sustainable land use and food systems; teaching sustainability and promoting innovation, as well as harnessing the potentials of digital technologies for sustainable growth. All European institutions and bodies will play active roles in designing the implementation of these strategies in the states: the success of the whole endeavor will require active EU sectoral policies which are aligned with the SDGs through the European Semester and the multiannual budget (MFF 2021–2027).

Second, as the EU SDG report-2019 underlines, there are already large visible "negative spillovers in the countries", which include unsustainable consumption and production patterns, base erosion and profit shifting through unfair tax competition and banking secrecy, etc. Hence, the EU should lead in positive examples, curbing negative spillovers and strengthening positive steps in sharing of sustainable technologies.

Third, the EU shall be more engaged in international diplomacy to promote the SDGs, support multilateralism, and advocate the European values; in particular, the EU can play a critical role in multilateral negotiations and environment conventions, including climate and biodiversity issues, etc. using the SDGs as important tool in guiding major EU's international relations with the outside world, which is the Union's exclusive competence[7].

Competitive sustainability has always been at the heart of the Europe's social market economy and will remain as its guiding principle for the foreseeable future: moving towards a sustainable economic model, enabled by digital and clean technologies, can make EU states transformational frontrunners in the world. Leadership on environmental protection with a strong and innovative industrial base must be seen as two sides of the EU's competitive advantages. Vital prerequisites for success are the stable national economies, allowing for policies focused towards long-term sustainable growth and a just transition through focal points in the EU's SDG framework.

There are four fundamental dimensions in the EU and the member states' economic policies: environmental protection, sustainable production, fairness and macro-economic stability; these dimensions are closely interrelated and mutually reinforcing as they should guide structural reforms, investments and responsible fiscal policies in all member states. At the same time, these key factors are crucial in implementing the SDGs: e.g. integrating the objectives of the SDGs in the European Semester, with a specific focus on the economic and employment aspects provides a unique opportunity to put people, their health and the global equilibrium at the centre stage of socio-economic policies. In today's geopolitical context, putting the SDGs at the centre of the Union's policymaking and action sends a strong message globally about European commitment towards sustainability.

Sustainable development is an overarching objective of the EU set out in the Treaty, governing all the Union's policies and activities. It is about safeguarding the earth's capacity to support

[7] Note: all specific data is available at www.sdgindex.org/EU.

life in all its diversity and is based on the principles of democracy, gender equality, solidarity, the rule of law and respect for fundamental rights, including freedom and equal opportunities for all. It aims at the continuous improvement of the quality of life and well-being on Earth for present and future generations. To that end it promotes a dynamic economy with full employment and a high level of education, health protection, social and territorial cohesion and environmental protection in a peaceful and secure world, respecting cultural diversity.

The Commission constantly urged the member states to consider setting-up and strengthening comprehensive multi-sectoral national advisory councils on sustainable development to stimulate the process to instigate an informed debate, as well as assisting national governance in preparation of national strategies and progress reviews. National sustainable development councils' competences were to increase the involvement of national science, research and wider civil society in sustainable development matters while contributing to better linking together different sectoral policies and also using the network of European Environmental and Sustainable Development Advisory Council, EEAC[8].

Another important aspect in the SDGs implementation is to make SDGs an integral part of national political economy: the EU 's planning process is based primarily on Commission political priorities adopted by each Commission's term for five years; the latest was adopted at the end of 2019 and included several priority items pertinent to sustainability; previous "planning cycle" was approved in 2013 when the digital economic and social issues entered the EU's political priorities. However, this time, sustainability's approach (alongside a still valid digital strategy) has turned more complex and holistic, i.e. embedded into the so-called "green deal", which is meant "to make the EU's economy sustainable", as a vision of new growth strategy that will "transform the Union into a modern, resource-efficient and competitive economy"[9].

Among the green deal components there are several important elements for the SDGs: e.g. achieving a zero-emission/climate neutral region by 2050, efficient use of resources and de-coupling member sates' economic growth from extensive resource use (that is moving to clean and circular economies), as well as restoring biodiversity and cut pollution.

In order these components to be fulfilled, the member states require forceful actions in almost all economy sectors, including creation of environmentally-friendly technologies; support for innovative industrial and manufacturing sectors, elaborating perspective schemes for cleaned and healthier forms of public and private transport means; de-carbonising the energy sectors, ensuring more energy efficient construction sector, and improving European environmental standards in cooperation with the global partners.

Reaching this target in the states by moving to a green economy will require financial support and technical assistance; these actions are called "just transition mechanism", which will mobilise about €100 billion during 2021-27 for implementation of the green deal in the member states. The Just Transition Mechanism addresses the social and economic effects of the transition, focusing on the regions, industries and workers facing the greatest difficulties[10].

The transition mechanism is based on three pillars: a) a new "just transition fund" of €40 billion, which would generate at least €89-107 billion investments; b) invest-EU transition scheme aimed to mobilise about €30 billion in investments, and c) European Investment Bank's loan facility consisting of €10 billion in loans backed by €1,5 billion from the EU budget, both are expected to mobilise up to €30 billion of investments[11].

[8] Source: European Council, Declaration adopted in June 2006: Review of the EU Sustainable Development Strategy (EU SDS) - Renewed Strategy, COM-10917/06.
[9] Source: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en. In March 2020 the EU adopted "Circular Economy Action Plan, see: https://ec.europa.eu/commission/presscorner/detail/en/fs_20_437
[10] More on Just Transition Mechanism in: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/just-transition-mechanism_en
[11] Source: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/just-transition-mechanism_en

The member states are required to define their "just transition territories" and set-up solutions' measures for each "territory" indicating goals and objectives to be met by 2030. Besides, the states have to identify the implementation plans specifying operations and decision-making mechanisms; after the EU's approval, the territorial transition plans would be open for assistance from the mentioned EU's transition mechanism.

The national plans shall also indicate the ways to best address the social, economic and environmental aspects of sustainable growth; three elements in the plans shall be particularly specified:

1. **For citizens and wider society**: facilitating employment opportunities in the new economy sectors; offering re-skilling facilities; improving energy-efficient housing; investing in optimal energy supply, and facilitating access to clean and secure energy sources.

2. **In entrepreneurship**: supporting transition to low-carbon technologies with climate-neutral investments in jobs and skills; creating attractive conditions to all kind of investors (public, private and foreign); providing easier access to loans and finances; facilitating the SMEs and start-ups creation and functioning, and investing in new research and innovation activities.

3. **In governance**: supporting the national transition plans to low-carbon and climate-neutral economies; creating new jobs in the green economy; investing in sustainable public transport; investing in renewable energy sources; improving digital connectivity; providing affordable loans to local and regional authorities; and improving energy infrastructure, district heating and transportation networks[12].

The EU policy actions are quite numerous and are concentrated on such spheres as: - measures to protect ecosystems and biodiversity, ensuring more sustainable food production and consumption systems, sustainable agriculture and stable rural areas; clean energy; sustainable industry with more efficient production cycles; the need for a cleaner construction sector; promotion of sustainable means of transport; efficient measures to cut pollution rapidly, and adequate climate actions with the aim of reaching climate neutrality by 2050.

Providing political guidance, the EU institutions have envisaged practical facilities to support sustainable economies in the member states. Among most vivid examples are:

In Poland (creating new economic opportunities in former mining towns): transforming a former coal mine in Katowice into a cultural area which now consists of a museum, a congress centre and a new concert hall; creating opportunities in the construction, tourism, cultural and food services sectors.

In Lithuania (helping citizens and businesses cut CO2 emissions and lower energy bills): installation of solar panels on private homes; renovation of multi-apartment buildings; energy efficiency investments in industrial companies.

In Italy, Spain and Romania (investing in new environmentally friendly technology; substituting harmful refrigerants in commercial refrigerators with carbon dioxide) to: reduce greenhouse gas emissions; make the appliance at least 10% more energy efficient; reduce installation and maintenance prices.

In Czech Republic (re-skilling workers from coal industry regions): providing training in welding; teaching to handle of machines such as fork-lift trucks; helping workers obtain a driving license for small and heavy trucks and lorries.

In Poland and Italy (reducing the weight of vehicles on the road by replacing heavier car manufacturing materials with lighter, renewable components): 30,000 new cars to be equipped with these new components; 8 percent less carbon dioxide to be emitted by new cars[13].

Among most vital parameters in measuring states' performance in sustainable transition

[12] Reference to: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/just-transition-mechanism_en

[13] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en#policy-areas

(in the environmental part), the following factors are recommended by the Commission to be included into the national governance:

- Municipal waste generation and treatment through the waste hierarchy, as a proxy for the circularity of the economy;
- Nature protection (in part, a common birds' population), as a proxy for wide-ranging pressures on ecosystems and the effect of clean environment on quality of life;
- Exposure of urban population to air pollution;
- Water quality, as reflected by the percentage of water resources in good ecological status, or with good potential;
- Sound decision-making and financial management, as the share of payments at risk of mismanagement compared to the overall payments[14].

Some positive things happened recently, which reveal an efficient EU's strategy towards sustainability and green growth. For example, the year 2020 has been the first one that the EU states created more electricity energy from renewables than from fossil fuel: that is – wind, solar, hydropower and biomass provided 38 percent of the EU's electricity demand whereas fossil fuels produced 37 percent.

One might say that it's not a striking difference; but of course it is good and promising news… Particularly rapid growth in 2020 was seen in solar (+15%) and wind (+9%), while gas has been still up by 14 per cent since 2015, and nuclear energy fell by 10 percent in 2020!

Important as well is to mention that the Baltic States and Latvia are active and positive participants in the European "green transition" strategy.

1.2. EU's green deal and circular economy's transition

Rapid progress in the transition of the economy from a linear to a circular model is perhaps the single most important contribution the EU can make to realising our jobs and growth aspirations and delivering on this Commission's economic transformation and competitiveness agenda.

There are two main "instruments" in the EU in dealing with a sustainable transition: a "green deal" package and the circular economy's transformations.

= Contemporary European "Recovery and Resilience Facility" is the main supporting instrument in the member states' **green transition**. The EU leaders acknowledged the task of achieving region's climate neutrality by 2050, while significantly reducing greenhouse gas emissions by 2030. Hence, the member states are considering adequate reforms and investments to support the climate transition as a matter of priority. All national recovery and resilience plans will therefore need to focus strongly on both reforms and investments supporting the climate transition.

To follow the commitment of the European Council to achieve a climate mainstreaming target of 30% for both the multiannual financial framework and Next Generation EU, each recovery and resilience plan will have to include a minimum of 37% of expenditure related to climate. Progress towards other environmental objectives is also important, in line with the European Green Deal.

The Commission encourages the states to draft perspective investment and reform plans aimed at, e.g. accelerating the development and use of renewables, improving the energy and resource efficiency of public and private buildings, and accelerating the use of sustainable, accessible and smart transport. All reforms and investments included in the recovery and resilience

[14] Source: Decision No 1386/2013/EU (so-called 7EAP) on "Environment Action Programme to 2020 - Living well, within the limits of our planet".

plans will need to respect the 'do-no-harm' principle, meaning that they should not be to the detriment of climate and environmental objectives. Besides, the states will be forced to ensure a just and socially fair "green deal" transition, which means, in particular, that national recovery and resilience plans should be developed in full coherence with the "Territorial Just Transition Plans" under the "just transition mechanism".

The Commission will assess each state's National Energy and Climate Plans to be presented in the fall; these plans should provide important guidance for the states in preparation of the green transition plans. The two documents: i.e. the European "green deal" and the new EU industrial strategy provide the background for the access to the EU funding in strategic directions for making the green transition successful. Presently, the coronavirus crisis forces the states to take into consideration the changes in organise their supply chains, especially where public safety and supply is concerned.

The Commission's ideas for the states' recovery plan put a strategic emphasis on greener, more digital and resilient paths; hence the states should strive to develop a strategic autonomy and diversify raw materials supply[15].

= Competitive **circular economy' transition** has been a new European business agenda for the member states for developing ambitious new approaches on the circular economy's agenda; the modern incentives are the continuation of the Commission's action plans presented at the end of 2015.

The new Commission's initiatives have been prepared by a team of four Commissioners in the following thematic sectors: a) legislation, inter-institutional relations and fundamental rights; b) employment, jobs, growth investment and competitiveness; c) environment, maritime affairs and fisheries, and d) internal market, industry, entrepreneurship and SMEs. Such a "tem-like" approach shows the EU's complex and cross-sectoral approach to the circular transition's process.

Besides, at the background of such a specific approach's facet lies an increasing global competition for resources: concentration of needed resources outside the EU (particularly critical raw materials), makes European industry dependent on imports, vulnerability in high prices, market volatility, and the political situation in supplying countries. At the same time, natural resources are often used unsustainably causing additional pressure on raw materials, environmental degradation and threats to ecosystems.

Unlike the presently dominating in some EU states "*take-make-dispose*" economic model, the *circular economy model* aims at keeping as long as possible the value of the materials and energy used in production while minimising waste and resource use. Moving towards "more circular economy" in Europe will promote competitiveness, contribute to growth and job creation, and protect the environment. It can also provide consumers with longer-lasting and innovative products that save money and improve the quality of life: in this way, the environmental, economic and social dimensions will go hand in hand.

Another aspect in the circular economy is important: by preventing losses of value from materials flows, the model creates economic opportunities and competitive advantages on a sustainable basis. However, successful transition towards a circular economy requires action at all stages in the value chain: from the extraction of raw materials, through material and product design, production, distribution and consumption of goods, repair, remanufacturing and reuse schemes, to waste management and recycling.

The Commission underlined that behind *Europe's future economic development stays a sustainable long-term agenda. The member states have to use their resources more intelligently, design*

[15] Source: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_1659/ 17.09.2020.

products with a view to their re-use and recycling, and set ambitious targets for waste reduction and recycling. A more sustainable circular economy provides additional competitive edge: this policy's option includes re-assessment in waste management while addressing the full products' lifecycle and actions on intelligent product design, reuse and repair of products, recycling, sustainable consumption, waste policy, recycling levels, smart use of raw materials, stronger markets for secondary raw materials, etc.

Moving towards a more circular economy can promote competitiveness and innovation by stimulating new business models and technologies as well as facilitating social innovation. This will make the EU states' economy more sustainable and competitive in the long run.

The new EU package on circular economy takes a coherent approach that fully reflects interactions and interdependence along the value chain, transition to a circular economy, broadening the scope of the economic cycle's components (e.g. the production and consumption phases) and general enabling framework conditions (e.g. innovation and investment)[16],[17],[18].

EU's circular economy "package"

The European Commission's "Circular Economy Action Plan" was adopted in January 2018 as an integral part of the EU's sustainable growth strategy; it includes the following set of measures:

- A Europe-wide strategy for plastics in the circular economy aimed to transform the way plastics and plastics products are designed, produced, used and recycled; by 2030, all plastics packaging should be recyclable. The Strategy also highlights the need for specific measures to reduce the impact of single-use plastics, particularly in the seas and oceans. To reduce the leakage of plastics into the environment, the Commission has adopted a new proposal on "port rea ception facilities directive", to tackle sea-based marine litter with a report on the impact of the use of oxo-degradable plastic (including oxo-degradable plastic carrier bags) on the environment[19].

Note on oxo-degradable plastic: presently, packaging has become utmost important for the safe storage and transportation well as for the effective marketing and advertisement of the products. Manufacturers have been using various packaging solutions including plastic bags for their products. Although plastic bags have a very real negative impact on the environment, they are used extensively around the world. Being more conscious to environment, people want to rescue the environment and want to use eco-friendly packaging solution. Thus, oxo-degradable plastic bags would be one of the best options[20],[21].

In order to promote the EU's transition to a circular economy, the Commission established a virtual open source of information to facilitate policy dialogue among the EU institutions and the decision-makers in the states; members of the national coordination group "coordinated" best practices on circular economy and examples of already existing national, regional or local circular strategies, with active participation of businesses, trade unions, civil society, etc.

[16] Reference: European Commission, Press release on public ideas to develop circular Economy, in: http://europa.eu/rapid/press-release_IP-15-5049_en.htm.
[17] See also: Circular economy and resource efficiency: a driver of economic growth in Europe. In: Foundation Robert Schuman, European Issues, n°331, November 2014.- 9pp.
[18] More in: http://ec.europa.eu/environment/circular-economy/index_en.htm, and the Circular economy industry platform in BusinessEurope at: http://www.circulary.eu/
[19] On wastes from ships see: https://ec.europa.eu/transport/sites/transport/files/legislation/com2018-0033-port-reception-facilities.pdf
[20] Source:https://www.swisspack.co.in/rescue-environment-using-oxo-degradable-plastic-bags
[21] Note: additional reading: - A Communication on options to address the interface between chemical, product and waste legislation that assesses how the rules on waste, products and chemicals relate to each other. - A Monitoring Framework on progress towards a circular economy at EU and national level. It is composed of a set of ten key indicators which cover each phase – i.e. production, consumption, waste management and secondary raw materials – as well as economic aspects – investments and jobs - and innovation. - A Report on Critical Raw Materials and the circular economy that highlights the potential to make the use of the 27 critical materials in our economy more circular.

European Economic and Social Committee provides guidance in cooperation in the observatory group, "Sustainable Development Observatory"[22],[23].

1.3. Sustainable growth through national strategies: political economy aspects, corporate strategies, and new aspects in industrial development, science and innovation

The economic, social and environmental dimensions at the heart of the SDGs have largely been incorporated into the EU budget and spending programmes. They have been mainstreamed into the European- 2020 strategy to build around education and innovation ("smart"), low carbon emissions, climate resilience and environmental protection ("sustainable"), job creation and poverty reduction ("inclusive"). There is also a political commitment of devoting at least 20 percent of the EU budget for 2014-20.

As it was mentioned before, the main directions in the EU's sustainability and perspective growth directions are formed by a constructive "triangle" of the green transition (through the green deal), circular economy's transformations and the digital agenda.

Academic studies, expert research and economic policy's analyses suggest that present comprehensive EU's recovery and resilience strategies for the member states can be enriched by exploring additional pathways to success in such areas as energy de-carbonization, sustainable land use and food systems, digital education, disease control and public health. This approach relies on a combination of policies, including transfers of public and private financing means for health care and education, for increased investment in infrastructure, sustainable transport and energy, etc[24].

These goals are actually affordable: according to assessments by the International Monetary Fund, the United Nations Sustainable Development Solutions Network (SDSN) and other bodies in sustainability the optimal SDGs implementation can be reached by financed at a cost of about 2 percent of the global gross domestic product, and with around 0.4% in development aid to fill the gaps in lower-income countries. Suffice it to say, that these ambitious goals can unleash the "spirit of innovations" to accelerate progress and bring down costs, particularly through the use of new technologies. However, the COVID-19 has turned the pace of achievement upside-down: for example, the UN-2020 report on the implementation of SDGs reveals that childhood vaccination programmes have stalled in 70 countries, and that school closures have kept 90% of the world's students, i.e. some 1.57 billion children out of school[25].

1.3.1. Political economy's aspects

Reinforcing Europe's social market economy and protecting workers and businesses from internal and external shocks are the main aspects in the formation of new attitudes to political economy in the member states.

As to workers and employment in general, the Commission intends to put forward a draft

[22] More in: http://circulareconomy.europa.eu/platform/, and in: https://www.eesc.europa.eu/en/sections-other-bodies/observatories/sustainable-development-observatory.

[23] Note: Further reading for circular economy (web references):= EU Strategy for Plastics in the Circular Economy - communication; = EU Strategy for Plastics in the Circular Economy - staff working document; = EU Strategy for plastics in the Circular Economy - brochure; = Strategy for plastics - press release and questions and answers; = Factsheets on the strategy for plastics in a circular economy; = Factsheet - changing the way we use plastics; = Communication on the Interface between chemicals, products and waste legislation - staff working document and factsheet; = Monitoring framework for the circular economy - staff working document - factsheet and Eurostat monitoring framework tool; = Proposal on Port Reception Facilities - impact assessment and summary of the impact assessment; = Report on critical raw materials; = Report on oxo-plastics; = Eurobarometer: SMEs and the circular economy

[24] More in: https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1588

[25] Source:https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf#page=1&zoom=auto, -81,864

legislation concerning setting minimum wages in the states: "*minimum wages work – and it is time work paid", argued the Commission President in her address.*

Besides, the EU's industry strategy shall be reviewed and adapted to increased competition.

The Commission made clear that the EU wants a global agreement on *digital taxation*, and would do it alone if other states don't follow: "I want Europe to be a global advocate for fairness", she noted and added: "everyone must have access to minimum wages *either through collective agreements or through statutory minimum wages*". There have been already several examples in the EU states that a well-negotiated minimum wage could secure jobs and create fairness – both for workers and for the companies.

As to the corporate agenda, the Commission has authorized more than € **3 trillion** in support to companies and industry in the member states through budget means, as well as recovery and resilience facility. Just two examples: first, creating new *European Hydrogen Valleys* to modernise manufacturing and industries, to power vehicles and transport modes; this would bring new life to metropolitan and rural areas. The second example is construction sector with all the offices and residential buildings. Presently, the buildings people live and work in generate about 40 percent of all emissions: the idea is to make the buildings less wasteful, less expensive and more sustainable. Modern research has proved that the construction sector can even be turned from a carbon source into a carbon sink, if organic building materials like wood and smart technologies like applications on artificial intelligence (AI) are applied.

Thus, the *NextGenerationEU program* is expected to be a driving force for transition to housing-renovation in the states and make them leaders in circular economy. But this is not just an environmental or economic project: it needs to be a new cultural project for Europe. Every movement has its own look and feel: cultural communities need to give "systemic change" through a distinct national aesthetics with matching style and sustainability!

In the new political economy's trends the EU budget serves as a major instrument in sustainable transition; it represents around 1% of EU GNI, and 2% of total public spending. The long-term budget, so-called "multiannual financial frameworks, MFF lasts for seven years; previous MFF for 2014- 20 was € 1087 billion; the current for up to 2027 is € 1 820 (together with € 759 bn in recovery plan). The MFF is mostly funded by contributions from the EU states based on their GDP (national contributions are agreed by all states and ratified by national Parliaments); there are additionally in the MFF a share of customs duties collected at the external borders and of the value added tax. The MFF mobilises via EU cohesion policy more than € 480 billion investments, which should result, for example, in: over 1 million enterprises receiving support, 42 million citizens having access to improved health services, 25 million will benefit from flood and fire prevention, nearly 17 million additional EU citizens connected to waste water facilities, 15 million additional households with broadband access, and more than 420,000 new jobs. Also 5 million Europeans will benefit from training and life-long learning programmes, and 6.6 million children will have access to new, modern schools and childcare. EU structural and investment funds represent an important part in the Baltic States public investments: thus during 2015-17, the share of EU funds has been at the level of 70 percent in Lithuania and Latvia, 50 percent in Estonia and 55 percent in Poland.

Besides, the MFF is expected to trigger investments worth at least € 500 billion via the extended European Fund for Strategic Investments by providing more than € 74 billion for the Horizon 2020 research and innovation program, and over € 30 billion to support trans-European networks in the fields of transport, energy and communication via the Connecting Europe Facility.

The EU budget supports a dynamic agricultural sector with around € 400 billion,

supporting 7 million farmers and modernisation of 380,000 farms with € 8.7 billion. Rural development is financed by targeting biodiversity, improving energy efficiency and modernisation of production facilities; and about 20 of the MFF is allocated for actions against climate change.

In education sector, the Erasmus program promoted mobility of over 9 million people, especially students and youth across EU-27countries during last 30 years; more than € 8 billion is attributed to tackle youth unemployment via the Youth Employment Initiative which has already supported 1.6 million young people;

Priorities in the EU's financial resources for the next six years, as is seen from the MFF-2027, are distributed along two main directions, covering almost two-thirds of all expenses, in euros:

a) **cohesion, resilience and values** – € 427 billion, and

b) **natural resources, environment and agriculture** – € 401 billion.

Other directions in the European sustainable integration are of minor importance: – single market, innovation and digital agenda about €150 bn is expected; – in neighbourhood and "the world" – € 110 bn, – in the EU's administration – € 82 bn, and – in security and defence – € 15 bn.

Cohesion policy is the main investment vehicle of the EU aimed at reducing regional disparities across the member states. Accounting for one third of the EU budget, cohesion policy will present some innovations in the next programming period 2021–2027, including with respect to its focus, allocation and structure. Additionally, the EU's cohesion policy has been mobilised to respond to the COVID-19 crisis and will play an important role in spurring an equitable economic recovery across the EU's territories. A new cohesion policy instrument, REACT-EU, is included in the recovery package, Next Generation EU, which was approved by the EU leaders in July and was finally negotiated with the European Parliament, the Council and the states.

However, some questions remain: How will cohesion policy change in its structure and objectives? What innovations have been brought by the COVID-19 recovery package? How will the EU's most vulnerable regions be supported towards a successful recovery and further economic development? How can cohesion policy support the green and digital transition?

= G**overnance issues**: the EU states are encouraged to submit their **National Reform Programs** and their **recovery and resilience plans** in a single integrated document. This document will provide an overview of the reforms and investments that a state undertakes in the coming years, in line with the objectives of the EU's Recovery & Resilience Facility, RRF (as a central pillar of *NextGenerationEU* program). The EU's aim is to instigate new national new growth strategies based on the *European Green Deal* and on the *concept of competitive sustainability*.

There are four dimensions of competitive sustainability: environmental sustainability, productivity, fairness and macroeconomic stability; they are identified in the last year's ASGS (annual sustainable growth strategy) and should remain the guiding principles for the RRF's implementation. The EU states can prepare recovery and resilience plans that include a coherent package of reforms and public investment projects to be implemented up to 2026 in order to be supported by the EU Recovery and Resilience Facility.

The Recovery and Resilience Facility will provide a total of € 672.5 billion to support investment and reforms. Grants worth a total of € 312.5 billion will be provided to the states under the Facility and the remaining € 360 billion will be provided in loans. Funding under the Facility will be made available in accordance with the estimated costs of the proposed reforms and investments contained in recovery and resilience plans to be submitted by the states. The estimated cost should be in line with the expected impact of the reforms and investments.

It is important to know the procedures according to which the EU grants are allocated by the

*member states: the main principle is the so-called "*allocation key" which will fix a maximum possible amount for the RRF's grant component for a single state. For about 70 percent of the total of € 312.5 billion available in grants, the allocation key will take into account a state's population, the inverse of its GDP per capita, and its average unemployment rate over the past 5 years (2015–2019, compared to the EU average).

As to remaining 30 percent, 2015–2019 unemployment rates would be taken into account with an observed loss in real GDP during 2020 and a cumulative loss in real GDP during 2020–2021.

An EU state may also request a loan under the RRF: the maximum volume of loans for each state will not exceed 6.8 percent its Gross National Income. However, an increase will be possible in exceptional circumstances subject to available resources.

The Commission is expecting that the RRF will enter into force from January 2021; and the deadline for the submission of the states' plans is the end of April 2021. However, the Commission encourages states to submit their preliminary draft plans already by mid-October 2020; afterwards the states may finalize their plans following the initial presentation of the drafts to the Commission. The Commission is ready to assist the states on the preparation of their plans.

In order to be feasible, the national investment and reform plans shall: a) contribute to effectively addressing challenges identified in the relevant country-specific recommendations; b) contain measures that effectively contribute to green and digital transitions; and c) contribute to strengthening the growth potential, job creation and economic and social resilience of the state.

Another important notice: the RRF is dealing with a broad concept of investment as capital formation in areas such as fixed capital, human capital and natural capital. *Fixed capital* relates to investments in e.g. infrastructure, buildings, as well as in research, innovation, patents and/or software. *Human capital* is accumulated by means of spending on health, social protection, education, training and skilling. *Natural capital* is enhanced by actions aiming at increasing the share of renewable natural resources, protecting or restoring the environment, and by mitigating/adapting to climate change[26].

1.3.2. Corporate strategies and entrepreneurship in green transition

The modernisation process would not only involve sustainability, circular economy, digitalisation and climate change measures, extensive cuts in carbon and fossil fuels emissions would at the same time impose dramatic changes in some industries and manufacturing sectors (some would be abandoned completely) while transforming others and force people to change their regular habits in working and living patterns.

More than that, traditional decision- and policy-making, as well as the whole governance processes would be changed too, thus making the whole process a kind of a "generational shift". Some politicians have already made notice of the changes: for example, French President refers to the "the next world" process, while Polish Climate Minister called it a "civilization challenge" that will require a "Copernican revolution" to succeed.

As a reaction to the evolving challenges, the European Commission at the end of 2019 suggested a "European Green Deal", in which the states are obliged to adopt transition measures towards a new type of growth, i.e. the "green growth" without damaging global climate. In the

[26] Additional information in the links: - Recovery and Resilience Facility – Grants allocation; and - The European Semester.

September-2019 Eurobarometer on climate change, 93 percent of the EU citizens considered climate change a serious problem and 92 percent agreed on the need to make national economic growth climate-neutral by 2050[27].

The EU climate legislation of March 2020 (adopted by the end of the year) imply that every EU law -in the past and in future- is to be tested through its compatibility with the continent's climate neutrality concept. Generally, it is regarded as a "tectonic shift"; some examples include: a) in a carbon-neutral Europe, cars and trucks will be powered by electricity or hydrogen and made increasingly from carbon fiber; b) age-old modes of haulage (i.e. riverboats, trains, etc.) will be equipped with the modern power sources; c) steel, other metals and cement, the materials commonly used in modern construction industry, will be made in novel processes that cut their massive carbon footprints thus completely transforming the buildings' design as boilers, windows and insulation will be replaced. To a certain degree, all these changes would at the same time generate on a huge scale new skills and professions.

At the same time, every producer of goods and services will have to find ways of using recycled materials in a larger scale: presently, only about 12 percent of materials consumed by European industry have been used before; at a local level, people would be forced to use waste-sorting rituals and more complex waste processing[28].

The financial aspects of the "deal" are the issues of concern for the states: e.g. in December 2019, the Polish government, while agreeing on the Europe-2050 climate neutrality goal, argued about practically economic means of achievement. The main idea is, actually, how to cover the "transitional" expenses, i.e. who's going to pay? An electric car costs more than a traditional one while an average Pole earns half of an average German. Governments would rely on the EU's "Just Transition Mechanism", which the Commission says would "mobilize" € 100 billion in 2021-27 to help impacted communities "re-imagining" their future growth strategies[29].

The EU has already started to modernise and transform the member states economies in line with the perspective climate goals. Between 1990 and 2018, greenhouse gas emissions were reduced by 23%, while the economy grew by 61%. The EU's comprehensive climate and energy framework for 2030 will bring about further emission reductions across the economy. However, current policies are expected to only reduce greenhouse gas emissions by 60% by 2050 compared to 1990 levels, meaning that much more remains to be done.

Delivered properly, the European Green Deal is more than just reducing the greenhouse gases: many things will be better, i.e. the air will be cleaner, work safer, homes warmer and cities more comfortable. Several EU states adopted ambitious plans to turn their economies towards sustainability and digital technology[30], [31]

1.3.3. New aspects in industrial growth: science and innovation

There are already available technologies to reduce air pollution in cities; there is just a need for a political will and changes in political economy. Thus, a Finish company, Neste is committed to reduce customers' greenhouse gas emissions with its renewable and circular solutions by at least 20 million tons annually by 2030. Neste's renewable fuels sustainability program is aimed at reducing transport emission by 50 or even 90 percent. Neste has developed premium-quality

[27] More in: https://www.politico.eu/article/europe-climate-goal-revolution-net-zero-emissions/
[28] Source: Commission press release about the climate law proposal at: https://ec.europa.eu/commission/presscorner/detail/en/IP_20_335
[29] Source: https://ec.europa.eu/commission/presscorner/detail/en/fs_20_39
[30] Source: https://www.politico.eu/article/europe-climate-goal-revolution-net-zero-emissions/?utm_source=POLITICO.EU&utm_campaign/ 19.06.2020.
[31] Additional reading: = MEMO: Questions and answers on the European Climate Law; = European Climate Law; = 2050 long-term strategy; = European Climate Pact; =European Green Deal

fuels which are produced from renewable raw materials. Biofuels such as Neste renewable fuels are considered particularly friendly to the environment, because the process of growing the raw materials takes carbon dioxide from the atmosphere. Through photosynthesis, the plants bind carbon dioxide into themselves as they grow[32].

Besides, the greenhouse gas reduction by using biofuels is also required by European legislation to at least 50 percent; the threshold will increase to 60 percent for new installation after 2017. The emissions of the following stages of the fuel product life cycle shall be considered, when calculating the total lifecycle greenhouse gas emissions of renewable fuel: in cultivation, in food processing, in transportation of raw materials and products; as well as in fuel use. To be classified as biofuel, all used raw materials must be sustainably produced; if some of the above criteria are not met, the product will simply be classified as fossil fuel. When the biofuel is consumed, for example burnt in the engine of a car, the carbon dioxide simply returns to the atmosphere. In the Global-100 rating, the concern Neste was named in 2020 the third environmentally-safe company; in the Baltic States, Neste is functioning since the end of the last century.

The modifications are possible thanks to the exceptional flexibility under the Coronavirus Response Investment Initiative (CRII) and Coronavirus Response Investment Initiative Plus (CRII+) which allow the EU states to use Cohesion policy funding to support the most exposed sectors because of the pandemic, such as healthcare, SMEs and labour markets[33].

The new EU's recovery and resilience plan

The severity of the pandemic crisis justifies extraordinary and ambitious common responses by the EU and the member states; the latter have to draft new priorities in: a) re-orienting national growth patterns, and b) creating opportunities for investments into reforms and actions.

The EU member states supported generally the two most important, e.g. "green and digital" dimensions in the "next generation" priorities and regarded them as the main driving elements in the countries' modernisation efforts.

The EU's assistance is important too: the Commission's long-term rescue plan – the ***Next Generation EU*** – together with the multi-annual budget, increases the total investment into perspective socio-economic growth in the states for the next seven years to € 1.850 bn, almost double the amount of the previous financial period. These investments are aimed, of course first of all to tackling the pandemic crises' damages on social and economic growth with a focus on "green, digital and resilient recovery". But secondly, on effective and efficient transition to sustainable growth in the member states, which cannot be done properly without innovative science and research. Besides, these measures are expected to affect businesses and streamline entrepreneurship environment. The Latvian level of competitiveness is almost the lowest in the EU-27; the worst situation is only in Bulgaria as the national production is directed almost towards the internal consumption: hence, a constant deficit of external trade.

The uncertainty surrounding the pandemic and tensions in European and global trade highlight the need to have flexible and innovative approach to economy and decision-making facing possible and unpredictable shocks. While moving through the COVID-19, the Baltics states' politics shall use the crisis' period to assist businesses and citizens to withstand the challenges.

The EU will help the states to become innovative leaders; they have already great potentials as Europe accounts for 20 percent of global R&D investment, produces 1/3 of all high-quality scientific publications, and holds a world leading position in numerous industrial sectors, e.g.

[32] More in: https://www.neste.com/corporate-info/news-inspiration/articles/how-is-the-emission-reduction-assessed
[33] More in: EU Cohesion policy action against coronavirus.

pharmaceuticals, chemicals, mechanical engineering and fashion. Then, the EU assistance would give the states strategic orientation and support in perspective transitions.

European approach to sustainable values in products and services known as *incremental innovation* has been applied in such sectors as aeronautics and space, pharmaceuticals and electronics, renewable energy, bio-based industries and advanced manufacturing. The EU supported states' innovation through *Key Enabling Technologies*, such as robotics, photonics, and biotechnology.

However, the EU states are still lagging behind in many areas: the EU companies spend less on innovation than their competitors (1.3% of GDP compared to 1.6% in China, 2% in the United States, 2.6% in Japan, or 3.3% in South Korea). For example, venture capital (VC) remains underdeveloped in Europe: in 2016, VCs invested about €6.5 billion in the EU compared to € 39.4 billion in the US, and VC funds in Europe are too small – €56 million on average compared to € 156 million in the US. As a result, these companies move to ecosystems where they have better chances to grow fast.

The EU is home to only 26 "Unicorn start-ups" (with over $1 billion value) compared to 109 in the US and 59 in China. Public investment across the EU falls short of 3% GDP target, and R & D intensity is still uneven among EU regions, with investment and research heavily concentrated in Western Europe; besides, about 40 percent of EU's workforce lacks necessary digital skills.

Technology-driven innovation, digitisation and global megatrends such as artificial intelligence and the circular economy offer huge opportunities while creating new developmental directions. Global competition is intensifying and threatens Europe's leading competitive position in key industrial sectors.

European contribution to the states in research and innovation (R & I) is aimed at ensuring their global competitiveness; they help to improves the daily lives of millions of people and helps solving biggest social-economic challenges. The EU *"Renewed European Agenda for Research and Innovation"* sets concrete actions to deepen Europe's innovation capability and provide lasting prosperity. The Agenda underlines the "new megatrends", such as artificial intelligence and the circular economy, which will bring profound changes to socio-economic development in the states. Thus the Baltic States need acting fast to be able to take part in the new wave of innovation and catch up with the global/European competition.

Growing international competition has forced the EU states to act urgently on research and innovation: the EU budget of €100 billion for R&I up to 2020 has been regarded as a huge boost; but the states need support for the breakthrough innovations in sustainable growth patterns

Generally, the EU measures in R&I are of a triple nature: a) to ease science and financial regulation in R&I; b) concentrating on market-driven innovations, and c) launching a EU-wide research and innovation hubs.

1. Ensuring innovation-friendly regulation and financing. The proposed measures include the following measures: prioritizing the transposition of the Directive on preventing restructuring frameworks*;* providing measures to increase the efficiency of corporate restructuring, insolvency and discharge procedures; increasing the procurement of innovative products and services by public authorities by applying the EU guidelines; using the next EU 2021-27 budget with the 100€ billion allocation to Horizon Europe as a significant stimulus to innovation; supporting the "*Venture-EU"* initiative to boost private investment and venture capital; simplifying EU State aid rules to facilitate public funding of innovative projects including blending of EU and national funds[34].

[34] More in: http://europa.eu/rapid/press-release_IP-16-3802_en.htm; on investment funds, see: https://ec.europa.eu/info/business-economy-euro/growth-and-investment/investment-funds_en

2. Becoming a frontrunner in market-creating innovation. The Commission proposes to establish a full-scale *European Innovation Council* to offer a one-stop shop for high potential and breakthrough technologies, as well as for innovative companies with potential for scaling up. The Council used €2.7 billion pilot phase for 2018-2020, to help the states identify and scale up high-risk innovations with strong potential to create entirely new markets.

3. Launching EU-wide research and innovation with bold, ambitious goals and strong European added value in most perspective areas: progressive research is expected in such spheres as combating cancer, clean transport and/or plastic-free environment, to name a few. These directions will encourage cross-sectoral investment and participation of various scientific disciplines to jointly perform a desired result by creating synergies with research and innovation strategies at the states, regional and local levels[35].

State of the Union-2020: effect for the European scientific community

The State of the Union delivered in September 2020, formulated some main challenges and solutions for perspective socio-economic issues in national recovery and resilience. Although the main priorities for years to come are those on strengthening the European social market economy, there are the fields where the scientists' ambitions can correlate with the member states' prosperity; this is where the researchers can make a difference.

Among most perspective spheres of science and research are the following:

= **In medical and human life research**: the EU will create a new "European health union", with a future-proof and properly funded *EU4Health program*, a reinforced European Medicines Agency (EMA) and a strengthened European Centre for Disease Prevention and Control (ECDPC). Debates on new EU's competences in the field of health will take place during a forthcoming Conference on the Future of Europe (November 2020). Besides, the Commission intends to create an EU-wide agency for biomedical advanced research and development (BARDA) to enhance Europe's capacity to respond to cross-border pandemic threats. The pandemic has shown that the present health systems are being based on a "limited model", which valued more wealth and wellbeing above the public health.

= **In natural sciences:** a) emissions reduction, the European Commission proposed an increase in the 2030-target for emissions reduction from the initial 40 percent to at least 55 percent. This will put the EU on track for climate neutrality by 2050 and for meeting its Paris Agreement obligations. The *carbon border adjustment mechanism* will help ensure that all member states will follow the Europe's lead. Some financial support has been dedicated to the "green deal": about 37 percent funding from the EU recovery plan will be invested in the green transition's objectives, including a so-called "lighthouse" European projects to involve hydrogen, green building and 1 million electric charging points.

The EU will be turned into a new *"European Bauhaus*", i.e. as a cooperation platform for architects, engineers and designers with the aim of creating a modern "architectural style" reflecting European aspirations in making a first ever climate neutral continent.

While emissions dropped 25 percent since 1990, the states' economy grew by more than 60 percent; the difference is that there are more technologies, more expertise, more investment and ambitious goals towards circular economy with carbon neutral production.

[35] More in the following websites: - Communication: A renewed European agenda for Research and Innovation: Europe's chance to shape the future; - Factsheet: A renewed agenda for Research and Innovation: the Commission's contribution to the Leaders' Agenda; - Factsheet: EU research and innovation success stories; - Commission's press release "Renewed agenda for Research and Innovation: Europe's chance to shape the future" in: http://europa.eu/rapid/press-release_IP-18-3736_en.htm?locale=en.

b) digital agenda: *the Commission intends to create* a common plan for a "digital European decade" with clearly defined goals for 2030 with such priorities as connectivity, skills and digital public services. The Commission has announced 20 percent investment from MFF for the *NextGenerationEU's* program in digital society and economy. Besides, the EU wants to create "a European cloud" based on GaiaX application.

Another important aspect in digitalisation is technology, particularly artificial intelligence (AI): presently AIs are becoming widely used in agro sector, in precision farming, in more accurate medical diagnosis, in safe autonomous driving, etc. The Commission will propose a secure European e-identity - one that can be trusted and used anywhere in Europe to help people in numerous things: from paying taxes to renting a bicycle by using AIs where people can control the data used.

= **New industrial strategy**: the first draft presented to the states in March 2020 aimed to ensure the national industries could lead in the "twin transition" through green and digital involvement. The pandemic crisis has just accelerated the transformation process at a time when the global competitive landscape is fundamentally changing. The Commission will update further the EU's industry strategy and adapt the necessary competition framework[36].

= **In entrepreneurship**: the SMEs shall be the motors of national economies; around 40 million people have already applied for short-time work schemes and 16 EU countries will soon receive almost €90 billion from the special EU fund-SURE to support workers and companies. The refore the potentials for the supported research in corporate engineering and business technology are enormous[37].

Bottom line: at the European level, there are three possible scenarios to stimulate the member states' actions in the SDGs implementation:

a) an overarching EU SDGs strategy **guiding the actions** of the EU institutions and those of the member states;

b) a continued mainstreaming of the **SDGs in all relevant EU policies**; most often through enforcing the member states' actions; and

c) an enhanced focus on external action while consolidating **current sustainability ambition** at the EU and the states' levels.

1.4. Sustainability in the Baltic Sea region: changing framework through the EU strategy for the region (EUSBSR)

Sub-regional cooperation among the EU states has been intensified during a last decade: thus, in 2009 the first strategy for the countries around the Baltic Sea area was adopted, which successfully integrated into its agenda the sustainability, digital and circular economy issues. Presently, regional and local authorities in the Baltic Sea regions are facing hard but promising and interesting time both for decision makers, businesses and citizens trying to cope with the modern challenges.

The EU Strategy for the Baltic Sea Region (EUSBSR) has been the first among the European states in intensifying the local communities' efforts to resolve issues of common interest. The Baltic Sea region has enormous vitality and potentials for the whole EU: it is the place for about 80 million inhabitants, it "unites" eight EU states –Denmark, Estonia, Finland, Germany (four northern territories), Latvia, Lithuania, Poland and Sweden; besides, Norway and Russian Federation participate.

Common interests among the EU regions (so-called sub-regional cooperation) are

[36] Source: https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1657
[37] General source: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_1659/ 17.09.2020.

numerous, e.g. the region has about 8 thousand kilometers of national coastlines and the sea to be protected. The Baltic Sea region's strategy, EUSBSR has had for the next years 3 main objectives: a) "save the sea", b) "connect the region", and c) "increase prosperity"; with a dozen of additional sub-objectives, 13 specific policy areas and 4 horizontal actions. Through the last decade of intensive cooperation, 77 projects have been completed and 94 are still in the implementation stages.

More on the EUSBSR in: Eteris E. Comprehensive EU strategy to target urgent regional challenges[38].

EU regional policy and macro-regional approaches

First of all, it is vital to remember that only about a decade ago politicians realised the need for an additional "tool" in the EU integration besides its "regular" socio-economic policies called macro- or sub-regional strategies, which gained momentum recently.

These strategies are in line with the EU's general policies on regional development following the EU priorities in integration: e.g. in jobs and growth, digital single market, energy and climate, industrial development, migration issues, etc. However, there are some spheres that needed additional attention and common efforts from the sub-regional communities' perspectives. The regional "influences" have grown from the lack of state governance to take a proper stand on local issues; these activities are supported by the EU institutions as well.

Thus, in one year only (2017), two pilot projects were launched to provide tailored support for regions *facing industrial transition* and help inter-regional partnerships to develop competitive European value chains. They aimed at further assistance to all European regions to invest in their niche areas of competitive strength (so-called "smart specialisation" process) and generate innovative and resilient growth needed to withstand globalization's challenges.

Second, the "additional tool" in EU's integration in the form of sub-regional strategies, like the EUSBSR and three other EU macro-regional strategies, has been acknowledged as a vital impetus into the European general socio-economic integration and cohesion processes. Although these strategies do not have fixed budgets, the sub-regional cooperation is supported through various EU funds, as the regional policies are aimed at strengthening economic, social and territorial cohesion in order to *reduce disparities* between the levels of development of the various regions and the backwardness of the least favored regions, with a particular attention to rural areas and regions (art 174, EU Treaty).

Thus, to deliver on these objectives, Commission's DG Regio provides support through the "financial interventions" by the *European Regional Development Fund (ERDF)* and the *Cohesion Fund (CF),* together with the European Structural and Investment (ESI) Funds (which include European social fund (ESF), European Agricultural Fund for Rural Development (EAFRD) and European Maritime and Fisheries Fund (EMFF). To that end, the Treaty establishes the European Structural and Investment Funds, ESIF (Treaty, art. 175).

These "regional funding" during 2014-19 accounted for about one-third of the total EU budget, or about € 45 billion a year; for example during 2017, about 660 action plans have been adopted in the EU states[39].

Third, the need for a "macro-regional" approach stems from the need for more coordinated efforts towards common problems that could not be solved by states alone. Eight EU states around the BSR wanted their regional and local communities to be more active in resolving

[38] In: http://www.baltic-course.com/eng/modern_eu/?doc=149719&ins_print
[39] More in the DG-Regio annual activity report in: https://ec.europa.eu/info/sites/info/files/file_import/regio_aar_2017_final.pdf

some urgent issues. European Commission underlined that the EUSBSR has been a unique framework to address common challenges and inspiring introduction of perspective "functional areas" in strengthening territorial cooperation as a vital dimension of cohesion policy[40].

Fourth, the EUSBSR can address most urgent contemporary issues in an *expert-like manner* without administrative red tape. The latest spheres of cooperation included the circular and sharing economy issues, which are closely linked to the UN SDGs and serve as an important guidance in promoting these issues into the regional and local authorities' agendas with the corresponding changes in political economy decision-making.

Baltics' regions: lessons from EUSBSR

The efficiency of the macro-regional cooperation and finding "common paths" to reduce national discrepancies while increasing competitiveness have been at the attention of the regional authorities in the Baltic Sea region (BSR) during last two decades. Actually, the idea of the "Baltic Europe" has been for the first time revealed to the European Parliament in 2006; already in June 2009 the strategy and the action plan (the first macro-regional strategy in the EU) were endorsed by the European Council with the final adoption in October 2009.

Interesting enough, already in 2014 the Commission published a report on the improvements in the governance models for the macro-regional strategies. For example, "smart" and "green" growth issues (the items of the EUSBSR Copenhagen-2012 forum), which were in the EU priorities have been adopted as the BSR' developmental goals since 2014. Hence, the EUSBSR's forums have been constantly following the main EU policy's guidelines: e.g. digital issues were in the work of Tallinn-2018 forum, as well as Gdansk-2019 forum with the issues of sharing and circular economy, which are at the same time within the political priorities in the European strategic directions.

Cooperation in the Baltic Sea region, in principle, is "intergovernmental": the member states are responsible in implementing the EUSBSR objectives; however the overall success of the strategy depends to a large extent on the member states.

See more in: *Better together: 10 years EUSBSR*, the booklet published by the Polish Foreign Affairs Ministry.

The EUSBSR has a multi-level governance structure: the states have national coordinators (in policy areas and in horizontal actions), which are linked to High Level Group consisting of senior civil servants from the states (formulating strategy's policy), whereas the EU monitors the strategy and action plans' implementation[41].

The last face-to-face EUSBSR-2019 summit has been dealing with some sub-regional perspectives having a vital importance for the three Baltic States: Latvia, Lithuania and Estonia. Thus, in regional perspective ideas from macro-regions and interregional cooperating (the competence of the *DG Regio*) the following most important directions in the Baltic Sea states macro-regional cooperation have been mentioned: innovations, resource efficiency, closer connections among the regions, attention to the European Semester issues*), more efficient use of regional funds, as well as Interreg issues, etc[42].

Climate change, circular economy and SDGs (as important components in sustainability) are presently in the main directions in the EU's policy agenda; therefore the member states are

[40] More on the Strategy's importance in: "Better together-10 years-EU strategy for the Baltic Sea region. - Polish Ministry of Foreign Affairs publication, Warsaw, 2019. – 66 pp.
[41] More in: Eteris E. Circular economy's priority in the 10th EUSBSR Forum. In: http://www.baltic-course.com/eng/modern_eu/?doc=149881&ins_print.
[42] Note: on the European Semester's issues, see: Eteris E. "Spring-2019: European economy's account", in: http://www.baltic-course.com/eng/modern_eu/?doc=149746&ins_print

supposed to play an active part in the sub-regional governance. However, so far, these issues are only on the initial stage in the EUSBSR and member states' strategies!

Politicians in the BSR are quite aware of the existing challenges and problems; although the difficulties lie in the "transforming" these issues into economic development and corporate entrepreneurship, i.e. putting them "down to earth". Quite obvious that not all 17 SDGs will play a vital role in the sub-regional issues; thus, the regional and local strategies are forced to figure out the priorities and concrete implementation processes. Among the latter most important are certainly the sustainability issues of which the circular and bio-economy are only composite parts, though quite important.

The Baltic Sea region's politicians have been ambitious in setting the appropriate goals: suffice it to mention such initiatives as the "Baltic Sea as a region devoted to SDGs", or "CO2 neutral BSR to 2050", etc. It has become more complicated to implement the initiative than to pronounce them: such ambitious goals have to be economically feasible for SMEs. To follow the SDGs, companies need strong assistance from the states, with the governments' impetus and specific programs: these kinds of issues are already on the agendas in the BSR's states being formulates as "elaborating and *formulating a model for an optimal SDGs implementation* among the Baltic Sea countries".

Regions for changes

According to the EU regional policy's officials, the Baltic States are facing a "profound change" in the BSR governance, based on "closer cooperation, good action plans and communication"; in fact, it is about "a new narrative for the region". Strikingly enough, these "changes" have not been fully integrated into the modern global and European trends, e.g. sustainability, bio- and circular-economy, digitalisation and scientific innovations, to name a few.

It is both important to draft a strategy e.g. for circular economy issues and formulate *optimal action plans for the regions and local communities in circular and bio-economies' practical implementation*.

Presently, the political vision is within two perspective strategy's scenarios: a) consolidation of the existing activities, and b) radical strategy's overhaul with the focus on regional main problems, which are not yet sufficiently included into the EU cohesion and regional policies.

It is evident that the sub-regional concept in the EU regional policy will grow and expand; however, only time will show whether the "macro-regional" approach to national political economies will take a serious attention in the regional SMEs.

The new European Commission's college already from the start in 2019 has made a draft of the EU financial planning for the next seven years' budget providing priorities to green deal and climate actions. Besides, for example, the digital economy and digital society's issues are becoming of vital importance for the three Baltic States, which they couldn't resolve without common approaches, mutual cooperation and European support[43].

From a strictly logistics' point, an efficient sub-regional cooperation in BSR is balancing between the national political economy's guidance and that of the regional-EU's planning; there can't be both" less activities in the former, result in more active the latter, and vice versa! Presently, due to the Nordic's part (as important driver in sub-regional cooperation) active and closer adherence to the global and European challenges, e.g. SDGs, digitalisation, green transition, etc. the sub-regional "component" will flourish.

However, besides the BSR's strategy there are several other organisations operating at the

[43] On the EU Digital Single Market and DESI see: https://ec.europa.eu/digital-single-market/en/desi

sub-regional-macro-level: e.g. *Council of the Baltic Sea States, HELCOM* or *Vision and Strategies around the Baltic Sea* (VASAB), to name a few; these and other organisations in the region make the EUSBSR management and guidance rather complicated.

At different summits during last couple of years a lack of political willingness from the heads of state and government has been visualized for active engagement in macro-regional co-operation: e.g. quite a few national ministers, prominent national leaders and/or high EU officials participated at the latest 2019-summit without even a final declaration on perspective macro-regional initiatives. Although the summit's motto sounded quite up-to-date: "reduce, re-use and rethink", which provided a platform for discussions on present and perspective regional planning on sustainable and circular economy issues.

Circular economy in the EUSBSR

The EU's macro-regional cooperation "units" regional authorities towards quicker and efficient solution of local issues having so-called "European dimension": the EUSBSR has been the first one adopted a decade ago.

During the last decade the macro-regional concept has shown its positive effects providing for feasible results in deliverance: hence three additional strategies were adopted in other European sub-regions: for the states along the Danube river, for the countries along the Adriatic-Ionian seas and the states adjacent to the Alpine regions (during 2011-15); thus all existing four sub-regional strategies also include the non-EU member countries.

The EU strategy for the Baltic Sea region (EUSBSR) has become a valuable opportunity for the states' regional/local communities to resolve some common challenges through the so-called more active "operational efficiency". Recently some of these trends have been summed up a perspective vision for a long-term circular economy development in the region.

Attention to circular economy in the BSR has been regarded as a "path to wellbeing of the people in the region": this notion underlined a presently completely unsustainable but still dominating model in development – i.e. *take-make-consume-dispose*. It has to be radically re-arranged within a new political-economy's model inserting a new concept: *reuse, de-compose, re-cycle, de-consume*, etc. with additional validity of appropriate education and training in sustainability principles.

For example, presently Latvian recycling share is the lowest among states in BSR with 39%, compared to 46% in Lithuania, 47% in Estonia and over 50% in Denmark and Sweden. Thus, both new circular economy principles and waste management are becoming highly desirable aspects in sub-regional cooperation.

Another vital example in cooperation is about a business-driven approach to circular economy in BSR: several countries (Latvia, Lithuania, Finland and Poland) underlined the need for a kind of a "turn-out" in eco-efficient development patterns in the region. However, the public-private partnerships are not yet explored in circular economies' models, nether there is a mutually recognizable business-led investment strategy in the regional strategies.

Sub-regional recovery and resilience

In line with the EU's plans concerning perspective plans for recovery and resilience in the member states in the years to come, the sub-regional cooperation has acquired additional stimulus; among them are the following:

= ***Green resilience***, which is about reaching European climate neutrality by 2050, while

mitigating and adapting to climate change, reducing pollution and restoring the capacity of ecological systems to sustain countries' ability to live well within planetary boundaries.

The impact of green transition in the states' employment policies could be significantly larger in the recovery plans after the COVID-19 crisis. The green sector can generate around 4.2 million jobs in Europe, with a turnover of more than € 700 billion.

Job creation stemming from climate change policies will contribute to more inclusive job growth. By 2050, renewable energy jobs in the EU are expected to reach 2.7 million or 1.3% of EU employment. These numbers could be far higher in light of the potential impact of Next Generation EU and investment in green jobs[44].

= *Digital resilience* is about ensuring that peoples' lives, work, education and communication, to name a few in the digital age can preserve and enhance human dignity, freedom, equality, security, democracy, and other European fundamental rights and values. Strategic digital society and economy's foresight in the member states can foster the human-centric shaping and appropriateness of digital technologies. As experts acknowledged, a pervasive deployment of digital technologies in society goes hand-in-hand with a continuous appropriation by economy and society at large. Human-centric orientation in digital technologies can for example advance health care systems, improve universal access to basic services, and increase the effectiveness and inclusiveness of education and training systems[45].

Concerted actions: examples from the Baltic Sea region

The Nordic countries have moved rapidly to launch research projects to address the pandemic issues involving universities, science institutions and funding agencies. Thus, e.g. in Denmark, the New Carlsberg Foundation has donated about $13 million "*to accelerate efforts against COVID-19*", including virus research. Besides, social scientist and behavioral researchers were trying to find the ways modern societies can handle most effectively epidemics. Research projects were expected to pave the way for new, global insights into behavior, prevention, diagnosis and treatment of any future epidemics[46].

Another interesting example reflects cooperation efforts among the states in the Baltic Sea region, i.e. the *ProVaHealth Living Lab's* (in short, Living Labs); its activity is supported by the Interreg and European Regional Development Fund. It seeks to provide practical advice on dealing with the innovative health products and services and public procurement in partner countries.

The project brought together 17 organizations from 8 Baltic Sea countries to focus on creating better collaboration between Health Living Labs in the Baltic Sea Region, ensuring smooth access to Living Lab services for SMEs, improving market uptake of new products and services in health, enforcing innovation, creation of new enterprises and growth of SMEs and improving health, well-being and quality of life in the society.

This effort shows that a joint Baltic Sea states' roadmap for research and innovation can be a viable tool in addressing the most pressing knowledge issues and tackling the crisis; besides, national research funds could contribute to proper research and innovation's implementation through the coordinated countries' efforts[47].

[44] General reference: European Commission/Brussels, 17.12.2019; COM (2019) 650 final. Communication from the Commission "Annual Sustainable Growth Strategy 2020" {SWD (2019) 444 final}. In: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1578392227719&uri=CELEX%3A52019DC0650
[45] More in: https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1588
[46] Source: https://www.universityworldnews.com/post.php?story=20200323152955985
[47] More on Living Lab projects in: https://scanbalt.org/livinglabs/reports/

1.5. Digital society and entrepreneurship in sustainable growth

Several European countries, including the Baltic Sea Region states have adopted sustainability and digital agenda plans and strategies: these aspects of modern growth are going to define the EU states and the Baltic countries progressive development.

Using modern digital "applications" and new technologies can have definitely positive effects on SDGs implementation through the "green growth" development patterns by large and small companies, by economic sectors in general and by industries. However, according to "Global survey on sustainability and SDGs" (published in 2020), the SDGs are rather unknown globally in science and education spheres with a negative SDG awareness in economic science (50% globally and 56% in EU).

That is the reason that presently, the SDGs are still "rarely addressed in classical business studies and research fields of economics", acknowledged a global survey. Among various SDGs, priorities, generally, are attributed to such goals as SDG-12 "Responsible consumption and production", SDG 13 "Climate actions", the SDG-4 "Quality education" and the SDG-17 "Partnerships for the goals"[48].

1.5.1. Sustainability and digitalization: double strategy's guidelines in national development

Digital transformation has been on the EU's institutional agendas during the last decade, though only recently the Commission started some concerted actions instigated by the global efforts. Thus, in June 2016, high-level representatives from 41 countries and the EU states agreed to work on preserving an open Internet, eliminate digital differences, promote digital skills and accelerate digital potentials for socio-economic growth. The global community adopted the OECD Ministerial Declaration on the Digital Economy called "Innovation, Growth and Social Prosperity" according to which the states, including the EU members agreed to promote digital transformation with the following goals:

= Increase access to broadband Internet and services to bridge digital divides;
= Reduce barriers to investment in and adoption of digital technology in all sectors;
= Work to develop global technical standards that enable interoperability and a secure, stable, open and accessible Internet;
= Develop privacy and data protection strategies at the highest level of government, while also encouraging the availability and use of data, including public sector data;
= Adopt technologically neutral frameworks that promote competition;
= Use open, transparent and inclusive processes to shape global Internet governance;
= Reduce impediments to e-commerce within and across borders with policies that strengthen consumer trust and product safety; and
= Improve education and lifelong training to respond to the demand for general and specialist digital skills.

In 2017 the OECD states launched another program, "Going Digital: Making the Transformation Work for Growth and Well-being" with the aim to help policymakers better understand the global digital transformation and create a policy environment that enables the economies and societies to prosper in a world that is increasingly digital and data-driven.

[48] Reference: https://www.globalsurvey-sdgs.com/wp-content/uploads/2020/01/20200123_SC_Global_Survey_Result-Report_english_final.pdf

Interim results on the implementation of the project were published in the "Going Digital State of Play report (OECD, 2018); and a final synthesis report, based on an integrated policy framework, was released at a high-level conference in March 2019, following the completion of all of the work done.

In February 2020, the Commission put forward the Union's digital strategy aimed at connecting all digitalisation aspects into a "common concept" to drive the digital transformation in national economies. The EU's idea has been "to create European data spaces where businesses, governments and researchers can not only store their data, but also have access to other data they need for their innovation"[49].

Thus, the EU is pursuing a digital strategy that builds on a successful technology transformation, innovation and ingenuity, vested in the European values[50].

Unleashing digital potentials: effect for business. Examples are numerous: e.g. precision farming, which includes AI-driven farmers' growth and enables to reduce pesticides and fertilizers; or smart heating: also AI-driven, which could save millions of tons of oil and therefore reduce the CO_2 footprint. European states are already having leading positions in AI: the EU produces 25 percent of industrial robots in the world; in manufacturing, for example, about half in the sector using at least one AI application.

The EU intends to invest in the "data spaces" and cloud infrastructure about € 6 billion: the value of the "data economy" is evaluated presently at about € 300 billion, or about 2.4% of the EU's GDP; in five years it will be three times more. Besides, the data economy creates jobs: presently there are about 5.7 million jobs in the sector, in five years it will be about 11 million jobs.

The White Paper on Artificial Intelligence (AI) and the European data strategy presented in the first half of 2020 show that European states can acquire global standards in technological development and enhance peoples' wellbeing[51].

The EU leaders constantly underlined the digital transformation as an important part of the green transition; besides, they considered it crucial for the EU's recovery from the coronavirus crisis. Therefore, aligning the EU's green and digital transition policies carries enormous potential and is becoming central to the Union member states' efforts to create a competitive and sustainable climate-neutral economy. Consequently, the European Green Deal has already recognized that the "double transitions" (digital and sustainable) are not only closely linked: the digitalisation enhances nature and environmental protection, the climate actions; in short, the digital transition shall become "greener". In this regard, research put forward three recommendations for the states to get the most out of the EU's sustainability and digital agendas:

1. **Create a European "data space"** to accompany the implementation of the Green Deal. The aim should be to optimise the management and analysis of data relevant to climate action and the protection of the environment. Reducing barriers to the free flow of information across value chains is vital to enable the development of a sustainable circular economy.

2. **Develop and deploy digital solutions to support and accelerate the greening of socio-economic development.** This entails investing in digital solutions that can help to enhance climate neutrality, sustainable consumption and production, zero pollution efforts and biodiversity.

3. **Address the negative environmental and climate impact of digitalisation.** The states must ensure that its digital infrastructure becomes more sustainable and introduce financial incentives for developing and deploying ICT equipment that is circular and energy-efficient[52].

[49] Source: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_294
[50] More in: https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en
[51] Reference to: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_264
[52] Source: EPC project 'Digitalisation and Sustainability: 2019-20', in: https://www.epc.eu/en/Publications/Towards-a-green-competitive-and-resilient-EU-economy-How-can-digital~35bfc4

DESI 2020

The EU institutions use the Digital Economy and Society Index (DESI) to provide a composite vision of relevant indicators on digital performance and evolution of the member states' digital competitiveness (see the table below):

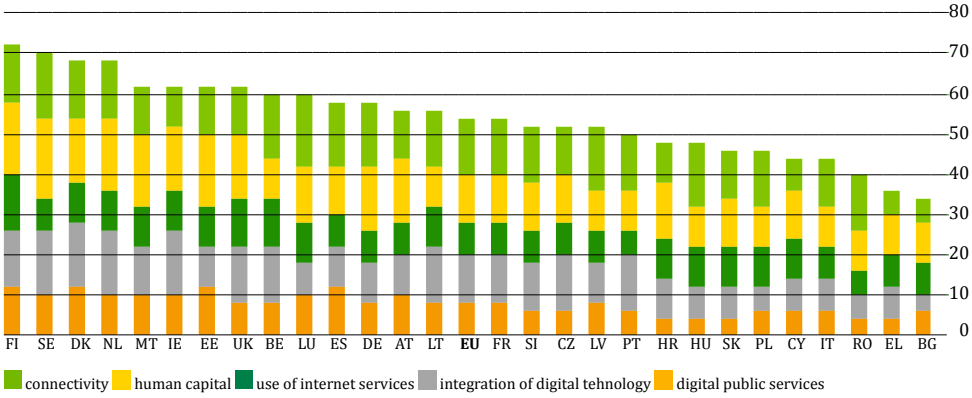


Fig.1. EU and EU average DESIs in 2020 in terms of connectivity, human capital, internet use, digital integration, digital public services[53].

During 2019-20, all EU countries improved their digital performance: e.g. Finland, Sweden, Denmark and the Netherlands scored the highest ratings in DESI 2020 and are among the global leaders in digitalisation, followed by Malta, Ireland and Estonia; other countries however still have a long way to go.

Digital issues are important for consumption and consumers during the COVID-19 influence for foodservice delivery and takeaway: e.g. in January 2020, about 48 percent of connected consumers ordered foodservice online, increasing to 64 percent lately; globally, 44 percent of digitally connected consumers "feel comfortable" receiving a delivery via a drone or robot.

Quantifying changes occurred in the digital consumption during COVID-19: thus, the highest percentage of "connected consumers" has been recorded for people over the age of 60, the highest percentage increase of all age groups (for purchasing across several online product categories, excluding beauty, health and personal care); most active consumers are between 30 to 44 and nearly half of the online shoppers purchased products in more than three categories[54].

Technology's transformation: digital effect

Modern "technology revolution" in national growth ignited by the digital agenda and affected almost all spheres of socio-economic development. All the EU states are desperately trying to unite the modern technologies (embedded in the "4th industrial revolution" dated back to 2016) with the SDGs: no doubt, the technology serves as a driving force in implementing SDGs[55].

[53] More on DESI in the following links: - Connectivity - Broadband market developments in the EU; - Human Capital/Digital skills; - Use of Internet Services by citizens; - Integration of Digital Technology by businesses; - Digital Public Services; and - Research and Development ICT.
[54] Source: Euromonitor International's Lifestyles Survey 2020 (January-February) and Euromonitor International's Digital Consumer Survey 2020 (March-April).
[55] See more in: Schwab K. The Fourth Industrial Revolution. - World Economic Forum, Cologne/Geneva. -2016, -184 pp.

For example, about 70 percent of the SDGs could be actively implemented with already existing digital technology applications. However, the states are presently quite slow and inefficient in unlocking the digital potentials, including artificial intelligence's (AI) means. The states' governance structures have to be more active in deploying new technologies for both short-term growth and long-term (commercial) gains through a more responsible and purposeful approach in using digital technology in implementing SDGs. The figure below shows the 4IR's inherent connections in modern decision-making processes.

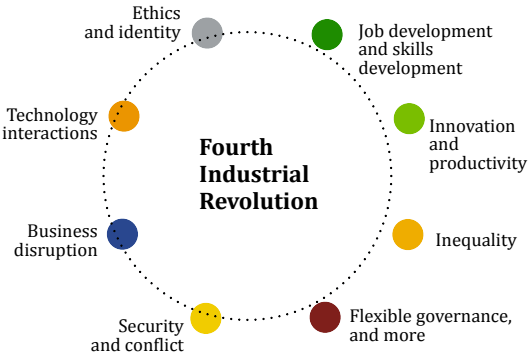


Fig. 2. The links inherent in the Fourth Industrial Revolution opportunities with modern decision-making processes[56]**.**

European digital policy and technologies are not only interconnecting the member states in developing new growth paths, but they are also integrating the EU countries into the global processes of which the SDGs are the vital component. EU institutions have already set the standards in telecoms and data protection, for instance, though the states fall behind in other areas of the digital economy. Investments in blockchain, high-performance computing, quantum computing, algorithms and new tools for secure data sharing and usage are the vital points on the path to innovation[57].

Digital data and AI technologies can definitely help to develop smart solutions in the member states concerning numerous socio-economic and sustainability issues: from health to farming, to food security, to manufacturing including "smart specialisation strategies". In these directions, new approaches to education and learning –with improved quality education- are the keys to paving the way for a new area of sustainable growth.

The following are the main directions in the optimal use of digital solutions in sustainability:

= First, **digital economy and society issues**, which can ensure that citizens and businesses would have full advantage of digital opportunities. However, the Commission noted, about 47 per cent of the EU population is not properly digitally skilled, yet in the near future, about 90 per cent of all jobs will require some level of digital skills[58].

[56] Source World Economic Forum Newsletter (2020), in: https://www.weforum.org/agenda/2020/01/decade-of-action-from-technology-optimism-to-technology-realism/

[57] More in chapters 3.2 and 3.4 in E. Eteris "Latvia in Europe and the world"; reference to https://www.rsu.lv/sites/default/files/imce/Dokumenti/Biblioteka/Eugene_Eteris_2018_gramata.pdf

[58] Source: https://ec.europa.eu/info/priorities/europe-fit-digital-age_en and https://ec.europa.eu/digital-single-market/en/economy-society

= Second, the EU member states actions (with the assistance from the EU institutions) in creating proper and efficient **conditions for digital networks and services**. The Commission acknowledges that the high-speed, secure and trustworthy infrastructures and services shall be supported by the EU. Only the "right environment" for innovative digital services will help in creating advanced infrastructures and feasible conditions for investment in digital networks[59].

Better regulations for digital networks and services are also important for creating rules that match the pace of technology, such as the next-generation of 5G mobile connections or the financial technology implementation, so-called fintech. There are presently several directions in the EU digital single market[60]); some of them are both directly and indirectly connected to sustainability. In creating a digital society, the European Commission aims for an inclusive digital society in the member states, which will benefit from the digital single market. Building smarter cities, improving access to e-Government, e-Health services and digital skills will enable a truly digital European society[61].

= Third, the **countries' digital priorities**: digital issues are not a "specific priority" in the new Commission; in the previous college, there have been even two "digital Commissioners" – one for the digital economy and another one for the digital society. Increasing "digital role" in the member states' socio-economic development is a vital component in the European integration too. Data protection has become an important issues and reforming data protection will give people control over their data and help businesses comply with the single market. In May 2018, the General Data Protection Regulation entered into force in the member states, which provided for a single set of data protection rules for all companies operating in the EU, wherever they are based. Stronger rules on data protection mean that: a) people have more control over their personal data, and b) businesses benefit from a level playing field in digital spheres[62].

= Fourth, the **commercial aspects of the "EU's digital society"** strategy**,** which guarantee a better access to online goods for consumers and businesses by helping the member states creating a commercial level-marketplace. The new rules adopted in EU prevent an unjustified geo-blocking in the EU states: i.e. people can freely buying from a website based in another EU state; thus barriers for consumers in cross-border shopping are abandoned. New rules entered into force in the member states in December 2018, which ended online discrimination on the basis of nationality or place of residence. These rules ensured that people no longer face barriers as being re-routed back to a country-specific website, or having to pay with a debit or credit card only from a certain country. Besides, the online sellers are obliged to treat all EU consumers equally regardless of the "shopping place". New Commission President, Ursula von der Leyen acknowledges the college commitment to upgrade the Union's liability and safety rules for digital platforms, services and products, with a new Digital Services Act[63].

The EU is heavily investing into the digital agenda: through the successive implementation of the European Fund for Strategic Investments, EFSI (which was a focal point in the *Investment Plan for Europe*, originated in November 2014) the Commission extended its duration and capacity to boost investment in 2016 by the so-called "EFSI 2.0". In December 2017, the EU states agreed on the "EFSI 2.0 Regulation", which extended up to the end of 2020 the investment targets from € 315 billion to half a trillion euros[64].

The "Connecting Europe" program focuses on joint activities for the future of Europe project with sustainability, climate change and digitalisation[65].

[59] More in: https://ec.europa.eu/digital-single-market/en/right-environment-digital-networks-and-services
[60] See general link on the EU digital single market: https://ec.europa.eu/digital-single-market/en
[61] Source: https://ec.europa.eu/digital-single-market/en/policies/creating-digital-society
[62] On data protection rules in: https://ec.europa.eu/info/priorities/justice-and-fundamental-rights/data-protection/2018-reform-eu-data-protection-rules/eu-data-protection-rules_en
[63] Reference to the Commission web-site on e-trade in EU: https://ec.europa.eu/digital-single-market/en/new-eu-rules-e-commerce
[64] More in: https://ec.europa.eu/commission/presscorner/detail/en/IP_16_3002
[65] See: https://www.epc.eu/en/programmes/Connecting-Europe~110d3c

Digital industry and sustainable services: financial aspects

The Commission launched in April 2016 the first industry-related initiative of the "digital single market package", complementing the various national initiatives for digitising industry in the Eu states, such as Industrie 4.0, Smart Industry and *l'industrie du future.* The Commission is taking actions along 5 main directions: - use of policy instruments, - financial support, - coordination among the member states in "digital industry", - legislative efforts to trigger further public and private investments in all industrial sectors, and – creating framework conditions for the digital industrial revolution.[66]

Industry is one of the pillars of the EU economy: e.g. manufacturing sector in the EU accounts for 2 million enterprises, 33 million jobs and 60% of productivity growth. However, technology's revolution with all the new ICTs, e.g. the Internet of Things (IoT), cloud computing, big data and data analytics, robotics and 3D printing has opened new horizons for industry to become more efficient. Studies show that digitalisation can add more than € 110 billion of annual revenue to the European economy in the next five years.

European industry is already strong in some digital sectors: electronics for automotive industry, security and energy markets, telecom equipment, business software, as well as laser and sensor technologies. European states are also having world-class research and technology institutes; however, there are large disparities in digitisation among EU's countries.

Present EU plans are aimed at mobilizing up to € 50 billion of public and private investments in support of the industrial digitisation of industry: the sums are divided into the following activities: € 37 billion investment to boost digital innovation; € 5.5 billion in digital innovation hubs; € 6.3 billion for the first production lines of next-generation electronic components; and € 6.7 billion for the European Cloud Initiative[67].

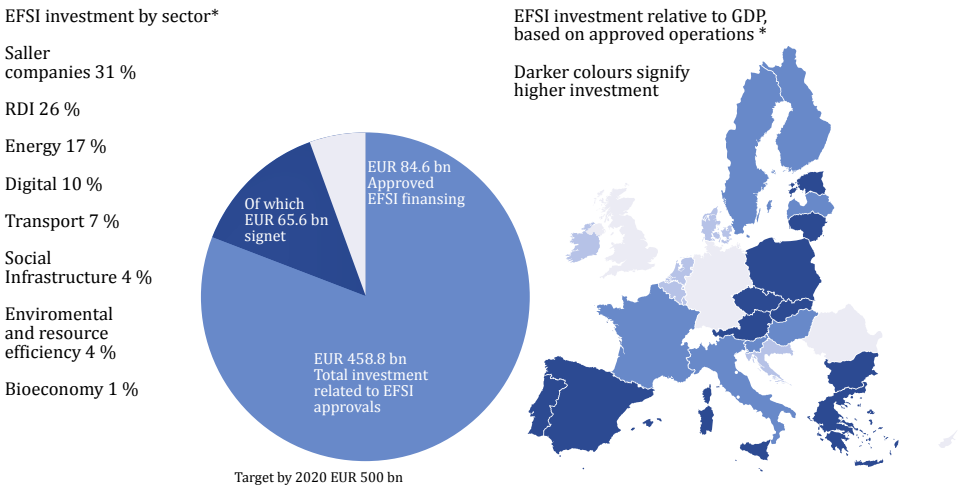


Fig. 3. EIB's efforts in activating investments[68].

[66] See: https://www.epc.eu/en/programmes/Connecting-Europe~110d3c
[67] More in: https://ec.europa.eu/digital-single-market/en/policies/digitising-european-industry
[68] Source: https://ec.europa.eu/commission/strategy/priorities-2019-2024/jobs-growth-and-investment/investment-plan-europe-juncker-plan/investment-plan-results_en

As to EFSI finances for the Baltic States approved by the EIB Group, Estonia has had € 158 mln, Latvia - € 270 and Lithuania - € 386 mln; the financial "loans & guarantees" were supposed to trigger from €1,1 to €1,8 billion in investments. The investment's activity (as a share of GDP), is the highest in Estonia (second among the EU states), seventh in Lithuania and ninth in Latvia.

The EFSI can support large "green digital infrastructure" projects, with deployment of the latest technologies to allow access to ultrafast broadband. These projects can originate e.g. from national broadband plans and regional initiatives willing to invest in future oriented broadband infrastructures and digital services such as high-performance computing and cloud services. The EFSI is one of many EU financing tools available to start-ups in the digital sector: for example, projects suitable for financing in the digital sector under the EFSI could also benefit from the support of grants and financial instruments from Horizon 2020, European Structural and Investment Funds (ESIF) and the Connecting Europe Facility. This funding source may finance part of the project (in the form of a grant or a loan) while an EFSI-backed loan may cover the remaining costs of the project.

Project promoters in the digital sector can seek technical assistance through the *European Investment Advisory Hub* (EIAH), which offers support for advisory and technical assistance services to start the projects[69].

The European Investment Project Portal – the *#InvestEU Portal* – is another platform to boost the investment opportunities in the digital sector; the aim of the Portal is to connect project promoters with investors seeking projects. The Portal has already supported numerous viable projects in sustainability: e.g. 111 projects in the energy sector, 138 in transportation, 145 in environmental quality and protection, etc[70].

On Latvian projects in "environment and natural resources": consult Commission web-site "Find investment opportunities" [71].

European "green deal" through the digital agenda

The Commission has underlined that the "green transition" shall be a "window of opportunity" in the states in fostering sustainable and job-intensive economic activity; thus digitalisation presents new opportunities in a number of spheres, e.g. in monitoring air and water pollution, in use and consumption of energy and natural resources. In short the states' "sustainable products" policy can generally stimulate the process of reusing materials before recycling them. E.g. presently, due to insufficient manufacturing technology's opportunities, there only minimum requirements regulating the share of environmentally harmful products placed on the EU-27 markets; hence, it is most important is to tackle "false green claims". Two visible examples: a) the Commission has proposed measures in 2020 to ensure that all packaging in the EU would be reusable and/or recyclable by 2030; b) new business models will be developed based on renting goods and services to assist the states in shifting consumption patterns away from single or limited use products.

Since March 2020, the member states have been following the EU's new industrial strategy in support of the green transformation. Generally, the main aim is to stimulate the development of new markets for climate neutral and circular products. As a by-target for the member states, the decarbonisation and modernisation of energy-intensive industries, e.g. steel, cement, chemistry, etc. will be essential. The potentials in sustainability are great: so far, only about 12 per cent of the materials used by the EU member states' industries come from recycling (Eurostat figures from 2016)[72].

[69] About the EIAH see: https://eiah.eib.org/
[70] More about InvestEUPortal in: https://ec.europa.eu/eipp/desktop/en/index.html
[71] Commission web-site "Find investment opportunities" https://ec.europa.eu/eipp/desktop/en/card-view
[72] References to: https://ec.europa.eu/commission/presscorner/detail/en/fs_19_6724

Assisting digital transition and boosting digital economy

The **s**tates are supposed to ensure a high level of ambition in drafting reforms and investments enabling the digital transition as part of their recovery and resilience plans. To ensure effective implementation, the Commission proposes that each national recovery and resilience plan should include a minimum level of 20 percent of expenditure related to digital transition. This includes, e.g. investing in the deployment of 5G and gigabit-connectivity, developing digital skills through reforms of education systems and increasing the availability and efficiency of public services using new digital tools[73].

While preparing the national recovery and resilience plans (the plans shall be sent for the Commission's approval by April 2021) the states have to include numerous digital transitions' aspects. To assist the states, the Commission issued (in mid-September 2020), two initiatives to advance the member states' digital agendas: first, a draft of a new regulation for the EU High Performance Computing Joint Undertaking; secondly, a recommendation for the states to boost investment in connectivity infrastructure.

The national planning shall be aware of the following important aspects: supercomputers, connectivity, facilitating entrepreneurship and boosting investments, which are described below:

= **Supercomputers**. Digital high-performance technologies (often called supercomputers) are vital for the states' welfare and their future; they support both the national health and all adjacent sectors. The states can "visualize" the so-called "digital human twin", i.e. simulating trillions of processes and molecules of the human body to advance necessary treatments, tackle diseases or viruses and improve diagnostics. In this complicated endeavor, supercomputers and artificial intelligence's devises can be used to investigate options and design of a much wider challenge - an efficient Earth system modeling - to inform and advance policymakers and help national governance to find solutions in combating negative climate change. Besides, supercomputers can support entrepreneurship in general and certain business sectors, in particular, by innovating, testing and scaling up much wider spheres of practical advantages[74].

Already in October 2018, the Commission initiated a common with the states and private contributors' a €1.5 billion fund to deliver on the first *Joint Undertaking on High Performance Computing*; in the Multiannual Financial Framework (i.e. the EU's budget for the next seven years) about € 8 billion will be invested in these digital capacities.

= **Connectivity** is the backbone for the national digital transformation's solutions: hence, the need to prioritise public investment in high-speed internet for businesses, public services and citizens; for example, public plans shall be oriented towards accelerating novice 5G development as during the pandemic many connectivity projects and 5G spectrum auctions were delayed. Therefore the Commission calls for the states to develop a toolbox with best practices to invest in connectivity by facilitating the advances in the digital agenda.

= **Facilitating entrepreneurship**. Advantages in the digital economy transformation's are numerous: e.g. access to innovative and convenient services for citizens as well as the new ways the companies can reach customers, digital tax declarations that are simpler and faster than filling in on papers, digitally connected cashiers can directly transmit data to tax authorities to prevent tax evasion and long processing of paper accountings at the end of the year, finally, electronic medical prescriptions would allow picking up necessary medicines at every pharmacy, etc. These and other digital innovations are useful for both the citizens and the state's economy.

[73] Source: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_1659/ 17.09.2020.
[74] Note: some ideas of supercomputers' use in facilitating human brains in: Harari Y. N. "21 Lessons for the 21st century". – Spiegel & Grau, 2018, pp. 28–33.

The Commission will soon propose a secure European e-identity which would both enable citizens identifying themselves (e.g. making online transactions) and facilitate control over personal data (the issue, which is still complicated presently).

The Commission acknowledged that it is the national "public sector" that could be a strong enabler of the needed changes: Latvia, for example, "introduced a large-scale communication and training programme to improve peoples' digital skills and to facilitate the use of digital services; these changes benefit all citizens and businesses"[75].

= **Boosting digital investment**. Most optimal solution in digital transformation is combining public-private sources and the EU's financial facilities; as to the latter, the Commission proposed investing 20 percent of the EU's Recovery and Resilience Facility in digital economy. While integrating digital components in the national recovery plans, the states shall see that the cross-countries' cooperation shall be in line with the EU's single market rules. Over 40% of Europeans do not even have basic digital skills today; so, to benefits from the advantages of digital education the states have to create new skills and support the use of digital applications in daily lives. To lead in digital technologies, the states have to step up investments in advanced digital knowledge and well-trained digital innovators.

Digital investment must be targeted: e.g. of primary importance is to support a comprehensive national digital education; adequate steps in this direction would help both in creating new skills and in retraining workers. Only by stepping up investments in advanced digital knowledge and technologies, in creating well-trained digital innovators the states can achieve a feasible recovery[76].

It is in the EU's interest to use the COVID-19 crisis to start building conditions for people and businesses to emerge from this crisis stronger, with the capacities to face the next one. It is essential to build on Europe's strengths and use all the tools available – including digitalisation – throughout this process. The EU member states must turn the ongoing digital transition into a catalyst for creating a sustainable economy with the green transformation.

1.6. Sustainability and entrepreneurship in post-pandemic period

The EU efforts, in general, are to return from the pandemic to a fully functioning Single Market as soon as possible, to effectively enhance European global competitiveness and autonomy of the EU industries and accelerate the digital transition in the light of the present COVID-19 crisis.

It has become evident that the pandemic has highlighted an urgent need in the states to consider resilience in economic and social systems, in particular in the financial system and in its role of capital and investments in making more dynamic recoveries to withstand external shocks.

The member states' efforts are supposed to focus on the so-called "golden sustainability's triangle": i.e. ***social, economic and environmental factors*** that are rapidly becoming a mainstream pattern in perspective national growth; these factors' role is to evaluate current sustainable business practices and to identify priority actions to better align available resources and investments with sustainable and long-term recovery.

In fact, for a proper inclusion of sustainable goals in national decision-making, business structures and optimal transitional consequences, the SDGs shall be grouped into the following set of "sectoral components".

[75] Citation: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1704
[76] General source: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1704/ 18.09.2020

In the **"socio-economic platform",** the following SDGs shall be included:

- *on reducing poverty*, SDG-1: almost every fourth person in the EU has been at risk of poverty or social exclusion; of those at risk, almost one third or 38.4 million people are affected by more than one dimension of poverty. However, the most widespread form of poverty in the EU is a "relative monetary poverty", which affects over ten percent of population: still, the rate of relative monetary poverty in the EU is lower than in other G-20 member states.

- *on quality education*, SDG-4: the states have to create a modern system of education and training on sustainability issues, i.e. social, economic and environmental;

- on *gender equality and reducing inequalities* (SDG-5and SDG-10);

- on *water management*, SDG-6;

- on *well being, good health, decent work and sustainable economic growth*:SDG-3 and SDG-8;

- on *peaceful co-existence, justice as well as on strong and efficient national socio-economic and governing institutions*, SDG-16.

The **"environmental platform**" and biodiversity's issues represent the second vital parameter in sustainability. It is well known that environmental factors affect all humans, e.g. peoples' exposure to pollutants through water, food and/or air are becoming the important determinants of public health. Reducing environmental pressures from households and construction, transport, agriculture, industry and energy production, as well as lowering exposure to hazardous substances play a major role in both rational use of natural resources and environmental quality, i.e. clean air, water quality and low-noise environment, etc.

These policy actions safeguard the basic elements of key economic activities, e.g. agriculture, fisheries and aquaculture, the food industry, tourism, power generation and the chemical industry, to name a few.

Sustainable conservation ecosystems' protection in the states will ensure the long-term availability of resources crucial for humans, nature, the economy and climate.

Thus, the following goals shall be included in governance:

- on *sustainable cities and communities*, SDG-11: over 70% of EU citizens live in urban and semi-urban areas. Improving the quality of the urban environment, with reduced pollution shall be a vital part in the national policies, including transport, construction, waste management, green infrastructure, etc.

- on *climate actions*, SDG-13: national efforts in reducing negative aspects in developmental policies are an integral part of a complex measures "uniting" sustainability, digitalization and circular economy's components;

- on *oceans, marine resources and "life below water",* SDG-14: the issue is important as most of the EU states are situated next to seas and/or oceans;

- on *terrestrial ecosystems and biodiversity*, so-called "life on land", SDG-15;

In **the "corporate platform**" the following goals are important for inclusion into the national governance:

- *on sustainable agriculture* –SDG-2;

- on *affordable and clean energy* – SDG-7;

- on *industrial development, innovation and infrastructure*: to ensure that transport systems meet society's economic, social and environmental needs whilst minimising their undesirable impacts on the economy, society and the environment, SDG-9;

- on *responsible production and consumption*: promoting sustainable consumption and production shall be followed by addressing socio-economic growth through the carrying capacity of ecosystems and decoupling economic growth from environmental degradation, SDG-12.

Trade plays an important role both in the Union's and the states' sustainable economic

recovery as a key component in transitional agenda: in most states the internal trade and consumption is one the main drivers of growth. Besides, the external trade is vital too: present critical pandemic situation highlights two crucial topics: new leadership of the World Trade Organisation, WTO; and the role of trade in the future state's recovery, against the backdrop of the EU's on-going trade policy.

Expected and profound WTO's reforms are going to include at least three main issues having effect on EU's corporate strategies: a) fixing the dispute settlement system, b) re-initiating global trade negotiations, and c) addressing the current challenges of international trade, in particular sustainability and the green growth transition.

A separate place is occupied by the last goal, SDG-17 which is aimed at extensive partnership in reaching the goals among the global communities[77].

The biggest strategic risk for industries and SMEs in the EU states is unfair competition: hence, the level-playing field issues have become an important aspect in national commerce and trade policies. And the EU's role is to ensure an even playing field where all participating partners neither break the rules nor undermines or harnessing European industries: that is the only way the Commission can both keep "the rule of law", create trust and the consistency that business and economies need in order to grow in a sustainable manner, acknowledged the Commissioner for trade[78].

More specifically, the EU's industrial policy and trade policy are working hand in hand to find the most effective ways to support the EU's economic recovery, climate neutrality and digital leadership as part of global challenges. The EU's recovery and resilience policies are able to offer an exciting and competitive future for the most innovative parts of national economies. Three things are most important serving as fundamentals: - seeking greater coherence between trade, competition, industrial policies and governance; - broader agreement among the states on the right balance between openness, regulation and supporting business without distorting competition; and – supporting the EU as a global trading super-power through an open and rule-based trade driven by market dynamics.

Digital component in the corporate domain. Digital agenda is actively entering the corporate policies as consumers are shopping increasingly online. The EU's Consumer Conditions Scoreboards often show that ever more European consumers are shopping online: during last decade the increase from about 30 percent to over 55 percent, with a consequential increase in the consumers' trust in the e-commerce: all these proposals are in line with the SDG-12 requirements.

However, some retailers are still reluctant to expand their online activities due to higher risk of fraud and non-payment in cross-border sales; besides, the levels of trust, knowledge and protection still vary greatly among the EU states.

The Consumer Scoreboards provide an overview of how the Single Market works for EU consumers. Published during last two decades, they remain a reliable source of ensuring a better monitoring process for consumers and provide evidence for policy - and decision-making. Two types of the scoreboards are particularly important:

- The *consumer conditions* scoreboard, which monitors national conditions for consumers in three areas: 1. knowledge and trust, 2. compliance and enforcement, 3. complaints and dispute resolution; it also shows progress in the integration of the EU retail market and in e-commerce.
- The *consumer markets* scoreboard**,** which tracks the performance of over 40 consumer

[77] Main source for all SDGs: https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_europe_sustainable_development_report.pdf
[78] Source: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_20_1720/ 21.09.2020.

markets on the basis of key indicators such as trusting that sellers comply with consumer protection rules, the comparability of offers, the choice available in the market and the extent to which consumer expectations are met as well as switching prices and trends[79].

For retailers, the scoreboard shows that many are still reluctant to expand their online activities and continue to have concerns about selling online to consumers in other EU countries. Such concerns are mainly linked to a higher risk of fraud and non-payment in cross-border sales, different tax regulations, differences in national contract law and in consumer protection rules.

While consumer conditions have improved overall, the levels of trust, knowledge and protection still vary greatly among the EU member states.

The Commission underlined that the EU's vital priority has been in improving peoples and smaller retailers' trust in the digital single market; slowly, the EU consumers are becoming more confident when shopping online: e.g. new rules have equipped consumers with a quick procedure to get the money back if something goes wrong, even when buying from another EU state. The EU institutions are encouraging citizens and SMEs in using more rapidly all the opportunities in e-trade while responding to the growing demand.

More trust in e-commerce is needed, though some barriers remain for retailers: the scoreboard shows that consumer trust in e-commerce has dramatically increased. In ten years the share of Europeans buying online has almost doubled (from 29.7% in 2007 to 55% in 2017). Thus, the consumers' levels of trust have increased by 12 percentage points for purchases from retailers located in the same country and by 21 percentage points for purchases from other EU states.

Although there has been much progress, the consumers are still facing obstacles trying to buy from online retailers based in another EU country: e.g. about 13 percent reported payments being refused and 10 percent noticed refused delivery of products to their country.

As for retailers, only 4 out of 10 of those currently selling online agreed to consider selling both domestically and across borders in the coming year. Many still have concerns about selling online in other countries because of a higher risk of fraud, differences in national tax regulations or national contract law rules, or differences in consumer rules.

The Commission is working on harmonizing modern digital contract rules for online sales of goods, and to promote access to digital content and online sales across the EU.

However, consumer rights are still low and uneven across the EU states, although consumers are becoming more aware of their rights (with an average level of 13 percent); although consumer conditions are generally better in northern and western EU countries than in eastern and southern states: e.g. about 95 percent of Finns complain when they encounter a problem, compared to only 55,6 percent of Bulgarians. Exposure to unfair commercial practices, such as the use of aggressive marketing techniques, also varies greatly: about 41 percent of Croatians are affected, in comparison to 3,4 percent of Austrians.

The retailers' knowledge of consumer rules hasn't improved during last two years: only about 53 percent acknowledged that the basic consumer rights were correct; however, the level of knowledge varies between countries: e.g. 36 percent of Croatian retailers knowing these rights compared to over 62 percent of retailers in Germany.

Some improvements in handling complaints have been noticed recently: on one side, consumers are finding fewer reasons to complain, on another – they are more satisfied with the ways the complaints are handled. However, almost one third of consumers decided not to complain, as they considered the sums involved were too small (34.6%) or that the procedure would have taken too long (32.5%).

[79] See, for example: http://europa.eu/rapid/press-release_IP-16-2931_en.htm

Hence, the Commission decided to improve the "Small Claims Procedures" to allow consumers to use a fast-track online procedure for claims up to €5,000. The Commission is also encouraging out-of-court settlements according to the Online Dispute Resolution, which offers easy online access to alternative dispute entities for online transactions[80].

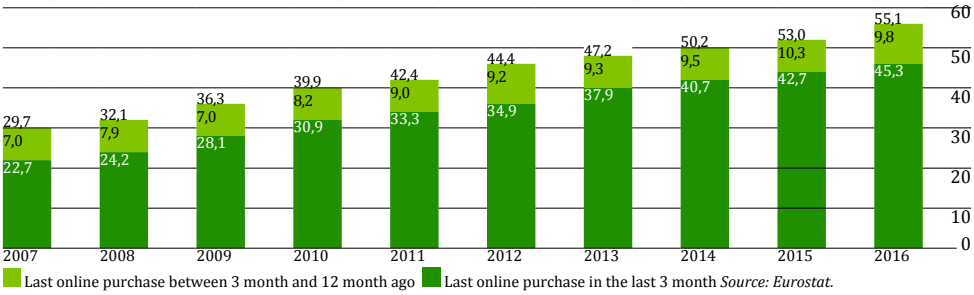


Fig. 4. Online shopping. EU-28 (% of population who ordered goods or services over the internet for private use in the last 12 months), 2007–2016.

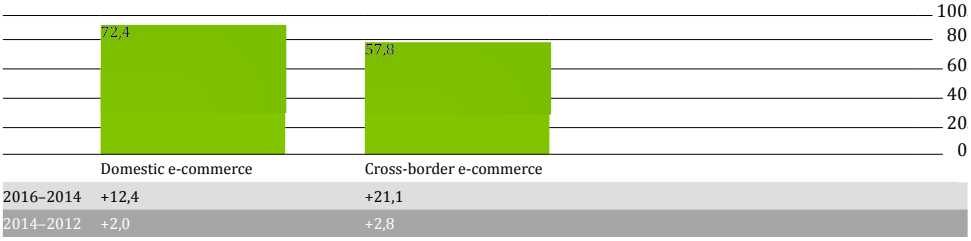


Fig. 5. Consumers' confidence[81].Consumers confidence in online purchase: % of persons confident buying online (from their own country and from other EU countries) EU-28, 2016 (%)

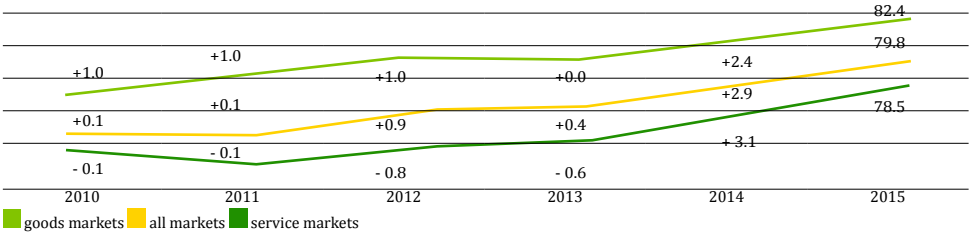


Fig. 6. Consumer Markets Scoreboard, 2016.

[80] More on information for consumers and traders in COVID-19 time in: https://ec.europa.eu/consumers/odr/main/index.cfm?event=main.home2.show&lng=EN

[81] More on consumers in the following web-links: = Report; = Factsheet; = Infographic; = Consumer Scoreboards; = Digital Single Market. Source: http://europa.eu/rapid/press-release_IP-17-2109_en.htm?locale=en

Fig. 7. Top and low performing markets for services and goods, respectively (out of 100 maximum points).

1.6.1. Business technology and teaching sustainability

The United Nations already in 2007 started to introduce the principles of "responsible management education" as a viable platform to elevate sustainability in education around the world, and to equip students with understanding of necessary changes; the initiative have been gaining momentum since. Later on, the initiative has coped with the 17 SDGs to provide graduates with the skills needed to balance economic growth and sustainability goals.

At the SDGs' inception in 2015, the optimism in implementing the goals had been quite high: world leaders thought that the simple adoption of almost perfectly "matching goals and actions" would lead to successful national policies. However, the developmental realities appeared to be rather different: hence, some challenges facing education policies are regarded as a vital instrument in sustainable transformation and recovery.

Higher education institutions in the world have shown extensive efforts in addressing the SDGs during last five years: a lot of changes have occurred in both the programs and the structures of a new and challenging theme: "teaching sustainability" in spite of all the complex and extremely broad concepts involved. For example, numerous education facilities in Europe and the world have been urgently integrating SDGs in the national education policies and universities' curricula regardless some very complicated and challenging circumstances. The education institutions are still facing problems in making necessary changes while trying to embrace all the SDGs and corresponding political-economic-technology issues in practical implementation. During the last decade – until the SDG-2030 deadline – both the education community and the national governance are supposed to redirect and install the most perspective and successful paths in sustainable transformations.

The disruption caused by pandemic lockdowns affected day-to-day university's work and research, but COVID-19's impact on all sectors of society has at the same time opened a "window of opportunities" for changes in research towards tackling societal challenges that require a longer perspective and an interdisciplinary approach.

The global sustainable agenda requires the states to take all necessary measures ("whatever it takes") to implement the UN sustainable development goals by 2030. Generally, these measures involve three spheres of national governance: *social, environmental and economic*; but

none of them could be effective without adequate reforms in existing national education and training policies.

Pressures have been mounting for changes in the perspective SDG-teaching sector, i.e. in particular in technology-engineering education; besides, academic communities worldwide favour radical changes in existing traditional programs' pedagogy to deliver on SDGs with adequate changes across all natural and social sciences' programs. The aim was to increase integration among disciplines and between the elements that students study as part of their degree programs. As a result, the integrated engineering programs are being launched to streamline SDG-project-based learning and integrated skills. Making widespread changes in establishing research-and-learning are being intensified in universities around the world; new programs are becoming a common trend and agenda within the European "universities-consortium" specializing in the SDGs issues.

Major challenges in teaching sustainability, TS

To be effective, the TS shall be included into countries' several educational levels: in schools, in colleagues and in higher education institutions. Teaching and training today's youth means providing contemporary skills to tomorrow's policy- and economy- decision makers, equipping them with necessary basic and specific knowledge on SDGs components in modernized national structural policies and recovery. Hence, the attention to some teaching parameters are needed: e.g. the sustainability as a specific profession (i.e. transforming SDGs into modern curricular); the implications for a "new type of teachers" (as TS needs additional knowledge for the instructors); and the teaching process implying both cross-sectoral approaches and new digital means.

The following are some of the issues to be taken into consideration:

= The subject matter: the success of implementing SDGs depends, first of all, at the ability at states' education policies to accommodate the SDGs within the existing educational processes. As soon as the TS is partially divided among several education levels both general and special, teaching and training SDGs involves providing necessary skills to both the decision makers, giving them necessary basic knowledge on modern technological revolution with a critical as well as system-thinking approach to complex socio-economic problems, and specialists in various socio-economic sectors. But existing education institutions and teaching methods shall be re-assessed fundamentally: higher education institutions shall teach the necessary skills for a sustainable growth; the teaching methods shall be adapted to the needed general and professional skills to practically implementing SDGs, and governance bodies shall know the ways to transform existing socio-economic policies.

Mentioned challenges require specific approaches to subject of TS: it could be, for example courses on a) sustainable and circular economy; b) on sectoral SDGs (like e.g. clean energy and transport, responsible consumption and production, sustainable cities and communities; sustainable industry and infrastructure, etc.), and c) on so-called "quasi-SDGs" directions, like reduced inequality, zero-hunger and gender equality.

Long-term professional and vocational education/training shall be additionally available through people's life span. All national middle- and high- education institutions shall provide valuable examples for teaching future decision-makers providing them with the necessary skills.

= The teachers: they are known as the most important resource in modern education processes, teachers can improve effectiveness, efficiency and equity of delivering knowledge; however, institutions have to ensure that very competent people are employed as teachers and that

their teaching is of high quality. Suffice it to say that in most countries, teachers' salaries and expenses represent the greatest share of expenditures on education.

Therefore "investment in teachers" is going to have significant returns: research shows that the best teachers can make a real difference in the learning systems and in the student's life's outcomes compared to otherwise similar occasions.

According to global Teaching and Learning International Survey (TALIS), teachers are not "interchangeable workers" in a kind of industrial assembly line; individual teachers can change lives – and better teachers are crucial to improving the education that schools provide. According to TALIS and PISA (Program for International Student Assessment), the "teacher-policy issues" deal with: a) selecting, evaluate and compensating teachers; b) education system's equity, and c) attracting and retaining talented people in teaching.

Academic professionals in network "*Higher Education Sustainability Initiative, HESI*" regard as an important step in global cooperation the "teaching SDGs" idea. The three educational organisations representing the Anglo-Saxon, Francophone and international universities' association are seeking to consolidate higher education's role in implementing SDGs, in creating new sustainable knowledge and innovation, in developing a generations of new leaders and skilled professionals who will implement SDGs ideas and concepts for the benefit of progressive socio-economic development in countries around the world.

= The process: the TS is a challenging "subject" because of the interdisciplinary nature of the SDG's issues: by the "nature of sustainability", the teaching process requires cross-sectoral and holistic knowledge; both components are quite rear in most universities. The initial SDG's idea during last five years has been a sort of the "Earth's salvation's" paradigm including all its elements, both natural and social, which has become a tremendously complicated task to perform in teaching. Thus in the TS's process, instructors are often facing the need to dwell into uncharted waters of other scientific fields - natural, technical and social. Hence, any TS's qualification needs interdisciplinary approach.

As soon as sustainable growth becomes a critically urgent concept in the states' governance theories, on the win-win situation shall be economically feasible approaches and solutions. However, most of the educators/teachers are still in the linear market economy practice, which do not allow for revolutionary approaches to modern SDGs.

Presently, some *new forms of teaching and learning are necessary* that can help students deal better with the SDGs complexity, ambiguity and uncertainty, with the new values and moral dilemmas. For example, in line with the breaking the "business-as-usual" approaches, the SDGs are already challenging the "education-as-usual" concept.

Therefore, new approaches to SDGs-learning/teaching parameters are becoming a must reflecting a new type of a "journey together", generally, through the so-called new "social contract". The latter implies that in making living places healthy (which is "sustainable" in modern meaning) the growth perspectives can be achieved only through circular, green and bio-economies with the political guidance on the global climate goals. The task is difficult but not impossible: all that could be done using most advanced science, technology and innovation achievements with a due regard to welfare conditions for present and future generations.

It is obvious that present development sectors in most states are not sustainable: hence, each region, country and community has to make their own SDG-strategies.

However, teaching SDGs shall have some common denominators: e.g. in *energy sector* - on renewable energy and energy efficiency, in *transport sector* – on non-polluting transportation means, in *economics* – on sustainable development and circular economy, etc. while adding some other parameters, like welfare and learning by good examples, etc.

Presently, the TS is entering universities in various ways: as a rule, through already existing departments and faculties, i.e. often by just adding "sustainability" to their titles with introduction of general-type SDG courses for B.Sc. and M.Sc. levels geared for the faculty's business and social studies. For example, so far, in most EU states the B.Sc. is awarded in the areas of natural sciences, humanities, business and engineering sciences, mathematics and informatics, but not in SDGs. Denmark seems to be in the TS' forefront: one of the Danish University in the south, SDU expected to start in 2020 M.Sc. studies in all 17 SDGs, the process that "represents the SDU's fundamental transformation". More important is that high- education institutions shall provide the graduates (i.e. the future national decision-makers) with valuable tools and necessary skills to "govern and manage SDGs".

The UNESCO, as a global education organisation, has already included TS in its priorities by assisting teachers worldwide both in understanding the SDG's concepts and in learning to cope with the SDGs interdisciplinary inclusion into established curricula.

The UNESCO's program on *Teaching and Learning for a Sustainable Future* is a timely response to global TS challenges; the program is presently available for teachers in the world. However, the current curricula are already exhausted and packed; hence several questions remain: how can higher education institutions make the necessary changes, and to what extent do the SDGs need to be addressed in the curricula, etc.?

World Sustainable Development Teach-In Day 2020 is an example of the *Global Movement on Sustainable Development Action. This* online event aims at accelerating progress towards achieving the SDGs at the grassroots level by focusing on sustainable education *to infuse sustainability thinking* into current education systems and inspiring students by both reorienting educational practices and equipping teachers with solid, hands-on knowledge about the SDGs so that they can integrate this into their curriculum and teaching processes.

Social and economic structures are rapidly and dramatically transforming (in particular, during the recent pandemic crisis) and so are most of the peoples' physical and cognitive structures, with an increasing pace being based on specific algorithms. Traditional education process from learning to working (with some intermediate vocational training) is at present rapidly changing by advancements in almost all science and technology sectors. That makes a "final permanent education" obsolete, followed by huge uncertainties in the new skills at the same time.

Hence, two main models may appear in TS: a *general one*, including resilience's theories; and a *special one*, including practical implementation of sectoral SDGs alongside the 17 goals. Hence, the TS-sector is apparently entering the uncharted waters, while forming an integral part of a new "resilient political economy" in all countries!

Most educators assume that specifics in TS are in technologies; this sounds true as most of the SDGs are actually grounded in the achievements in modern science and technologies.

European initiatives in TS. The European Commission proposed recently three initiatives:

1. **Recommendation on Key Competences for Lifelong Learning was basically adopted already in** 2006 and since then was numerously updated reflecting rapid evolution of teaching and learning. In essence, it aims to improve the development of peoples' key competences through their lives and to provide guidance to the states on how to achieve this objective.

A particular focus is placed on promoting entrepreneurial drive and innovation-oriented mindsets in order to unlock personal potential, creativity and self-initiative. Moreover, it recommends some steps to foster competences in science, technology, engineering and mathematics (STEM) and motivates more young people to embark on a career in these fields. More

generally, the measures will support the EU states in better preparing learners for changing labour markets and for active citizenship in more diverse, mobile, digital and sustainable societies.

2. The **EU's Digital Education Action Plan, which** outlines measures in assisting educational institutions and systems in adapting to life and work in an age of rapid digital change by: a) making better use of digital technology for teaching and learning; b) developing the digital competences and skills needed for living and working in an age of digital transformation; and c) improving education through better data analysis and foresight.

Plan's initiatives include supporting schools with high-speed broadband connections, scaling up a new self-assessment tool for schools on the use of technology for teaching and learning. The plan underlines importance of digital aspects in TS education as well. *However, digital skills' gap is still big in the EU-27: already 90 percent of future jobs would require some level of digital literacy; at the same time 44 percent of Europeans lack basic digital skills. The EU "digital education plan" will help European educational institutions to better adapt to life and work in increasingly digital societies.*

3. **Recommendation on common values, inclusive education and the European dimension of teaching: the** initiative proposes ways in which education can help young people understand the importance of adherence to "common European values". It aims at strengthening social cohesion, green and sustainable transformations, as well as combating rising populism, xenophobia and divisive nationalism. To support these aims, the EU will increase virtual exchanges among schools, notably through the ***e-Twinning*** network, and boost students' mobility through ***the Erasmus+*** program.

However, the EU measures towards increasing TS' efficiency are quite mild, which is leading to a low level of social and corporate appreciation of implementing SDGs. Thus so-called "significant and moderate progress" towards achieving SDGs during first five years in the EU-27 member states has been achieved only in SDGs-3 (health and wellbeing), SDG-13 (climate actions) and SDG-15 (life on land); all other SDGs are in the ranks of "insufficient progress".

Some specialized sustainability training programs for professionals are becoming a "new normal" in Europe; e.g. a collaborative initiative between CSR Hellas, the Alba Graduate Business School, ACG, and the University of Crete provides the participants with the tools to identify sustainability-related business opportunities and make responsibility part of the core business strategy. For a second year, a month's course delivers up-to-date knowledge on all major areas on responsible management in sustainable growth through lectures, case studies, and best practices[82].

A coordinated EU industrial strategy is a key for European states in using economic and technological potential to successfully recover from the unprecedented economic collapse caused by the COVID-19 pandemic through promotion of the green and digital transition, and further strengthening cross-border industrial cooperation to pave the way for large industrial projects. At the same time, there are some challenges in the transition: e.g. risks of carbon and investment leakage as well as distorted level playing fields due to foreign subsidies and state-owned enterprises, etc. The Commission has announced a revision of the industrial strategy in the first half of 2021 to seize the opportunities and addressing issues that are currently not sufficiently taken into account[83].

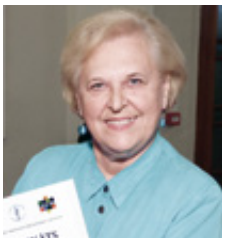
[82] More in: https://csr-school.eu/
[83] Source: BusinessEurope-2020 website.

Chapter II
Challenges In Changing Latvia

Chapter II includes research papers on challenges to the sustainability of Latvia and the potential solutions in the fields which scientists from the LAS and Latvia University of Life Sciences and Technologies (LLU) worked on: the knowledge economy; digitalization of small and medium enterprises; employment; the bioeconomy and the circular economy as elements of a green economy; education and digital competences. The key field researched by researchers from the University of Latvia (LU) was population aging and stratification that involved a wide spectrum of research problems: social protection and income inequalities; evidence-based decision-making in social sustainability policies; various aspects of pension system enhancement; regional stratification and its impact on municipal development; promotion of public participation in public administration decision-making; development of social entrepreneurship aimed at marketing competence and recognition in society; contributions of professional education towards the reduction of inequality and towards business innovation, growth potential for seafood and related employment in the Baltic Sea Region; economic consequences of populism and misconceptions. The research fields for a team of researchers from Riga Stradins University (RSU) were as follows: entrepreneurship, income and risk management in the contexts of value and social security; the results were reported in a paper that analysed also the support provided to the population during the Covid-19 pandemic (the paper was also based on an analysis of data from a nationally representative survey of the Latvian population, see Annex 1).

1. Knowledge Economy

Growth of the Knowledge Economy and the Effect on the National Economy



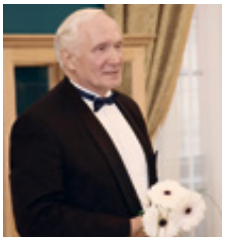
Baiba Rivža, Dr. habil. oec., LLU professor, leading researcher

Maiga Krūzmētra, assistant professor emeritus, researcher

Laura Jeroščenkova, Dr. oec., LLU researcher

Elita Jermolajeva, Dr. oec., LLU leading researcher, visiting professor

Dace Štefenberga, LLU Ph. D. candidate, researcher



Pēteris Rivža, Dr. habil. sc. ing., LLU professor, leading researcher

It is important to emphasize that the INTERFRAME-LV project consecutively continues the research on the knowledge economy initiated in research projects under the national research programme EKOSOC-LV (2014–2018), purposefully examining in dept the international dimension and the long-term development issues of Latvia in the European and the global contexts and at the same time shaping an understanding of the interconnection with and impacts of sustainability on a global, European, Baltic and national scale.

The growth of the knowledge economy sector in the 21st century is viewed as a new pattern of economic growth that emphasizes the crucial dependence of the economy on knowledge, information and a high level of skills. The knowledge-based economy (KBE) refers to high technology (HT) and medium high technology (MHT) industries, as well as knowledge-intensive services (KIS) industries. Growth in the knowledge economy contributes to the restructuring of the economy as a system. An economy functioning in a country, region and a municipality is a system comprised of industries and economic sectors. Structural changes across sectors and

industries in the economic system reflects the potential directions of economic development for a territorial unit and indicates the objectives to be achieved primarily (Hartwig, J. 2010; Lankauskiene T., 2015; Sipilova V., 2015; Campligio E., 2014). The main desired benefit of structural change is an increase in the productivity of economic activity (Vu K. M., 2017; Padilla-Perez R, Villareal F. G., 2017). The research studies conclude that quantitative and qualitative growth does not occur simultaneously – first, quantitative growth is observed, and only after some time qualitative changes begin and develop (Chen S., Jeffersen G. H. and Zhang J., 2011).

The knowledge economy, together with the processes of and challenges to its formation and functioning, has become an important field of research worldwide. Rural communities therefore need to engage in the knowledge economy in order to take full advantage of research and development. Rural businesses of all kinds and sizes need to have access to appropriate technologies, the most modern connectivity and new governance tools to deliver economic, social and environmental benefits (CORK 2.0 Declaration 2016).

NACE Rev. 2 – the Eurostat methodology for classification of industries – and the Latvian Bioeconomy Strategy 2030 for the classification of bioeconomy industries were used to analyse the knowledge economy. Data from Lursoft and the Central Statistical Bureau of Latvia for the period 2009–2019 were used as information sources.

1.1. Structural changes in the HT and MHT segment of the knowledge economy

The changes that occur in the economy could be assessed: between sectors, within sectors, i.e. between sectoral industries, including changes in the specializations of sectors and industries (Palan N., 2010).

In the period from 2009 to 2019, according to statistical data, there has been a significant increase of economic activity both nationally and regionally. The number of economically active enterprises in the economy has increased, yet the growth of the knowledge economy segment was even more significant (Table 1.1).

Table 1.1. Growth in the knowledge economy segment and in the whole economy in 2009–2019

Region	Increase in the number of enterprises in the economy, %	Increase in the number of enterprises in the knowledge economy segment, %	Difference, % points
Latvia	134.0	196.2	62.2
Riga	142.4	190.8	48.4
Pieriga	386.9	693.4	306.4
Vidzeme	223.2	561.8	338.6
Kurzeme	99.4	123.9	24.4
Zemgale	155.7	253.4	97.7
Latgale	96.0	191.3	95.3

In the period 2009-2019, as shown in Table 1.1 and Figure 1.1, changes occurred in the knowledge economy, incl. in the segment of high and medium high technology. At the same time, structural changes occurred in this segment. Growth in the bioeconomy and the production of innovative equipment tended to increase. The segment of high and medium high technology tended to expand spatially: not only in the municipalities where it has been present since 2009 but also in the new municipalities where it has not existed before. In summary, the segment of high and medium high technology tends to develop structurally and expand spatially.

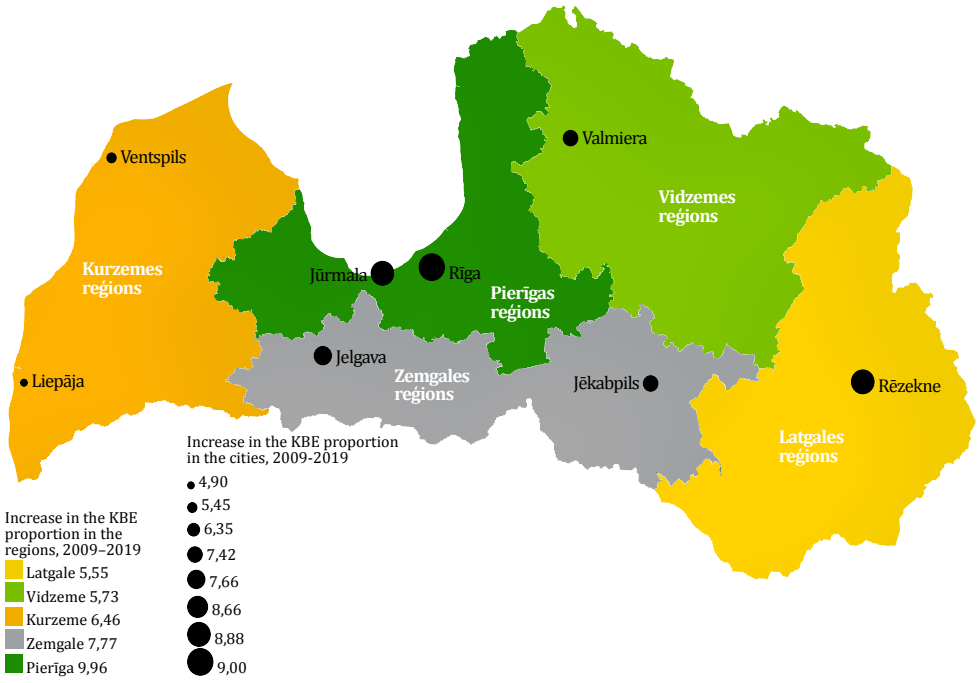


Fig.1.1. Growth in the knowledge economy segment and in the national economy in the regions and in the cities of national significance of Latvia in the period 2009–2019.

Growth in the economy also leads to changes in employment. The country is an area comprised of both urban and, in a broader perspective, rural areas, and changes in employment could be used to assess the growth of economic activity everywhere. In 2019 compared with 2009, the number of employees in all economically active enterprises increased by 134.03% nationally, in nine cities of national significance by 138.9%, while in the rest of the country by 128.2%. In the same period, however, an increase in the number of employees in the knowledge economy segment showed even more positive trends: employment increased by 196.0% nationally, in the nine cities by 187.6%, while in the rest of the country with the former 110 municipalities by even 217.6%. This confirms an assumption that the knowledge economy segment in Latvia tends to expand not only in the cities but also elsewhere (Figure 1.1.).

The involvement of the rural population in innovative economic activity is increasingly being discussed by EU regional and rural development authorities, as approximately 50% of the territory belongs to and around 20% of the population live and work in an area with a gross domestic product (GDP) significantly below the EU average (EU, Rural Development). To a large extent, this also relates to the territorial and population division in Latvia. Therefore, changes in the economic system outside the cities of national significance are an important phenomenon that contributes to the sustainability of the socio-economic development of this area.

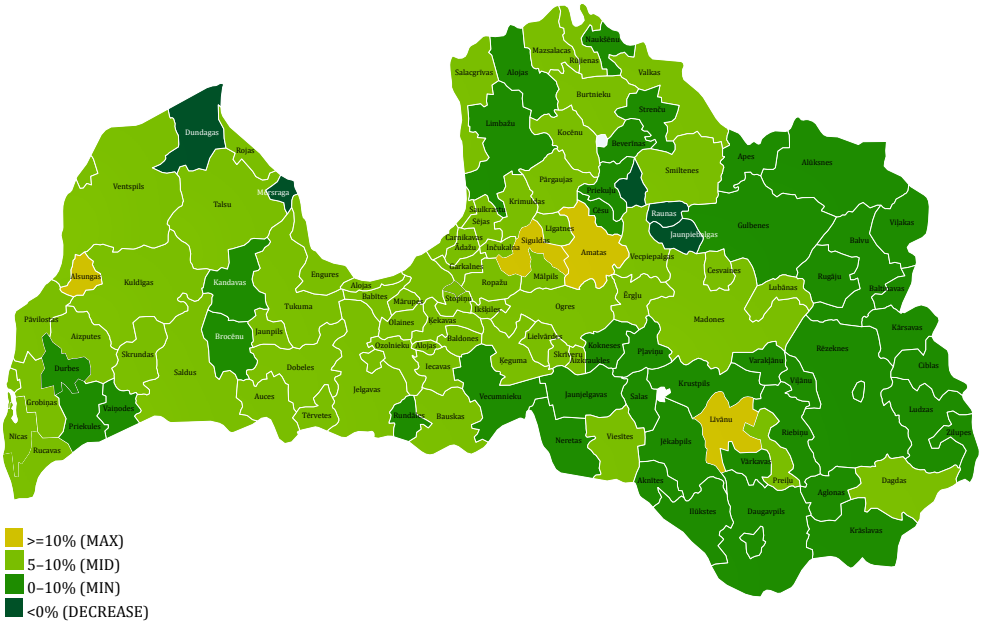


Fig.1.2. Changes in the number of market sector economically active enterprises in the statistical regions and municipalities by size of enterprises in terms of employment and by main kind of activity (NACE Rev. 2) in the period 2009–2019.

The number of market sector economically active enterprises increased the most in Pieriga region during the analysis period, whereas the least in Latgale region, which corresponded to the overall development trends in the regions of Latvia. The results of an in-depth analysis of this indicator for the regions of Riga, Pieriga, Vidzeme, Kurzeme, Zemgale and Latgale are shown in Figures 1.3–1.7.

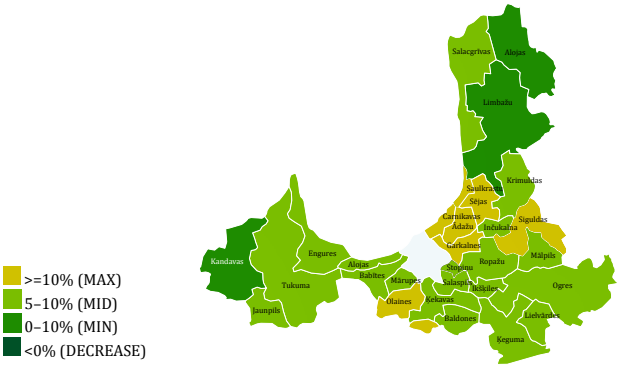


Fig.1.3. Changes in the number of market sector economically active enterprises in Pieriga region by employment and by main kind of activity (NACE Rev. 2) in the period 2009-2019.

As shown in Figure 1.3, in Pieriga region the largest increase in the number of market sector economically active enterprises in 10 years was reported in 9 municipalities (over 10%), in 14 municipalities the increase ranged from 5 to 10%, and in 3 municipalities it was up to 5%.

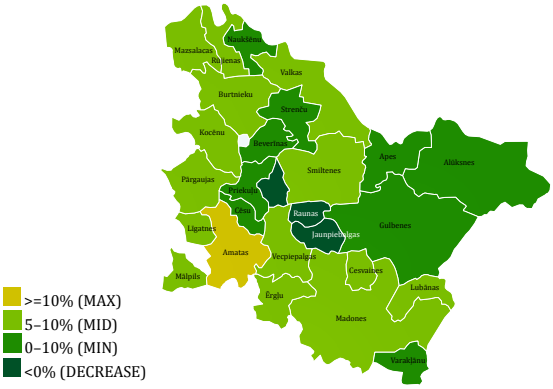


Fig.1.4. Changes in the number of market sector economically active enterprises in Vidzeme region by employment and by main kind of activity (NACE Rev. 2) in the period 2009–2019.

In 10 years in Vidzeme region, the largest increase in the number of market sector economically active enterprises was reported only in Amata municipality (over 10%), in 5 municipalities it was in the range of 5-10%, in 9 municipalities – up to 5%, whereas in 2 municipalities it decreased (Figure 1.4.).

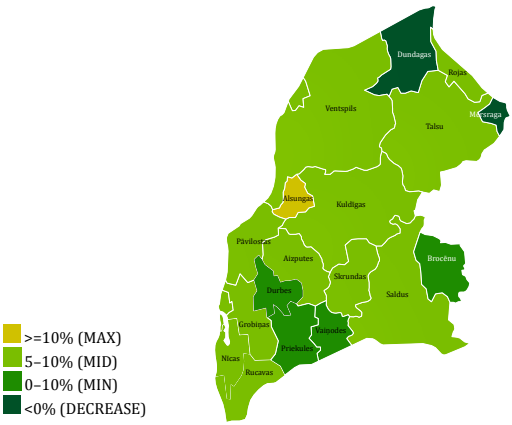


Fig.1.5. Changes in the number of market sector economically active enterprises in Kurzeme region by employment and by main kind of activity (NACE Rev. 2) in the period 2009–2019.

In 10 years in Kurzeme region, the largest increase in the number of market sector economically active enterprises was reported in Alsunga municipality (over 10%), in 11 municipalities it was in the range of 5-10%, in 4 municipalities – up to 5%, whereas in 2 municipalities it even decreased (Figure 1.5.).

Fig.1.6. Changes in the number of market sector economically active enterprises in Zemgale region by employment and by main kind of activity (NACE Rev. 2) in the period 2009-2019.

In 10 years in Zemgale region, the largest increase in the number of market sector economically active enterprises was reported in Ozolnieki municipality (over 10%), in 9 municipalities it was in the range of 5-10%, while in the other 10 municipalities – up to 5% (Figure 1.6.).

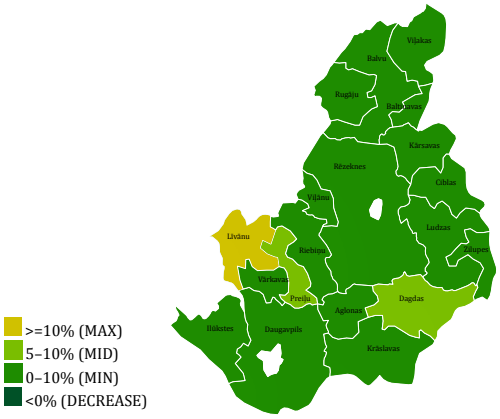


Fig.1.7. Changes in the number of market sector economically active enterprises in Latgale region by employment and by main kind of activity (NACE Rev. 2) in the period 2009-2019.

In 10 years in Latgale region, the largest increase in the number of market sector economically active enterprises was reported in Livani municipality (over 10%), in Dagda and Preili municipalities it was in the range of 5-10%, while in the other 16 municipalities – up to 5% (Figure 1.7.).

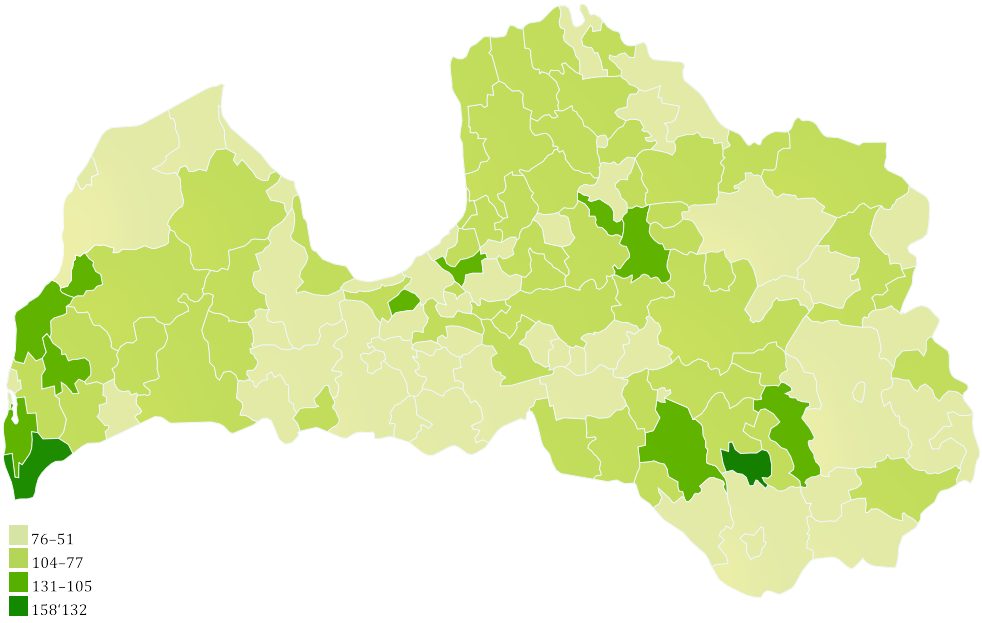


Fig.1.8. Number of market sector economically active enterprises per 10000 capita in 2019. Total enterprises in 2019.

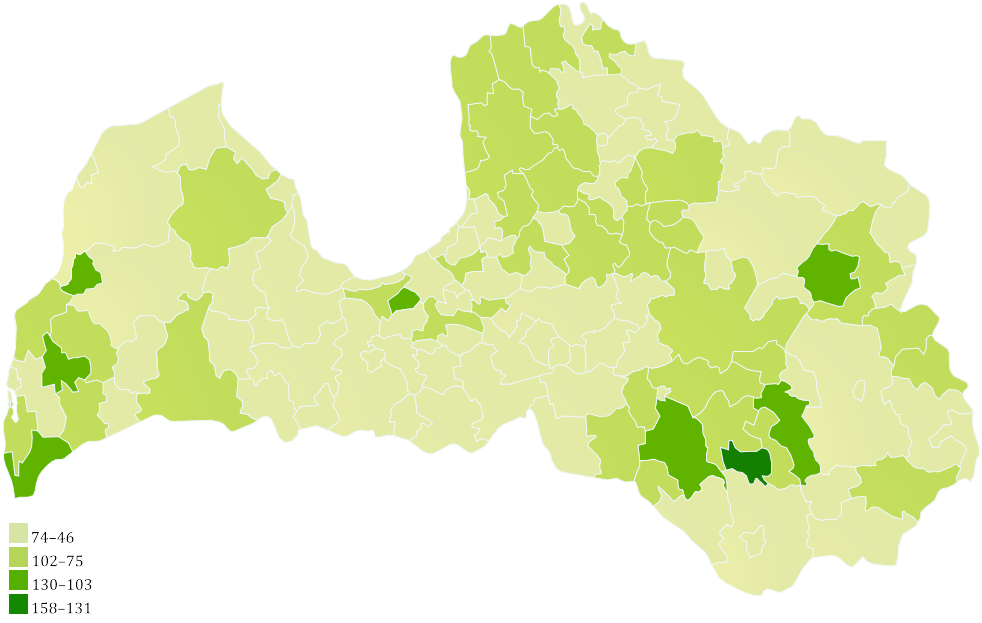


Fig.1.9. Number of market sector economically active enterprises per 10000 capita in 2013. Total enterprises in 2013.

Figures 1.8. and 1.9. show that in 2019 compared with 2013, the number of market sector economically active enterprises per 10000 inhabitants in municipalities increased, especially in the municipalities of Kurzeme and Vidzeme regions.

Furthermore, not only the pace of economic change was unequal but the changes were also different structurally in various parts of the country.

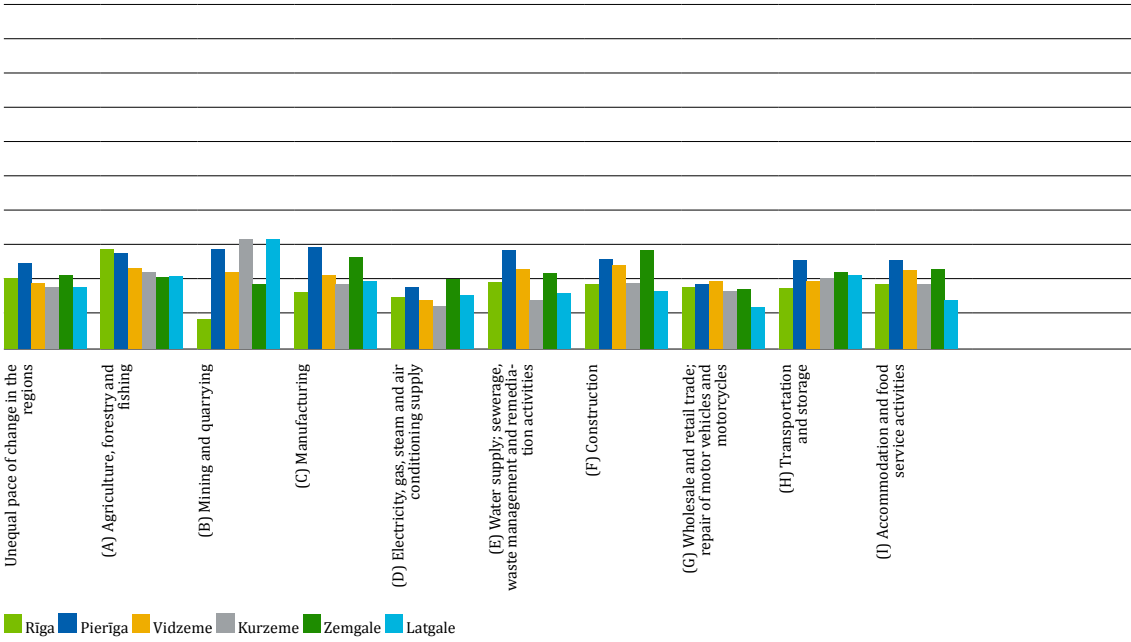


Fig.1.10. Growth in employment by NACE Rev. 2 section and by region, %.

The NACE Rev. 2 classification of economic activities include nineteen sections that represent the main kinds of economic activity (Figure 1.10.). After analysing economic growth nationally and regionally, several conclusions could be drawn. Most importantly, the pace of growth in any main kind of economic activity differed in comparison with the other main kinds of economic activity, as well as the differences were observed regionally.

In Riga region, an increase of over 100% was reported for 8 main kinds of economic activity, in Pieriga region for 15, in Vidzeme 10, in Kurzeme 7, in Zemgale 11 and in Latgale for 8. In total, 9 main kinds of economic activity could be highlighted nationally, which was fully reflected in the dominance of Pieriga region and indicated the strong interaction between Riga as the capital city and Pieriga region as an area adjacent to the capital.

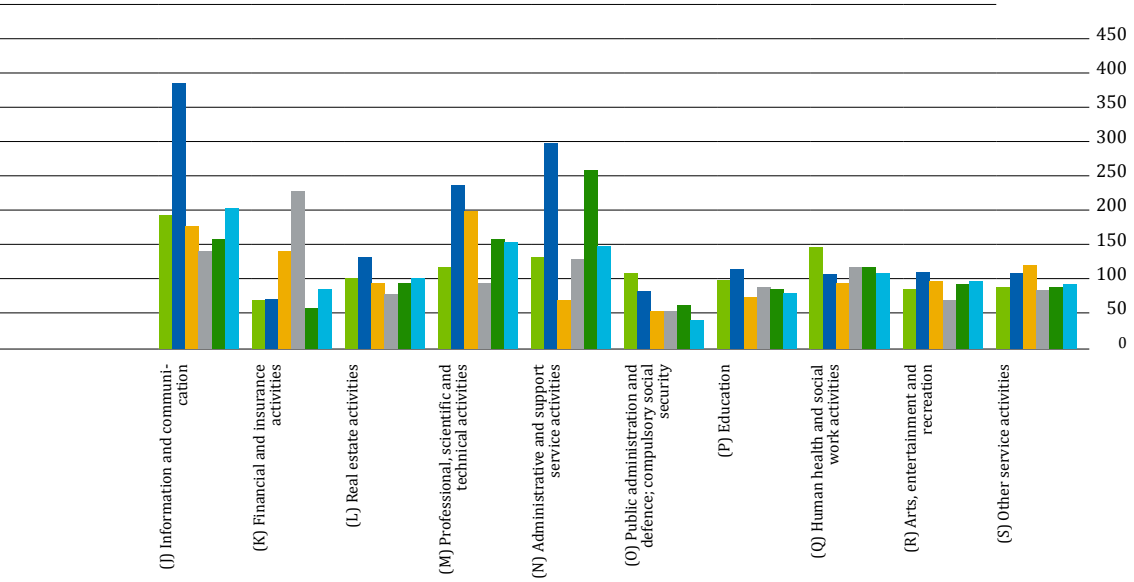


Table 1.2. Dominant main kinds of economic activity in terms of employment growth (NACE Rev. 2) in the country

Region	Fastest-growing main kinds of economic activity in 2009-2019
Riga	(J) Information and communication (Q) Human health and social work activities (A) Agriculture, forestry and fishing
Pieriga	(J) Information and communication (N) Administrative and support service activities (M) Professional, scientific and technical activities
Vidzeme	(M) Professional, scientific and technical activities (J) Information and communication (K) Financial and insurance activities
Kurzeme	(K) Financial and insurance activities (B) Mining and quarrying (J) Information and communication
Zemgale	(N) Administrative and support service activities (J) Information and communication (M) Professional, scientific and technical activities
Latgale	(J) Information and communication (B) Mining and quarrying (M) Professional, scientific and technical activities
Latvia as a whole	(J) Information and communication (N) Administrative and support service activities (M) Professional, scientific and technical activities

The data clearly indicate disparity in the pace of structural change and also the fastest-growing kinds of economic activity; during the analysis period, they were: (J) Information and communication and (M) Professional, scientific and technical activities. Consequently, disparity in growth across different kinds of economic activity led to structural changes in the economic system at both the national and the regional levels.

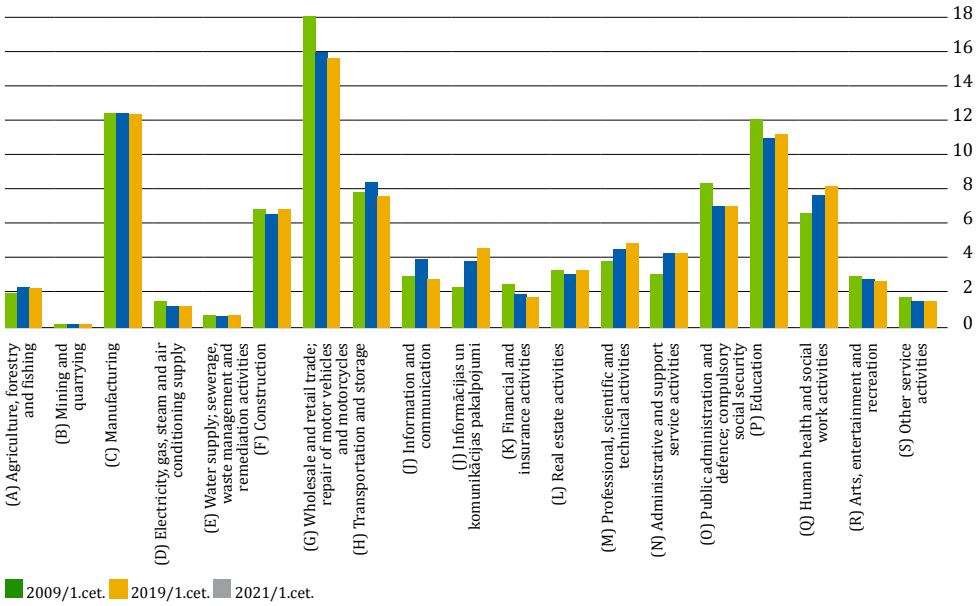


Fig.1.11. Structural changes in the economic system in the period 2009/Q1–2012/Q1.

An analysis of the data clearly indicates the structural changes in the economic system of the country over the last decade. There are segments whose proportion of employees in total employment increased and segments that showed a decreasing trend. The proportion increased for the following: (J) Information and communication, (M) Professional, scientific and technical activities, (N) Administrative and support service activities and (Q) Human health and social work activities. This was due to, as mentioned above, the faster growth of employment in the segments, which in turn was fostered by global changes. At the same time, a decrease in employment during the analysis period was reported for the following key segments of the economy: (G) Wholesale and retail trade; repair of motor vehicles and motorcycles, (H) Transportation and storage, (K) Financial and insurance activities, (O) Public administration and defence; compulsory social security and (P) Education. The changes identified raise the question of the extent to which both society as a whole and the population groups representing the profession, as well as the institutions representing the state, have been prepared for the changes.

Since unbalanced growth and structural shifts occur not only in the entire economic system but also in each of the system segments, the research performed an analysis of the knowledge economy segment, the importance of which has already been emphasized.

Table 1.3. Growth and structural changes in the knowledge economy segment in the period 2009-2019

Proportion of knowledge economy segment	High and medium high technology enterprises	Knowledge-intensive service institutions	1	2	3	4	Knowledge economy segment
2009	482	23798	2546	11356	1612	8283	24279
Proportion, %	2.0	98.0	10.7	47.7	6.8	34.8	100.0 %
2019	925	46710	7330	20744	2393	16243	47210
Proportion, %	1.94	98.06	15.4	43.5	5.0	34.1	100.0 %
2009/2019							
Growth, %	191.9	196.4	287.9	182.7	148.5	196.1	194.4 %

An analysis of the components of the knowledge economy segment gives two insights: growth and structural change. In terms of proportion, the services sector grew faster than the manufacturing sector. The focus was placed on four segments of services: 1) information, communication and scientific activities; 2) professional, technical administration and support services, transport; 3) financial and insurance activities; and 4) education, human health, social work and other service activities (culture, sports, entertainment). In the services sector, the first segment of knowledge-intensive services, which includes information and communication services and scientific activities, showed the fastest growth and the largest structural change, thereby indicating the growing importance of this segment.

In terms of growth, the fourth segment of knowledge-intensive services, which includes elements of wellbeing such as education, health care, social services and recreational activities – culture, sports or just entertainment – took second place. An analysis of the proportion of knowledge-intensive services provided by institutions revealed that the second segment dominated, which most directly relates to support service activities needed for any kind of economic activity. According to a cluster analysis performed in 2017, the smaller the proportion of the knowledge economy segment in an administrative territory, the lower the level of wellbeing in the territory (Rivza B. et al., 2020).

The role of the knowledge economy segment in successful development of the economic system has long been a matter of extensive scientific discourse, yet recently, with the expansion of digitalization, the role of the information and communication technology (ICT) segment in boosting economic activity increased significantly. It requires innovative technologies, a higher qualification workforce, as well as introducing new forms and techniques of service provision in practice.

Table 1.4. Growth and structural change in the ICT segment in the period 2009-2019

	Total number of enterprises	ICT segment	Proportion, %	Total number of enterprises	ICT segment	Proportion, %	ICT segment growth, %
Latvia	128609	11233	100.0 %	172382	16269	100.0 %	144.8 %
9 cities	69942	9003	80.1 %	97183	12231	75.2 %	135.9 %
110 municipalities	58677	2230	19.9 %	75199	4038	24.8 %	181.1 %

The results of the analysis clearly revealed growth and structural changes in the ICT segment of the economy. Most importantly, growth in the segment of information and communication services outside the cities of national significance was reported, which is a hopeful confirmation of balanced development the economy, incl. the knowledge economy, throughout the country, not only in the metropolitan area. Growing economic activity outside the country's major cities creates favourable conditions for the green and digital transformations – the main priorities of the EU's new industrial strategy (EC 2020 New...).

1.2. Innovation in Latvia and the knowledge economy

Innovation plays an important role in the development of the knowledge economy. Unfortunately, Latvia cannot be proud of its excellence in innovation. This is also indicated by the European Innovation Scoreboard 2021 (EIS 2021). The European Innovation Scoreboard 2021 aims to assess the situation with innovation in Europe to support the designing and implementation of innovation-oriented policies in the EU Member States. Innovation is also linked to the economic recovery following the Covid-19 pandemic.

The European Innovation Scoreboard 2021 (EIS 2021) is based on 32 indicators grouped into 4 types of activities and 12 innovation dimensions.

1. **Framework conditions** (human resources; attractive research systems; digitalization).
2. **Investments** (finances and support; strong investment; use of information technology).
3. **Innovation activities** (innovators; links, intellectual assets).
4. **Impacts** (impact on employment, sales impact, environmental sustainability).

Based on the methodology of the European Commission and using statistical data, the Summary Innovation Index is calculated for each EU Member State (EIS 2021). According to the index, all EU Member States were divided into 4 performance groups in 2021.

The **1st performance group**: Belgium, Denmark, Finland and Sweden were **Innovation Leaders** with innovation performance well above the EU average (>125 %).

The **2nd performance group**: Austria, Estonia, France, Germany, Ireland, Luxembourg and the Netherlands were **Strong Innovators** with performance above the EU average (100 %–125 %).

The **3rd performance group**: Cyprus, Czechia, Greece, Italy, Lithuania, Malta, Portugal, Slovenia, and Spain with performance below the EU average (70 %–100 %). They were **Moderate Innovators**.

The **4th performance group**: Bulgaria, Croatia, Hungary, Latvia, Poland, Romania and Slovakia were **Emerging Innovators** with performance well below the EU average (< 70 %).

Figure 1.12 shows the distribution of EU Member States by innovation index. The columns of the first group are painted dark green; the second group is light green, the third group is yellow and the fourth group is red. Blue refers to the EU average innovation index. The first and second groups of Member States were leaders in innovation, mainly in Northern and Western Europe, with the exception of Estonia. The third and fourth groups included the Member States of Southern and Eastern Europe.

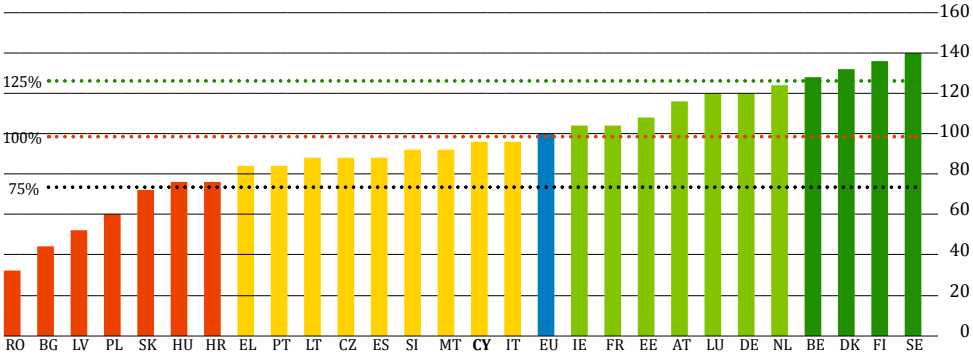


Fig.1.12. Summary Innovation Index for EU Member States in 2021.

Latvia significantly improved its ranking in the innovation index until 2020, yet its ranking decreased in 2021 (Figure 1.13).

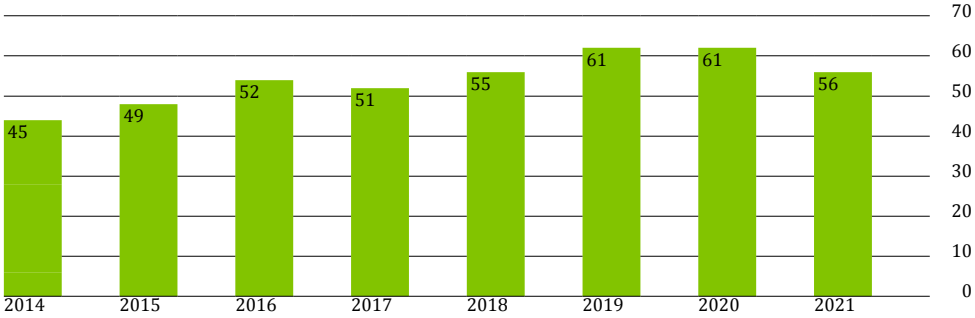


Fig. 1.13. Summary Innovation Index for Latvia in the period from 2014 to 2021 compared with the EU average performance in the same year.

The strengths of Latvia in 2021 were the use of information technology, human resources and digitalization. The top three indicators represent the number of people with higher education, trademark applications and the provision of ICT training for businesses. The relatively significant decrease in innovation performance between 2020 and 2021 was the result of a considerable decrease in venture capital investment (from 0.215% to 0.019% of GDP) and a decrease in environmental technology development (from 12.4 to 5.1).

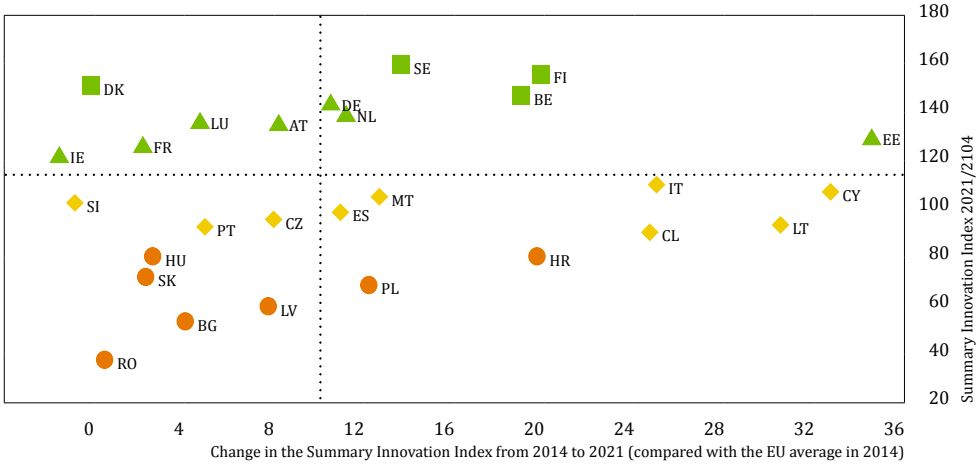


Fig. 1.14. Changes in innovation performance in EU Member States.

In Figure 1.14, the vertical axis shows the performance of the Member States in 2021 compared with the EU average in 2014, while the horizontal axis shows the change in performance from 2014 to 2021, the dashed lines show the corresponding EU averages.

In 2021 compared with 2020, 20 Member States improved their rankings in the index, in particular Estonia (20.9% points) and Cyprus (15.6% points), yet the performance of seven Member States decreased: Portugal (-8.2% points), Latvia (-5.5% points), Ireland (-3.2% points), the Netherlands (-2.5% points), France (-2.1% points), Luxembourg (-1.2% points) and Slovakia (-0.6% points).

1.3. Innovations and the knowledge economy in Kurzeme region

The creation, dissemination and use of knowledge is one of the major challenges in this dynamic period of change in a global context. With the Fourth Industrial Revolution, the knowledge economy has caused significant changes in human resource habits, economic transformation, society and the functioning of countries. Every year, the European Commission publishes the European Innovation Scoreboard (EIS), which groups the EU Member States according to their innovation performance. As previously emphasized, according to the EIS 2021, the Baltic States had different rankings: Estonia was a strong innovator, Lithuania was a moderate innovator, while Latvia was only an emerging innovator.

Several important questions need to be answered at various levels: why the growth rate of innovative activity in Latvia has not been higher and sufficiently high in the most important segments of the national economy affected by the processes of change in the world and the country; did the process of innovative activity reduce inequality in the rural areas of the country. A further analysis of the process and answers to the questions are important for the development of the knowledge economy and innovation in Latvia. Kurzeme region has been selected for an in-depth analysis.

1.3.1. Innovations and their role in the development of the knowledge economy and entrepreneurship

The knowledge economy is based on the creation and dissemination of knowledge in the economy. Innovation is a major driver of knowledge creation. Innovation as a phenomenon has been researched quite extensively in recent decades, and Joseph Schumpeter's term "creative destruction", which refers to technological change in a product or service, has since returned to the original concept of innovation as a change (Scharmer, 2018) in organizational structure, governance and society.

Innovation could be classified into several kinds, yet all of them have one thing in common – something new is created and introduced. The various kinds of innovations are introduced at high-tech, medium-high-tech and knowledge-intensive service enterprises. The innovation process is accelerated by the impact of the current global pandemic, which is restructuring the application of governance principles in the e-environment and across various platforms, which requires the platforms to be adapted to the strategic needs of enterprises and the needs of their employees.

The concept of system innovation is evolving – multidisciplinary innovation (Kemp, 2010) –, which means that a number of institutions (business, academic and administrative), industries and their resources are involved in the creation and dissemination of knowledge.

Partnership at the local level is more transparent and credible (Knoben, Bakker, 2019). Any emerging innovation is based on knowledge and its dissemination at the institutional level or within an industry (Gaynor, 2002), market dynamics and the product life cycle (Sarkar, 2007), co-creation in the field and source contexts (Yoon, Kim, Buisson, Philips, 2018; Scharmer, 2018). Knowledge innovation involves learning by doing (Andersson & Karlsson, 2004; Partanen, 2017; Nuscheler, Engelen, Zahra, 2019), mindset transformation, learning organizations (Bouwer, 2015). The places where learning organizations, universities and research institutions are concentrated could be defined as home to systemic innovation. The implementation of innovative entrepreneurship is different from conventional entrepreneurship. A summary and a comparison of them are presented in Table 1.5.

Table 1.5. Comparison of conventional and innovative entrepreneurship in the knowledge economy context

Factors	Conventional entrepreneurship	Innovative entrepreneurship
Organizational structure	Sectoral, functional organization	Innovative project-oriented organization
Management style	Task-oriented	Balanced goals and more involvement of the organization's employees
Financial management	Internal resources or borrowed capital	Venture capital, business angels
Human resource management	Management	Leadership
Essential resources	Material and technological resources	Ideas, creativity, knowledge
National support	Tax policy, the entrepreneurial environment	National support programmes (business incubators) for innovative entrepreneurship
Trends in spread	Globalization	Localization

Source: authors' own compilation based on Karlsson& Andersson, 2004; Edquist et al., 2011; Konon Fritsch, Kritikos, 2019

Table 1.5 shows the differences, which are not the only ones that indicate that an enterprise belongs to the category of innovative enterprises. Innovative enterprises contribute to the development of the knowledge economy. The term start-up has emerged. At the initial stages of the development of this term, a start-up was understood as a small technology enterprise, while now the definitions of it already include creativity, an entrepreneurial mindset and the entrepreneurial *soul* at the level of feelings (Gulati, 2019). Start-ups face significant risks in acquiring resources, especially if the resources are maintained by external, much stronger, partners (Knobben, Bakker, 2019). The ability of entrepreneurs to adapt to an ever-changing environment and to continue to move towards the goal despite barriers is crucial. Mentoring in student companies revealed the positive effects of an innovative entrepreneurial mindset on the start-up, especially at the early stages of development.

1.3.2. Innovations as an example of the knowledge economy in economic development processes in Kurzeme region

Economic development at the macro level depends on the development of regions and local areas. Human capital, its quality and retention in the region are essential for the development of the knowledge economy. Several authors in various periods have contributed to the theoretical discourse on linking the concepts of region and innovation: Frisch & Schroeter (2010) emphasize that the ability of new companies to innovate depends to a large extent on regional factors: venture capital, support services, skilled labour, the regional knowledge basis, innovations introduced by regional enterprises, the proximity and quality of universities and other public research institutions in the region, and the intensity of technology spillovers.

Some researchers (Martins, Ling, 2017) point out that socialization mechanisms, cooperation platforms, international networks and business internationalization play a crucial role in the process of inter-organizational learning and knowledge sharing between participants in the regional innovation system. Regional development strategies are being designed based on the performance of existing innovations and the specifics of the region (mostly geographical and socio-economic). Support for entrepreneurship in the region is an important instrument of innovation policies (Hajek, Henrikues, 2017).

Initially, the current Triple Helix model (Etzkowitz, 2001; Leydesdorff, 2005), which focuses on cooperation between universities, industries and administrative institutions, has been applied to define cooperation between the participants of the innovation system. The Quadruple Helix model, however, combines four key elements (Andersson & Karlsson, 2004; Arnkil 2010), which form the regional innovation system: companies (take responsibility for the creation, dissemination and use of knowledge through commercialization); institutions (industrial research and development institutions, universities and other public institutions that influence the transfer of knowledge, the creation, development and use of technologies); knowledge infrastructure (physical and organizational infrastructure to support innovation); innovation policy-based regional innovations (innovation policy focuses on the general framework that promotes the ability to learn and disseminate knowledge). In this context, the term or new paradigm "civic university" has been introduced, which combines three basic elements related to the principles of mutual benefit: the community, the region (or a more global level) and the university, emphasizing the role of change in designing innovations (Goddard, Kempton, 2016).

Since public administrative institutions play an important role in cooperation patterns and support for the implementation of innovations and the development of the knowledge economy in the region, it is important to define priorities for development and common goals at the level of cooperation. Table 1.6 shows the goals and targets set by national-level policy documents for the development of innovations in the regions.

Table 1.6. Goals and targets set by national-level policy documents for the development of innovations in the regions

Documents	Goals, objectives, targets
National Development Plan 2021–2027	"strong families, healthy and active people; knowledge and skills for personal and national growth; business competitiveness and prosperity; a quality living environment and territorial development; culture and sports for an active and fulfilling life; a united, secure and open society"
Science, Technology and Innovation Guidelines 2021–2027	The main goal is to promote the development of a smart, technologically advanced and innovative society in Latvia. 1. Excellent science – the availability and sharing of research infrastructure, incl. digital one, international mobility and strategic involvement in networks and research consortia, reliable, high-quality and collaborative scientific institutions and talent 2. Research for the society – impacts on social and economic transformation. Cooperation-based research 3. Integration of higher education with research 4. Digital transformation and open science 5. Implementation of the smart specialization strategy – creation of the necessary knowledge and build-up of competencies, training of highly qualified specialists, development and sharing of research infrastructure 6. Innovations: to stimulate the development and introduction thereof, increase the innovation capacity of scientific institutions and enterprises and public administration, as well as labour productivity and resource efficiency

Regional Policy Guidelines 2021–2027	A challenge is large regional development disparity. The goal is to create preconditions for increasing the economic potential of all the regions and reduce the disparity 1. Improvement in the entrepreneurial environment in the regions, including making available sites for entrepreneurs, as well as attracting human capital to the regions 2. Improvement in the effectiveness of public services in the regions, including aligning the provision of public services with demographic challenges, accessibility and the living environment, as well as the performance of administrations of planning regions and municipalities
Guidelines for the National Industrial Policy 2021–2027	Small proportion of R&D-intensive industries in the economy; a small proportion of manufacturing in GDP; manufacturing is dominated by low- and medium-low-tech industries, and the economy is mostly comprised of micro, small and medium enterprises Increase in the export potential of the economy of Latvia, reaching a 61% share of exports in GDP and EUR 29.9 billion in annual exports 1. Human capital development; 2. Export promotion; 3. Entrepreneurial environment; 4. Technological basis (investment); 5. Increase in innovation capacity: private sector investment in R&D, total financing for R&D, the number of innovative companies; funding attracted from foreign instruments

Source: Regional Policy Guidelines 2021-2027; National Development Plan 2021-2027, Guidelines for the National Industrial Policy 2021-2027, Science, Technology and Innovation Guidelines 2021–2027.

Researchers and experts from the Nordic countries have made significant contributions to the theoretical basis for the development of regional innovations and the knowledge economy. For example, Professor Arne Isaksen from the University of Agder (Norway) has systematized the hierarchy and differences in innovative networks, regional business clusters and innovation systems, emphasizing the formation of innovative clusters as a result of intensive communication and the need to focus on the most developed economic sectors (Isaksen, 2001):

- regional cluster – concentration of interdependent companies in one or similar industrial sectors, in small geographical areas;
- regional innovation network – growing and organized cooperation between companies governed by trust, social norms and conventions;
- regional innovation system – cooperation between companies and various organizations for the development and dissemination of knowledge.

Other researchers (Andersson & Karlsson, 2004) have emphasized strong interaction between educational and research institutions, entrepreneurs and technology transfer institutions in the regional innovation system. In creating and developing regional innovation systems, it is necessary to ensure equal cooperation between the three main participants in the innovation process: universities, technology transfer institutions and the entrepreneurial environment. Thus, the contribution of scientists and researchers could become interesting for entrepreneurs, helping them to solve urgent problems and promoting development in a municipality, a region and the whole country. Knowledge-intensive companies facilitate the identification and implementation of smart specializations in the region.

In the programming period 2021-2027 in Latvia, the priority is balanced development of the whole territory. In Kurzeme region, the significant proportion of forests and rural areas determine the basis of the economy. The sustainable development strategy of Kurzeme planning region states: "The development centres emerge as sites for processing and production of rural products. The regional centres – Kuldiga, Saldus and Talsi – are particularly important as economic and service centres for the population. The region has large unused potential for international cooperation in the Baltic Sea region. The economy of Kurzeme region is mainly based on the supply of raw materials and low value-added services and the advantage of the geographical location. The share of manufacturing and transport in the economy of the region is high, making up 1/3 of GDP. Kurzeme lags behind the European average, which in turn affects the region's competitiveness in attracting labour" (Kurzeme Development Strategy, 2015).

Over a period of several years in Kurzeme region, support and cooperation organizations have been established according to the theoretical classification, adapting to the situation and

the conditions of the external environment. The region has not defined an innovation system, yet there is an innovation network established for the knowledge economy, and entrepreneurship support organizations, local governments, universities, research institutions and companies are involved in the network.

In Kurzeme region, support is provided by the Investment and Development Agency of Latvia (LIAA), business incubators in the municipalities and cities of Ventspils, Talsi, Kuldiga and Liepaja (although some new companies are established near cities, their production facilities are often located in the rural areas of the region), the Kurzeme Business Incubator in Liepaja and the Business Support Centre of the High Technology Park in Ventspils, as well as other organizations.

Since 2010, the regional cluster Green-Tech Latvia or the Green and Smart Technology Cluster has been developing in Kurzeme region. As Ieva Meikšāne, a member of the Board of the cluster, said in an interview, it is a cross-sectoral cooperation organization that unites companies of all ages and sizes in the field of green and smart technologies with the aim of increasing their turnovers, increasing exports, streamlining production, building up personnel skills and engaging research institutions in contributing to progress in entrepreneurship. The Energy Efficiency Demonstration Centre has been established in Liepaja as part of the cluster. Its purpose is to educate the public about the generation and rational use of smart energy in an interactive way, as well as to popularize the products produced in Liepaja city and Kurzeme region. The cluster unites 66 members, of which 6 are large companies and 5 are research institutions operating in the field related to green and smart technologies. Of the total members, 55 are small and medium enterprises. The members represent high-tech, medium-high-tech and knowledge-intensive service companies.

The green and smart technology cluster not only provides support to its members but also participates in the implementation of various projects, e.g. the cross-border cooperation project Smart Living, which aims to increase public awareness of environmentally friendly lifestyles and smart energy use in Latvia and Estonia, combining national expertise and the competences of the partner organizations. Cluster activities such as providing support to green and smart technology companies in entering export markets, increasing productivity and cooperation and carrying out networking activities actually popularize the European Commission's Green Deal and implement the activities specified in the guidelines.

The members of the cluster are divided into three categories, with appropriate membership fees and cluster support: original equipment manufacturers (OEM), which are a consortium getting the most support; small and medium enterprises and value chain companies. The services provided by the cluster are consumed by both the members and other interested companies and involve an "Infobank" (database of offers to participate in projects and initiatives), attraction of cooperation partners, use of cooperation networks (LCCI, 3B ICT Network, Green Alliance, Climate KIC etc.), use of the identity Green Tech Cluster, Green Tech Hub premises, free consultations on business development issues (financing, accounting, publicity, energy efficiency, sales and export promotion).

Main activities of the cluster

- Future mobility – a future mobility consortium focusing on specific e-learning mobility, micro-mobility, hydrogen mobility and sharing and smart mobility technologies, as well as a mobility technology transfer and testing centre. The members and partners of the consortium are CityBee, Opppbus, Fiqsy, TransfoElectric, Global Wolf Motors, Lesla Technologies, Drifta Halle, Zeltiņi, BlueShockRace Ltd, SIArtuSystem Ltd, BioVenta Ltd, as well as RTU, LU Institute of Solid State Physics and LLU.

- Smart manufacturing and green resources – use of renewable energy sources, waste-free production, digitalization and automation of production and efficient use of resources. The members and partners: Materia Bikes, ETM Digital Signage Factory, DipDap, Bucher Municipal Ltd, In-Metal Ltd, Inos Ltd, Kalmeta Ltd, Hidraulik Bauteile Baltic Ltd, Compor Ltd, Aspired Interactives Ltd, NordePlast Ltd, Baltic Scientific Instruments Ltd, JSC Liepājas papīrs, Baltkarts Ltd, Baltic Technology Group Ltd, Ventspils University of Applied Sciences, RTU, Ekovalis Ltd, TesDevLab Ltd and Flowin Ltd.
- Energy efficient buildings – construction of energy efficient buildings, production of equipment and devices for such buildings. Online and face-to-face seminars, energy cost audit services. The members and partners: JSC Latvenergo, Via S Ltd, Vizulo Ltd, Inpass Ltd, Arbo Ltd, Motiva Latvija Ltd, Vega1 Ltd, Inbox Lifestyle, AmberHousing ElkoLP, Liepaja University, Ventspils University of Applied Sciences, RTU (Green and Smart Technologies Cluster, s.a.).

The smart specialization strategy in the European context envisages identifying and developing the long-term competitive advantage of each region. One of the priorities for entrepreneurship development is investment in research and development and establishment and growth of companies producing high value-added products. Not only the above-mentioned cluster as an innovation network but also other entrepreneurship support organizations and business incubators in the region play an important role. The first steps could be taken by companies founded by university students and graduates. In this case, interdisciplinarity is also ensured, as specific specialists, e.g. students and graduates from IT programmes, work together with graduates from business management programmes and translation programmes. Companies emerge from a small group of like-minded and enthusiastic students, thereby making a significant contribution to the growth of the municipality and the region.

One such example is the IT company TestDevLab created in the Ventspils Business Incubator. The company provides world-class software testing and development services. Its customers are in Latvia (SEB banka, Latvijas Banka, Latvenergo etc.) and abroad (Skype, Microsoft, Twilio etc.). The software tested by the company is used by 1.5 billion people around the world. It is also worth mentioning the ICT company Azeron founded in 2019, located in Ventspils, manufactures ergonomic and innovative computer game controllers and exports them to 90 countries around the world; its production facilities of 500 square meters are located in the territory of the Ventspils High Technology Park. Azeron computer gaming keyboards are unique in the world because of the design and the fact that the company is the only one to produce the keyboards for left-handers. Such keyboards could not be bought anywhere else. The company is the only one that continues to mass produce such keyboards on 3D printers, putting everything together by hand. Azeron products are mainly exported to foreign countries: the USA (55%), Germany (9%), Great Britain (6%), Australia (5%) (Azeron, s.a.).

1.3.3. The Covid-19 pandemic as an accelerator of the economy in the knowledge economy context

Adapting to a new situation is important in the period of change, with all stakeholders cooperating to achieve the goals of change. The regional dimension is a particular focus of cooperation, as local-scale investments provide a quality living environment and increase the potential for the creativity and innovativeness of human resources, which is crucial for the knowledge economy. Polycentric development is the only essential conception of spatial development that meets the needs of all stakeholders (Bevilaqua, Provenzano, Pizzimenti, Maione,

2017). The economic and psychological consequences of pandemic restrictions need to be identified and addressed in the short term in order to minimize their long-term impacts.

With the entry into force of the pandemic restrictions, the residents of large cities in particular look for ways to minimize contacts with other people, moving to less populated areas and rural areas. It is practised mostly by the employees who can work remotely. This approach is provided by IT companies and the most advanced national institutions. The habits tend to change at the individual and institutional levels, and the beneficiaries are both the individuals and institutions that implement the changes in anticipation of mandatory national requirements.

A survey of companies was conducted in late 2020 to identify changes in business due to the crisis caused by the pandemic, focusing specifically on forecasts on potential changes to occur in particular companies and the challenges that entrepreneurs are going to face after the crisis.

Of a total of 109 companies surveyed in Kurzeme region, 67% represented the services sector, 33% manufacturing; small and medium enterprises were the most involved in the survey (55% employed 1-9 employees, 23.9% had 10-49; 19.3% had 50-249 employees; one company employed over 250 employees). Most of the companies had been operating for more than 5 years; 37.5% over 15 years; 8.3% were start-ups. The sectors represented: agriculture, forestry, fisheries - 19.3%; accommodation and food services - 16.5%; manufacturing - 10.2%; wholesale, distribution, retail - 8.3%; transport and storage - 7.3%; ICT - 3.7%.

A decrease in customer buying power and the introduction of digital technologies were emphasized as the most significant changes in regional and national entrepreneurship after the crisis. In relation to potential changes in the operation of particular companies, it was mentioned, in order of priority, that digital sales and communication technologies would be used more in work with customers; there would be digital communication between employees and the introduction of teleworking or part-time teleworking. Multinational companies, especially in the ICT sector, would have a greater advantage in adapting to the situation and starting or continuing operating remotely, and the companies had been doing that partly for several years.

The following potential challenges for companies after the crisis were mentioned, in order of priority: introduction and use of digital technologies; attraction of investment to enter new international markets and the build-up of new leadership/management skills, which would essentially mean working towards a knowledge-based economy. However, the Covid-19 pandemic had unfortunately made an impact on supply chains for large manufacturing companies across Europe, and the second challenge for such companies was to ensure social distancing at production sites and manage an optimal flow of workers. Psychological aspects had made an impact and needed to be considered in all sectors, as ignorance, insecurity and burnout in some workplaces affected any employee.

1.4. Opinions of the society of Latvia on the long-term viability of the country

The sustainable development of any territory is also influenced by the society's interaction with the environment in the broadest sense. This could be explained by ecological economics, the basic idea of which is that economic processes also involve natural processes in the sense that they could be considered to be biological and physico-chemical. The quality of life of the population is influenced not only by the macroeconomic situation in the country but also by

the territory and environment of the particular municipality, which is an important aspect in most areas of human life (Trusina, Jermolajeva, 2021).

Many stakeholders are involved in the sustainable development of Latvia and in ensuring the long-term viability of the country: national and local government institutions, companies, non-governmental organizations, as well as various informal interest groups and every resident. Since socio-economic performance differs across the regions as well as cities and municipalities of the country, it is important to identify who and how can influence the process the most – whether it is national-level policies and decisions, local government activities or initiatives of local residents.

To conduct research studies in order to identify the role and influence of stakeholders and find answers to the questions, a questionnaire entitled Who controls the long-term viability of the country? was developed at Latvia University of Agricultural in 2015. Over the course of time, the total number of respondents who completed the questionnaire reached 946, while their numbers by year were as follows: 110 in 2015; 371 in 2017; 364 in 2019; 101 in 2020. The participants of the survey represented the cities of national significance and the regions of Pieriga, Vidzeme, Kurzeme and Latgale.

In the questionnaire, a respondent needed to indicate, in his/her opinion, the most significant factors influencing three groups of agents of change: (1) national institutions; (2) local governments as local government bodies (deputies and employees); (3) communities or residents living in the municipality. Six factors were proposed to be rated on a 5-point scale where 5, 4, 3, 2 or 0 meant high, medium, low, negative or "no opinion", respectively.

The results of the survey revealed that the influence of the state as a set of national institutions in the analysis period showed a positive trend and slightly increased in weighted average terms (+0.34). Unfortunately, the influence of the other two agents of change was generally negative, which, in weighted average terms, slightly decreased for municipalities as local authorities and communities living in the municipality (Table 1.7). An analysis of individual factors influencing the state as a group of institutions revealed that in 2020, the highest rating was given to *availability of EU funding* at 4.11, whereas the lowest rating of 2.76 in 2019 was given to *earmarked subsidies*. In addition, the mentioned factors had also the highest and lowest ratings for all the three groups combined.

The group of local governments as local government bodies was rated the highest in 2017 at 4.05 for their *skills to attract and successfully use EU structural funding*, whereas the lowest in 2020 at 3.31 for their performance in relation to the fact that the *results of implementation of a development programme are systematically evaluated and the population are informed about it through direct contacts or local information media*. The highest and lowest ratings of the communities living in the municipality were given by the respondents in 2020: 3.77 for their *readiness to acquire new knowledge* and 3.33 for the fact that *the population cooperated not only in cultural and sports activities but also established economic cooperation chains or even cooperatives*.

Table 1.7. Weighted average respondent ratings of the factors of agents of change in the 2015, 2017, 2019, 2020 surveys

Factor	Weighted average				
	2015	2017	2019	2020	Change
The state as a set of institutions					
Favourable economic situation in the country	3.49	3.51	3.51	3.92	+
Legislative stability	3.38	3.60	3.54	3.87	+
Development of a tax system that fosters economic activity	3.46	3.25	3.29	3.41	+
Availability of EU funding	3.87	3.85	3.82	4.11	+

Successful operation of the Municipal Finance Equalisation Fund	3.69	3.25	3.06	3.51	+
Earmarked subsidies	3.31	3.25	2.76	3.18	+
Total average	3.50	3.45	3.33	3.67	+ 0.34
Municipalities as local government bodies (deputies - employees)					
Skill of the administration to attract and effectively use EU structural funding	3.97	4.05	4.01	3.99	-
Purposeful, coordinated actions of the deputies on the designing and implementation of a development strategy	4.00	3.73	3.57	3.54	-
Competence of municipal employees in municipality development planning and project management	3.90	3.96	3.84	3.80	-
Results of implementation of a development programme are systematically evaluated and the population are informed about it through direct contacts or local information media	3.97	3.88	3.72	3.31	-
Municipality maintains close business contacts with local entrepreneurs, solving problems of mutual interest.	3.59	3.81	3.56	3.75	+
Municipality creates favourable conditions for the activities of NGOs and other social groups, actively involves them in discussing important development-related problems and implementing the solutions	3.90	3.79	3.33	3.58	+
Total average	3.89	3.87	3.67	3.66	- 0.01
Communities living in the municipality					
Desire of local residents to participate in solving practical problems in the municipality/city by actively cooperating	3.59	3.63	3.68	3.34	-
Readiness of residents to engage in economic activity to increase personal incomes	3.38	3.64	3.74	3.64	-
Readiness of residents to learn and disseminate innovative ideas on change	3.67	3.70	3.45	3.44	-
Readiness of residents to acquire new knowledge (attend lectures, participate in seminars, take courses etc.)	3.49	3.63	3.66	3.77	+
Residents not only cooperate in cultural and sports activities but also establish economic cooperation chains or even cooperatives	3.49	3.40	3.34	3.33	-
Community is ready to accept change at work, in society and the environment	3.46	3.61	3.39	3.62	+
Total average	3.51	3.60	3.54	3.52	- 0.02

Source: authors' calculations based on 2015, 2017, 2019 and 2020 survey data.

For a more detailed analysis of the survey data, a weighted average rating of each agent of change by each respondent was calculated to compare the results for the three groups of factors. The results showed that the respondents considered the most significant agent of change not to be national institutions, but municipalities (42.03%), i.e. local governments. Communities were placed in second place (37.64%) and national institutions only in third place (20.33%).

The respondents rated the influence of municipalities and the communities living therein, which is one of the pillars of a democratic society at the local level, higher than the influence of the state.

Table 1.8 presents the ratings of agents of change given by the respondents in the surveys conducted in 2019 and 2020.

Table 1.8. Individual respondent ratings of the groups of agents of change in 2019 and 2020, % of the total survey participants

Agent of change	Scale					
	50 points	4.00 – 4.99	3.00 – 3.99	2.00 – 2.99	1.00 – 1.99	0.0 – 0.99
State	1.10	19.80	54.40	22.20	2.20	0.30
Municipality	2.75	36.81	45.15	13.19	1.10	0
Community	2.47	26.10	55.77	14.56	0.82	0.27

Source: authors' calculations based on 2019 and 2020 survey data.

The proportion of respondents' individual ratings of each agent of change showed that the highest rating given to all the three groups of agents of change ranged from 3.00 to 3.99 points, i.e. more than half of the respondents rated as average communities (55.17%) and national institutions (54.40%), while less than half – local governments (45.15%).

Table 1.9. Respondent ratings of the groups of agents of change in 2019 and 2020, % of the total survey participants

Agent of change	Proportion of ratings, %		
	Above average	Average	Below average
State	46.15	13.19	40.66
Municipality	47.52	12.09	40.38
Community	50.50	11.80	37.60

Source: authors' calculations based on 2019 and 2020 survey data.

In 2019 and 2020, the respondents rated the influence of residents or local communities the highest – in 50.5% cases it was above average (Table 1.9).

Overall, the survey data revealed that the respondents rated the influence of local governments and communities on socio-economic processes higher, and the results were similar to those acquired within the national research programme "Economic Transformation, Smart Growth, Governance and the Legal Framework for Sustainable Development of the State and Society – New Approaches to Building a Sustainable Knowledge Society" (EKOSOC-LV) (2014-2018).

However, it is important to emphasize that the administrative territories examined showed different socio-economic performances. Therefore, further in-depth research is needed to identify what influences particular areas – regions, cities and municipalities – and how the influence of various agents of change – the national and local governments and communities – could be improved in the overall development process.

Conclusions

- The *research results* have showed that the ongoing processes of change in the economy and its two important segments – manufacturing and services – in Latvia are focused on growth and are positive, yet the comparison with the other EU Member States is unfortunately less optimistic. According to the latest data published by the European Innovation Scoreboard 2021, each of the Baltic States had different rankings: Estonia was a strong innovator, Lithuania was a moderate innovator, while **Latvia was only an emerging innovator**. A further analysis of the economic processes and answers to the questions of what slows down and drives the development of innovations and the knowledge economy are important for the future growth and sustainability of Latvia.
- The regions play an important role in the development of the knowledge economy. The regions have a very good environment, especially for start-ups, digital technology enterprises; there are a lot of opportunities for remote work, living in a safe environment and close to nature. The use of natural resources (Baltic Sea coast) for regional specializations in nature tourism, recreation and human resource development provides opportunities for future research, facilitates remote work not only in national but also in international companies.
- The analysis of the development of the knowledge economy in the period 2009-2019 has revealed that this segment in Latvia tended to expand not only in cities but also in the other

areas. The increase in employment in the knowledge economy segment nationally reached 196.0%; in the nine cities of national significance 187.6%; while in the rest of the country with the former 110 municipalities even 217.6%. Besides, it should be emphasized that the indicators had been analysed for the municipalities before the administrative territorial reform of 2021 when some areas were relatively small and poorly developed.

- The establishment of industrial business zones in the regions is important for the development of the knowledge economy. It is also one of the possibilities to reduce the outflow of labour to Riga, Pieriga region or abroad. It should be emphasized that the establishment of industrial or business zones in the regions is strongly linked with attracting foreign investment, and one job in such an area creates an additional three jobs linked to the provision of education and other services. An example of such a successful solution is the Ventspils Industrial Zone established by the Ventspils Freeport Administration in cooperation with the Ventspils City Council, which has attracted about 20 foreign companies engaged in information technology, electronics, metal processing and other industries.
- The Information and Communication Technology Strategy has been designed and implemented in Ventspils, which envisages rapid growth of this industry in the coming years not only in the city but in the entire region. The developed telecommunications infrastructure ensures the creation of such knowledge-intensive IT business networks not only in large regional cities but also in rural areas. The example of smart specialization in Ventspils in the field of ICT is a model for companies and institutions in the other regions of Latvia to define and successfully develop their niche industries.
- The enterprises of Kurzeme region mostly represent such industries as agriculture, forestry and other resource-related fields. However, local governments, in cooperation with entrepreneurs and NGOs, develop new, innovative solutions and prioritize new specializations.
- Various agents of change work on the sustainable development of Latvia; the results of a 5-year survey on the influence of the national and local governments and local communities as agents of change revealed a positive trend in the influence of the national government as a set of institutions, whereas the influence of local governments and their institutions as well as the local communities tended to decrease. At the same time, according to the individual ratings by each respondent, the most important agent of change was not the national institutions, but local governments or local authorities and communities, which was a hopeful trend because the development of the area could be influenced the most by the people – deputies, executive bodies, interest groups etc. – living in it.

Proposals

- When determining a specialization for development in each region, the location of each municipality of the region, the natural resources available in it, the number of enterprises, incl. those representing knowledge-intensive industries, as well as their turnovers and impacts in the region need to be considered.
- Innovative business clusters should be established and entrepreneurs should be involved in such networks in order to develop regional innovation systems and contribute more to the development of the knowledge economy in the region and the country as a whole.
- To ensure the long-term viability of the country, it is necessary to place a focus on public education, especially in municipalities, with the aim of increasing the competences of municipal employees in planning innovative development and project management, as well as

give the population lifelong learning opportunities to acquire new knowledge for active involvement in professional, incl. entrepreneurial, and community activities in the local community.

- To foster overall economic growth in the region and increase the efficiency of management processes, it is necessary to establish and strengthen two-way cooperation and feedback at macro-level. The expansion of functions for the regional administration with the aim of establishing closer cooperation both between municipalities and their various representatives (NGOs, local governments, enterprises) within the region and, at the macro level, with national institutions would increase the efficiency of public-private partnership and quality of planning and implementation.

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Expert opinion
The Region as an Important Player in the Innovation Ecosystem

Artis Gustovskis, Head of the Kuldiga Digital Innovation Centre

"I can, I can...", yet international ratings indicate the opposite

Innovation and the knowledge economy – the development of high and medium-high technologies and the production knowledge-intensive services – play a crucial role in the growth of regional economies and the whole national economy and in the competitiveness of the country and the regions. As investment, infrastructure and people are geographically located in a particular region, the region is a key link in innovation. Theoretically, the knowledge economy and innovation depend on an appropriate institutional framework, quality education, powerful infrastructure and a supportive financial environment. In Latvia, one of the barriers to the knowledge economy is a lack of quality cooperation regionally and nationally between all the organizations that compose the innovation ecosystem.

In Latvia, I am engaged mostly in the field of municipal digital innovation, which involves open data, also in all kinds of data-based research. Again, theoretically, a supportive innovation ecosystem should be shaped based on the Helix (Triple Helix, Quadruple Helix or Penta Helix or triple, quadruple and quadruple spiral) innovation models, following European best practices and involving at least municipal/national institutions as well as academic institutions, businesspersons and entrepreneurs, residents (NGOs) and the media; however, in Latvia this activity is quite fragmented in practice.

Universities "produce" mainly scientific research that is linked neither to municipalities nor to businesses, while ministries create their own data and implement digital projects that do not relate to municipalities. Residents most often know very little about current innovations, especially in the field of data. A vivid example of this is an unpublished study by the Digital Innovation Centre – the residents met on the street were interviewed and asked what they thought about open data innovations. Approximately 95% respondents did not know anything about the data, while the rest had heard something. Some young people knew about data-driven decisions or the Internet of Things. Hence the problem: a lot of people in Latvia do not understand why digital innovations are needed at all; a respondent said that "I photograph

something, post it on social media and even process content with my phone. Hey, I know everything!".

In relation to digital transformations as well as the use of the Internet, Latvia's rating is low in the Digital Economy and Society Index (DESI), as is Latvia's rating in the EU Innovation Index (ESI). We are ranked the lowest in the field of digital knowledge, without realizing that the skills to handle smart devices are far from what digital innovation and an advanced knowledge economy as a whole can bring.

The major challenge – the innovation ecosystem

Just as Europe lags behind other regions in a number of areas ranging from high-capacity networks, 5G industrial applications, the Internet of Things (IoT) and cloud computing to artificial intelligence (there is a large and growing gap in investment, including in digital infrastructure and 5G), Latvia's regions lag behind the capital city and suburban Riga. I could illustrate this with an example, taking as a criterion the formation of digital innovation centres in the regions of Latvia outside Riga. Of a total of 43 new municipalities, only seven represent such centres, of which the Ventspils Digital Innovation Centre and the Liepaja Digital Innovation Park are leaders because in terms of functions performed and services provided they are at least 10 times larger than the others.

There are several challenges for innovation in Latvia, but the first and major one is the creation of a smoothly functioning innovation ecosystem. In Latvia, there is a lack of regulation or a meaningful policy document that would stipulate the obligation to distribute and allocate EU and national funding for the creation of an efficient digital innovation ecosystem. According to European best practices, such an ecosystem is not based on one or two innovation centres in the capital city but on a network of innovation centres throughout the country, which means that such innovation support centres should exist in every municipality, and this should be the case in Latvia.

Driven by the Covid-19 pandemic, European innovators compare the development of the innovation ecosystem to the creation of a vaccination network, seeing the same "rake" in both cases. In Latvia, too, it was initially estimated that one vaccination centre in Riga would be enough for the population to "get vaccinated and the pandemic to end". As we have seen, the pace of vaccination approached the planned pace only when the vaccination points were located all over Latvia, e.g. in the municipalities. The situation with digital innovation centres is identical – they need to be available in each municipality in order for Latvia to achieve higher rankings in international indexes, yet the most important thing for Latvia is to develop an innovation and knowledge economy for higher productivity and prosperity.

Latvia has recently adopted the policy document Digital Transformation Guidelines of Latvia for 2021-2027, which specifies the country's future digital development or outlines a roadmap for how today's available technological opportunities foster the growth, innovation and competitiveness of society, the economy and public administration. Yes, this policy document is very much needed, yet it outlines lines of action and responsibilities, mostly at the level of ministries, leaving digital innovations in municipalities up to the local governments to understand and introduce, depending on available funding.

Education for learning new skills and professions

Education, incl. the build-up of skills and competences, is an important part of the innovation ecosystem. In my opinion, currently the most vivid example of training and build-up of knowledge of and skills in the knowledge economy in Latvia is already the 6th round of the project Improvement in Professional Competences of Employed Persons implemented by the State Education Development Agency (VIAA) (more information at https://www.itagentura.lv/viaa_projekts/). In a short period, covering only 10% of the cost of a training course (the remaining cost is covered by EU funding), it is possible to acquire specific skills and competencies in one of the professions ranging from data analytics to 3D modelling and printing, which I also did for research purposes – the conclusion: excellent teachers, valuable knowledge.

I will describe some other measures more critically. For example, a network of digital agents has been established to build up the population's digital skills and competences, yet the overall idea of this activity has not been achieved – to train individuals to use digital tools so that they can use the skills independently in different life situations. Unfortunately, instead of "fishing rods", "fish" are given – an individual can go to a digital agent to the library, and the librarian electronically handles the bills instead of the individual. Of course, this is an opportunity and support for the individual. However, it is neither digitalization nor the development of skills and competences in digitalization. Banks have increased prices on their services provided in-person after introducing digital solutions, thus forcing their customers to acquire knowledge and skills and use the most advantageous Internet banking.

The network of digital agents and leaders established by the Ministry of Environmental Protection and Regional Development (MEPRD) at the end of 2021 needs to further differentiate between digital agents and digital leaders. Digital agents work in libraries and perform simple digital functions, e.g. dealing with e-signatures and services available on the national portal Latvija.lv, whereas digital leaders on behalf of the State should provide the individuals with higher quality and more competitive digital skills and knowledge, incl. at least some of the 10 most demanded skills and professions in the future:

- data science, data analytics, big data specialists;
- artificial intelligence and machine learning specialists;
- project and process managers;
- software, application developers and analysis;
- digital marketing specialists;
- multimedia design professionals;
- digital transformation specialists;
- new technology and innovation specialists;
- business development managers and e-commerce specialists;
- information technology services and products.

For an innovation to be applied, it does not need to be formal

As the national and the local government sectors represent a participant in the innovation ecosystem, it is important to have local government interests aligned with the plans of ministries. An example is the DAGR (Defense Advanced GPS Receiver), which could be very trivially described as a large "tool" for combining all national registers (not just population register data) and updating and disseminating data not from each register but from the DAGR. It is a

question of benefit, as the individual can legally access more data; however, in order to attract municipalities as partners, the interests of each need to be taken into account because the real benefit needs to be gained by all the 43 municipalities, not only a few of them.

An excellent example is significant cooperation in innovation development between the national and the local government sectors and scientists and academic institutions – Riga Technical University offers digital twin solutions to local governments, as well as other data-based innovations. Sensor-managed maintenance of roads is among such solutions, which has so far been managed in paper format, but now it can be managed by means of open data – how much cleaned, where to clean, when to clean etc. The same applies to the filling and removal of containers in a municipality. Such innovations have been introduced by Swedish municipalities a long time ago, not to mention minor (no less pleasant) innovative surprises, e.g. when a waste container says "Thank you" to a citizen who dumps the waste.

There is also positive competition in Latvia for the number of data sets that each municipality will have, but there is a problem that such digital innovations are rarely used – until the necessary data are available and in good quality. Equally important is the problem with real-time statistics of visitor flows, for example, for tourism in Latvia. In Italy, tourism statistics are collected in real time by the National Institute of Statistics from mobile data or by means of crowd tracking methodologies. In Latvia, tourism statistics consist only of collected old data given by businesspersons who joke themselves that they give a minimum to pay lower taxes. Therefore, it is highly recommended that the Ministry of Economics (supervising the CSB) begin cooperating with both mobile operators and the CSB in order to introduce real-time statistics on tourism etc.

In this respect, Estonia is well ahead of Latvia where it is still unknown at the national level how many people visit a particular region, city, district or event on a given date, as such data are only available to mobile operators with whom the authorities of Latvia are unable to agree. How can the tourism industry or cultural employees know what is happening in the field of tourism in Latvia if no one has up-to-date real-time statistics about people on a particular date, not a year or half a year ago.

Municipalities need to learn from each other

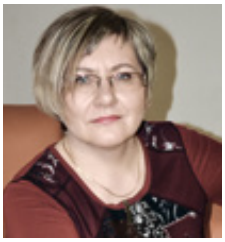
In the field of digital innovation, the Riga e-project could serve as a model and the basis for other municipalities to create step by step some e-services each year. This would save resources and time, as each municipality would not have to create its own platform for similar e-services.

An example of a data-driven innovation also relates to the Latvian National Opera and Ballet, which uses open data on public traffic (public traffic flows and their changes, public transport schedules, last available public transport run in the area etc.) to match that with its operation and the beginning and duration of a show.

I would like to highlight the innovative study Impacts of Climate Change on the Tourism Sector in Kuldiga conducted jointly by the University of Latvia, Copernicus researchers and Kuldiga municipality, which analysed correlations between digital meter data for Kuldiga and event data and climate change data, forecasting changes in 2050, which would still look like science fiction to most residents in Latvian. However, for the Copernicus scientists, this is both commonplace and will soon be a thing of the past.

We must not delay the development of the economy and innovation, and we must use the opportunities wisely and remove the barriers to growth in an innovative way.

Expert opinion
New Opportunities after the Administrative and Territorial Reform



Ineta Valaine,
Head of the Development, Investment and Engineering Department of Preili Municipality, teacher of the Aglona Secondary School

One of the most important factors in the growth of the knowledge economy is the individual – as a personality, as an employer or employee – and the whole society. The fact that the number of economically active enterprises has increased in Latgale region in the period from 2009 to 2019, growth in the knowledge economy segment has been 95.3 percentage points above the national average as well as above the figures reported for three other regions of Latvia, could be viewed positively. An increase in the number of knowledge-based enterprises in Preili municipality has been moderate in the range of 5-10%, yet the data are available for the period until the administrative and territorial reform (ATF) of 2021, and there are still great new opportunities for development.

The local government explicitly plays an important role in ensuring the sustainability of the State through implementing both its policy documents and specific activities in its territory, e.g. shaping and improving the business environment, addressing various socio-economic problems and shaping its attitude to its residents. The local government is closest to the residents of the country, and it needs to educate, positively guide and influence the residents to shape an understanding of sustainability.

Due to the merger of municipalities, a new development programme for the period 2022-2029 for Preili municipality is being designed, which focuses on four medium-term priorities, including "*increasing economic activity and a smart use of the local potential; achieving an educated, creative, healthy and tradition-rich local community*". The lines of action envisage, for example, "*developing public support infrastructure for business for various production, service and trade industries, incl. rebuilding brownfields, enhancing various lifelong learning programmes, courses, motivational seminars, incl. building up teachers' professional competencies and the population's IT skills, raising entrepreneurial spirit, contributing to careers and personal responsibility to raise the quality of life, supporting population group initiatives aimed at meaningful leisure, recreation and active and healthy lifestyles*".

The development of the State requires both the interest of national institutions in and the contribution of local governments to the overall development process, yet in each municipality there must be cooperation between the deputies, the council members and specialists, institutions and organizations, as well as public groups and every resident. Therefore, each level of governance must have, first of all, knowledge and understanding of governance, communication and cooperation issues, placing a strong focus on lifelong learning.

2. Digitalization of SMEs

Digitalization of SMEs for Sustainable Development

Ieva Brence, Dr. sc. administr., LAAFS leading researcher

Ina Gudele, Mg., Ph. D. candidate, Liepaja University assistant professor

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2.1. E-commerce and electronic business development paradigms

2.1.1. Definitions of e-commerce and electronic business

A new field has emerged over the last 25 years. The business environment, incl. small and medium enterprises (SMEs), has shifted from simple sales of goods and services, incl. financial, to a more complex process called e-business (Epstein, 2008). In recent years, several research studies have been conducted on the concepts of e-commerce and electronic business and their relation to sustainable development.

The development of SMEs is influenced by many factors, incl. organizational culture, environmental sustainability and digitalization (Isensee, 2020). Nowadays, digital transformation is often referred to as a key driver of business development, especially for SMEs (Denicolai, 2021), as the introduction of digital technologies in an organization facilitates changes in the kinds of economic activity and supply. SMEs often lack the resources and know-how to cope with new challenges (Kääriäinen, 2021) and lag behind larger companies in the field of digitalization, which makes a negative impact on SMEs (Eller et al., 2020). Therefore, working in the small and medium business space is a challenge, especially during the Covid-19 pandemic (Viswanathan et al., 2021). The current digital revolution affects the company as a whole, making it redefine strategies, business processes and management mechanisms or structures (Fjellström et al., 2021).

The scientific literature emphasizes many positive factors caused by high-performance technologies (Iuga, 2021), while acknowledging that companies are more able to "feel" than

"use", i.e., identify opportunities for digitally based growth rather than gain profit from them (North, 2019).

SMEs are increasingly forced to seek growth opportunities outside their domestic markets, and the growing digitalization of the global economy provides great opportunities internationally (Westerlund, 2021). Therefore, the digitalization of SMEs has become a key goal for both public authorities and the private sector (Bokša et al., 2020). The expansion of SMEs in today's environment is increasingly influenced by the use of digital networks (Rivza et al., 2019), and the innovations related to technological advances in business are also a key driver and important for economic expansion of micro-enterprises (Beizitere et al., 2020a).

Although SMEs are very important players in the economy, the origins, consequences and challenges of their digitalization have been little studied (Eller et al. 2020). Over the last two decades, the digitalization of SMEs has aroused increasing research interest (Meier, 2021), yet the research on it has become particularly relevant since the Covid-19 pandemic when organizations, including SMEs, have been forced to expand remote work.

Progress in information and communication technologies (ICT) over the last two decades has led to dramatic changes in the identity of SMEs and their attitude towards large companies and customers (Thrassou, 2020). The latest research results point to the main constraints on business growth: higher labour or production costs and the unavailability of skilled employees or experienced managers (Beizitere et al., 2020b). As a result, e-commerce and digital transformation make it possible to cope with some of the problems, providing opportunities to work and cooperate remotely.

Digital transformation involves the integration of digital technologies into all areas of business and changes in the business environment (TechRadar, 2021). E-commerce is often simplified and viewed only as the process of buying and selling goods or services via the Internet, and it is most often associated with situations where some company sells goods or services to consumers. E-commerce involves much more than financial transactions in the electronic environment between organizations and customers (Baye, 2002).

Pioneers in e-commerce research – Kalakota (Kalakota, 1997) and his colleague Winston – have developed one of the first definitions of e-commerce, giving a broader insight into e-commerce: "***Electronic commerce is all electronically mediated transactions between organizations and any third party***". This definition states that not only financial transactions but also other activities in the electronic environment could be a component of e-commerce. They also emphasized several paths for the development of e-commerce:

1. **Communication development**: delivery of information, advertising of goods and services and financial transactions;
2. **Development of business processes**: development of technologies and applications for complete process automation;
3. **Development of online transactions**: buying, selling and delivering products online (Kalakota, 1997).

In 1999, the UK government (Holmes, 2003) defined the next step regarding e-commerce through incorporating the involvement of the government in the provision of services to citizens in the concept of e-commerce: "***E-commerce represents the exchange of information via an electronic network, at any stage of the information supply chain within an organization, between businesses, between businesses and customers, or between public and municipal organizations and the private sector, with or without financial transactions***".

This definition already indicates the wider potential of e-commerce but does not yet cover all interactions in the electronic environment, emphasizing that e-commerce could represent a transaction without a financial transaction and could be provided free of charge.

To foster the development and implementation of e-commerce, especially in the small and medium enterprise sector, which represents the majority of the enterprises, the World Trade Organization (WTO) defined in 2013: "E-commerce transactions can occur between businesses, households, individuals, governments and other public or private organizations. The transactions include orders made via the web, the extranet or electronic data interchange, usually excluding orders sent by telephone or fax and manually printed e-mails" (e-Commerce in Developing…, 2013).

US researcher Chaffey (2003) defines e-commerce in the simplest and most appropriate way for modern ongoing processes in the digital environment: "***Any information transaction in the electronic environment is e-commerce***".

As e-commerce and its ever-expanding functions developed, the term e-business has emerged, which is defined by Laudon (2004) as "***the transformation of key business processes by means of Internet technologies***".

Developing the "Conception on Electronic Commerce" in 2003, the Ministry of Economics of the Republic of Latvia (MoE) defined e-commerce in the narrowest sense: "…**the marketing of goods and services via electronic networks**" (MoE, 2003), which by its very nature meets all the above definitions of e-commerce, yet significantly narrows its scope. In this regard, the national legal framework refers to e-commerce in the narrowest sense.

Besides, the introduction of e-business does not mean the simple electronicization and transfer of current processes to technologies and the digital environment, but their enhancement, improvement and simplification, eliminating unnecessary steps in business processes. E-business also involves the management of internal processes of enterprises by using ICT (Janice, 2004).

The main advantages of e-commerce are as follows:

- 24/7 operation;
- global access;
- financial, human and time savings in making a transaction;
- immediate response;
- reciprocal link between business partners;
- selected audience (Chaffej, 2009).

By shifting to e-business, it is possible to eliminate several stages of operation and activities, speeding up and making the whole process more efficient, more economical in terms of human, financial and time resources, geographically wider – global – and more accessible to customers and users (Costa, 2004).

A new business environment (ecosystem) has emerged and continues to develop slightly differently across various countries, yet its development is shaped by the existence and degree of development of the following main prerequisites:

- **access to the Internet and telecommunications** for the general public. Access to the Internet for the public, access to national, municipal and commercial services largely characterize the overall level of development of a country. The largest number of Internet users is reported in economically developed countries, where the use of the Internet is technically, technologically and economically accessible – the population have access to Internet technologies, opportunities to purchase computer equipment and other electronic services and cover the

costs of Internet services. By creating a sufficient user base, it is possible to develop various e-commerce solutions in the supply of goods and services;

- **dematerialization of values**. With the emergence of an information and knowledge society, the pattern of social mutual relations radically changes. Individuals no longer exchange information and knowledge about raw materials or products manufactured from them, but about how goods and services are manufactured and developed. Information is exchanged, dematerializing everything created previously. Information and knowledge become increasingly in demand and necessary for business competitiveness; therefore, new technologies, information and knowledge become one of the most valuable resources. Knowledge as a resource can partially replace material resources, which become increasingly valuable;
- **skilled human resources**. Without skilled individuals as labour resources, the introduction and development of new technologies is completely unthinkable and impossible. It is an educated society being open to new knowledge and skills that is a driver of the innovative economic environment and a key prerequisite, as only such a society can create a new knowledge, not just consume the knowledge created previously;
- **globalization**. By means of the Internet and new technologies, services and goods could be sold in the global market to any potential buyer and user. This has contributed to market liberalization by expanding market size and the customer base, as well as access to a wider market for goods and services. As a result, competition tends to increase, and market conditions near the free market model. The free market model is based on freely available information on all goods and suppliers in the market. The adaptation of companies to operation in the global free market brings both new challenges and opportunities that could radically change the companies' previous internal processes and patterns of cooperation with other market actors (Chaffey, 2019).

The new economic ecosystem changes the nature of the market economy, thereby creating several advantages that make companies more competitive and efficient.

1. **Business hours** of the market system (ecosystem) – **24/7/365**. A continuous system that ensures the flow of goods, services and financial resources around the clock and all year round, involving the necessary amount of human resources, if necessary, using the opportunities of the global market. Business continuity expands output and sales capacity.
2. **Time savings**. Using modern technologies in ordering and delivering goods and services and in after-sales service results in huge time savings. The activities that previously required hours and even days could be completed in a few minutes and seconds by means of the new ecosystem, which saves time not only for the manufacturer or seller but also for the buyer. The pace of business activity and development accelerates, while the time per activity in this ecosystem decreases.
3. **Extension of geographical boundaries (elimination)**. In the new ecosystem, the company's operations expand geographically beyond one region, country or continent. Owing to technological progress and the globalization of the market, the movement of goods and services expanded beyond geographical borders and enables even the smallest company to operate in the global market, depending on other prerequisites:
   - foreign language skills;
   - compliance with the rules of transnational cooperation, customs regulations and other legal acts;
   - knowledge of and compliance with global financial transaction rules;
   - compliance with technological safety regulations;
   - respect for cultural and religious traditions in various countries.

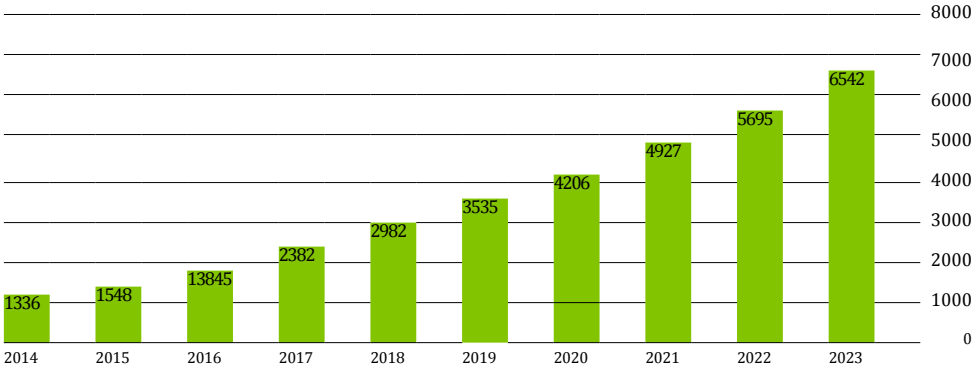
4. **A global and well-targeted audience** that could be reached by promoting, marketing and providing services, thereby enabling two-way communication and responding immediately to market and target audience demand or rejection. New communication opportunities give businesses an invaluable opportunity to understand market needs, anticipate changes and correct mistakes, thereby making this communication with potential and current customers more effective, which makes a positive impact on business process development.
5. **Increase in the profitability and efficiency of a company**. All the above-mentioned advantages of the new business environment combine to lead to the main advantage of e-commerce that determines why e-commerce is developing – an increase in the company's profits. The main goal of any business-oriented organization is to increase the profits of the organization (Chaffey, 2019).

The new ecosystem, with all its advantages, is useful not only for commercial businesses. Individuals, public and non-governmental organizations, including social enterprises, any other entity can operate and thrive within the new economic system, communicating with each other, cooperating, exchanging information, accumulating knowledge, creating a new knowledge and value added and sharing it with other members of society. The pattern of human activity has changed owing to new technologies and their possibilities provided, and this process is irreversible (Zappalà, 2006).

By exploring the possibilities provided by the new environment and the complex processes within the new ecosystem, scientists have identified a number of interdisciplinary areas that are researched independently of each other: accounting, business law, computer science, user behaviour, economics, engineering, finance, human resource management, management, information systems management, marketing and public relations, public administration and robotics (Shaw, 2006). Any of the areas change in the digital environment and evolve differently from what was observed in the traditional environment.

2.1.2. Trends in e-commerce and electronic business development

To understand the potential for e-commerce, it is necessary to analyse the number of Internet users in the world. At the beginning of 2019, according to the Global Digital 2020 report, there were 7.6 billion people in the world, and the number of Internet users was 4.3 billion, or 57% of the total population of the world. The world's population is growing at a rate of 1.1% a year, while the number of Internet users is growing by 9.1% a year (Global Digital, 2020). This indicates that the number of potential e-commerce consumers shopping in the digital environment is constantly increasing. The number of retail transactions also increase in the world. More detailed data are presented in Figure 2.1.



Source: Retail e-commerce sales..., 2020.

Fig. 2.1. Increase in B2C sales in the global market (billion USD).

The volume of sales in the digital environment amounted to USD 159 million in 1995, but only 3 years later, in 1998, the volume of sales exceeded USD 43 billion. According to Statista.com (Retail e-commerce sales 2020, 2020), B2C retail sales in the digital environment reached USD 1336 billion in 2014, USD 3535 billion in 2019, and are projected to double to USD 6542 billion in 2023 compared with 2019 (Figure 2.1.).

As the Internet enters people's daily lives and business processes, communication between individuals, groups of individuals and various kinds of legal entities has changed radically. Owing to the Internet, its tools and services, it could be considered that an absolutely new ecosystem has emerged, bringing new methods of mutual communication into the development of humankind, which radically change the principles of business and the previous order.

In the world, a number of scientists who have been involved in research on the development of the digital environment have put forward the theory of Wikinomics. D.Tapskott and A. Williams (2006) are among the most recognizable scientists researching the processes of emergence of Wikinomics, and they predict that the public will be involved in the creation of information and will be ready to share it. According to them, the public will participate in the creation of Wikinomics at a 50:50 ratio – half of the Internet users will create content and the other half will use and supplement it. However, the reality is different – only 10% Internet users create content, 9% supplement and comment on it, while 81% only consume the products.

Wikinomics is based on four basic principles:

- transparency of all information;
- mutual sharing of information;
- provision of access to information;
- the global nature of operation (Tapscott, Williams, 2006).

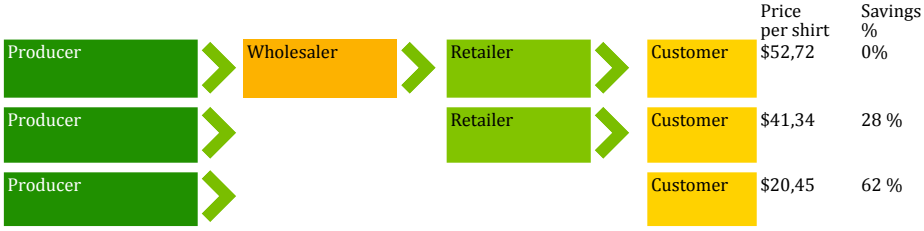
The word WikiWiki itself is translated from the Hawaiian language as "rapid exchange of information", which determines the conception of this process. It is a way to quickly and easily make changes to content and make it accessible to everyone. Wiki turns an ordinary reader into a co-author or editor, which allows him/her to add value to the text created by many actors. Wiki is not a software product that allows its users to edit the content of a website, but it is a metaphor for the new era of cooperation and participation (Tapscott, Williams, 2006).

Unfortunately, scientist predictions have not yet come true, as society, its interrelationships and current business principles perhaps are not mature enough to share freely available information and educate other members of society. Using the principles of Wikinomics, completely new economic relations are emerging between the members of society, thereby developing a "sharing economy", which has been researched by a number of foreign scientists.

Samtani and Healey (2009) emphasize that the sharing economy is a great way for companies to take advantage of the digital environment to find a new, innovative approach to developing traditional businesses. However, Taeihagh (2017) has found that the principles of a sharing economy could be used to attract private investments and could serve as an accelerator of business growth.

The new environment completely destroys the previous perceptions of manufacturing, trade in goods and services, the provision of financial services and working with potential and current customers. This ecosystem has changed the passage of time and accelerated business and communication processes (Tassabehji, 2003).

From the very origins of e-commerce, an example analysed by Benjamin and Wigand in their research on the effectiveness of e-commerce (Benjamin and Wigand, 1995) very clearly reveals the main advantages of e-commerce and the new business environment: higher value added and resource savings, which are very important for many companies (Figure 2.2.). The main advantage of e-commerce, emphasized by the above-mentioned authors, is the creation of value added by saving on processes that disappear in the digital product supply chain.



Source: authors' construction based on Benjamin, Wingard (1995), 2020.

Fig. 2.2. Creation of value added in industry and price reduction.

By optimizing the company's internal processes and cooperation with external partners, logistics chains and communication with current or potential customers, it is possible to save internal financial and human resources, which indirectly allows the company to supply its goods to a wider range of customers at a lower price and not to incur losses (Shalhoub, Quasimi, 2006).

The European Commission (EC) has developed the Digital Economy and Society Index (DESI) and has annually published a report on digitalization progress in the Member States since 2014. The DESI index is comprised of five dimensions, and a weight is assigned to each dimension: 1. Connectivity (25%), which includes fixed broadband coverage, mobile broadband coverage and pricing; 2. Human capital (25%), which includes the use of the Internet, basic digital skills and ICT professionals; 3. Citizen use of the Internet (15%), which includes the use of content, communications and online transactions by the population; 4. Integration of digital technology (20%), which includes the digitalization of businesses and e-commerce; 5. Digital public services (15%), which include e-government and e-health (European Commission, 2020d).

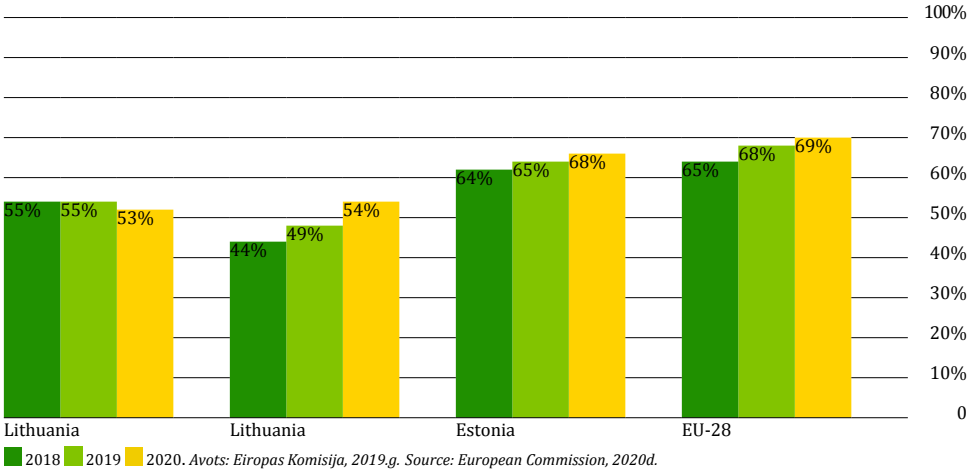
According to the 2020 report, Latvia ranked 18th among the 28 EU Member States, with the level of digitalization slightly below the EU average. Since 2014, Latvia has made significant progress in the area of digital public services, as well as in the connectivity dimension. However, the level of digital skills of the population is low, as is the use of digital technologies by enterprises.

Table 2.1. Analysis of the DESI dimensions: the Citizen use of the Internet dimension

Indicator	Latvia			EU
	DESI 2020		DESI 2019	DESI 2020
	%	place	%	%
3.a.1. People who have never used the Internet (% individuals)	13 % ↓ 2020	14	16 % 2018	11 % 2019
3.a.2. Internet users (% individuals)	81 % ↑ 2020	15	78 % 2018	83 % 2019
3.b.1. News (% Internet users)	84 % → 2020	11	84 % 2018	72 % 2019
3.b.2 Music, videos and games (% Internet users)	76 % ↓ 2020	20	77 % 2018	81 % 2019
3.b.3. Video on demand (% Internet users)	15 % → 2020	20	15 % 2018	31 % 2019
3. b.4. Video calls (% Internet users)	62 % ↓ 2020	6	51 % 2018	49 % 2019
3.b.5. Social networks (% Internet users)	74 % → 2020	12	74 % 2018	65 % 2019
3.b.6. Professional social networks (% Internet users)	7 % → 2020	24	7 % 2018	15 % 2019
3.b.7. Doing an online course (% Internet users)	5 % → 2020	24	5 % 2018	9 % 2019
3.b.8. Online consultations and voting (% Internet users)	6 % → 2019	18	6 % 2018	10 % 2019
3.c.1. Banking (% Internet users)	79 % ↑ 2020	6	75 % 2018	64 % 2019
3.c.2. Shopping (% Internet users)	53 % ↓ 2020	20	55 % 2018	69 % 2019
3.c.3. Selling online (% Internet users)	11 % ↑ 2020	22	10 % 2018	23 % 2019

Source: European Commission, 2020e.

In 2020, slightly more than half (53%) of internet users said they had shopped online (69% in the EU). This aspect is very important when analysing the development of e-commerce in Latvia (Table 2.1.). At present, relatively few companies sell their products online across borders (5%). High delivery costs represent a major barrier for companies wishing to sell their goods online to customers in other EU Member States (European Commission, 2020d). With the development of new logistics techniques, this barrier tends to diminish, and a favourable environment for digital exports is being created.



Avots: Eiropas Komisija, 2019.g. Source: European Commission, 2020d.

Fig. 2.3. Percentages of SMEs in the Baltic States and in the EU-28 (average) that had sold online in 2018–2020.

Every year, the international Internet research and technology company Gemius publishes the results of a survey on the shopping habits of Internet users and the most popular Latvian and foreign e-commerce sites. The data show that in 2018, 78% Internet users shopped online, while 13% planned to do it in the future. On Latvian e-commerce sites, the respondents most often preferred to buy insurance, while on foreign sites they shopped for clothing, footwear and accessories. It should be noted that about 46% respondents who did not shop online were over 55 years old. The respondents in the age group 25-34 years (92% of this age group), the respondents with higher education (86%), as well as the residents of Latvia with a net monthly income of EUR 1000-1499 (92%) have made the most purchases online.

Most of the Internet users who also shopped online most often used Latvian e-commerce sites (90%), while Chinese (47%) and British (35%) e-commerce sites were also popular. The respondents indicated that they most often preferred to shop online because they believed that e-commerce sites offered lower prices than traditional shops (78%). As an additional advantage of shopping online, the respondents acknowledged access to an online shop from anywhere (72%) and the possibility to compare several offers at the same time (67%). Excessive delivery times (42%) and a lack of information, i.e. no descriptions of the product, the supplier and payment options (34%) were the main problems faced by Internet users when shopping online (Gemius Publishes the Latest…, 2018).

Next, statistical data on the development of e-commerce in Latvia are analysed in more detail to examine the regional aspects of e-commerce use.

An analysis of the percentage breakdown of money spent on goods or services purchased or ordered online by region (Figure 2.4) reveals that cheaper goods (less than EUR 50) were mostly bought in Latgale (53.8% of the total purchases) and Vidzeme (52.1%) regions. Comparatively fewer goods of the cheapest category were bought in Riga (38.7%) and Zemgale (37.2%) regions. More expensive goods (more than EUR 501) were bought relatively more often in Riga (3.6%) and Kurzeme (3.4%) regions. The lowest percentage of expensive goods was bought in the regions of Latgale (0.5%) and Pieriga (1.6%).

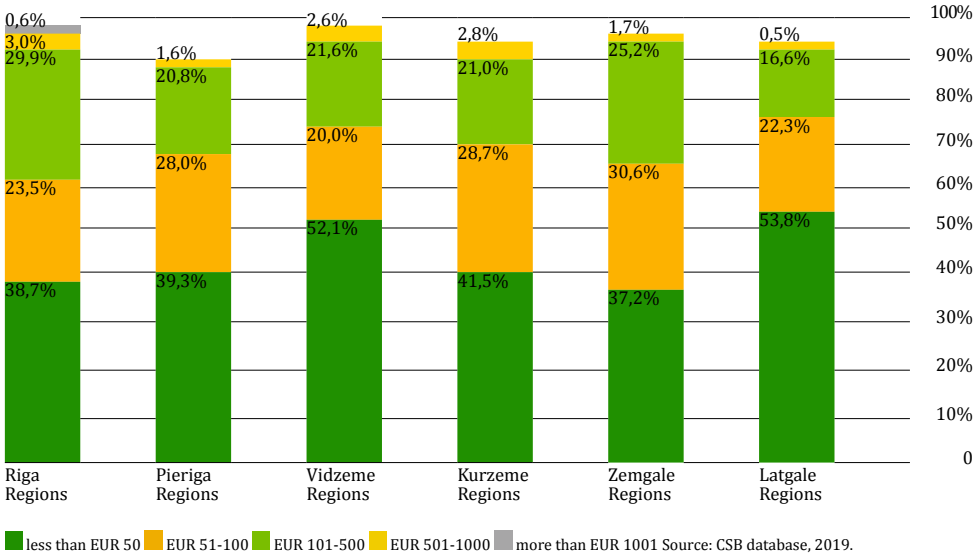


Fig. 2.4. Percentage breakdown of money spent on goods or services purchased or ordered via the Internet by region in Latvia in 2019.

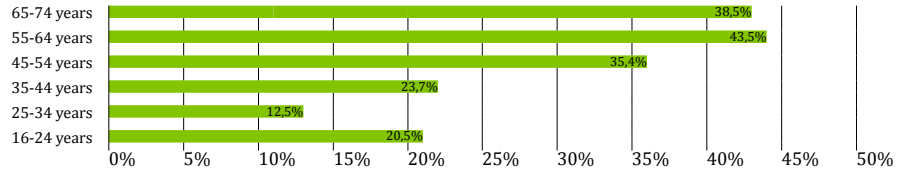
An analysis of the percentage breakdown of money spent on goods or services purchased or ordered online by gender revealed that men bought more expensive goods than women, i.e. the men spend 3% of their money on purchases worth more than EUR 501, while women spend 2.1% of their money on such purchases. At the same time, 39.1% men's purchases were worth less than EUR 50, while women spend 44.1% of their money on this category of products.

An analysis of the percentage breakdown of money spent on goods or services purchased or ordered online by age showed that young people (16-24 years old) and people aged 45-54 bought cheaper goods, 49.5% young people and 44% those aged 45-54 made purchases worth less than EUR 50. The most expensive goods (more than EUR 501) were mostly bought by those aged 25-34 (3.4% of their total spending) and those aged 35-44 (2.4%).

The percentage breakdown of money spent on goods or services purchased or ordered online by level of education is as follows: individuals with primary education (54.1%) mostly bought products worth less than EUR 50, while those with secondary education spend 46.2% of their money on this product category, while those with higher education spend 35.8% of their money on the cheapest category of products. It could be concluded that the higher the level of education, the more expensive products are bought by the population. Besides, among the population who had not made purchases online, individuals with higher education represented 21.8% of the total, while the proportion of those with secondary education was 33.2% and those with primary education (or without school education) made up 32.1%.

An analysis of the percentages of money spent on goods or services purchased or ordered online by kind of employment revealed that pupils and students mostly bought cheaper goods – 62.3% of their money was spent on purchases worth less than EUR 50. Employed individuals more often than others preferred to buy the most expensive goods – 2.9% of their purchases were worth more than EUR 501. Jobseekers and other unemployed people mostly bought products worth less than EUR 50.

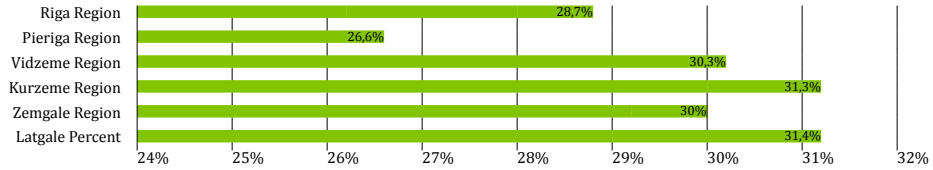
Of the total population, 29.5% had never made online purchases for personal use in 2019 (Figure 2.5.). If analysed by age group, most people aged 55 to 64 had not used the Internet for shopping (43.5%); among those aged 65-74, the proportion was lower at 38.5%. The lowest proportion of the population who had not used the Internet for shopping was represented by those aged between 25 and 34 (12.5%) and aged between 16 and 24 (20.5%).



Source: CSB database, 2019.

Fig. 2.5. Percentage breakdown of the population who had not made online purchases for personal purposes by age group in 2019.

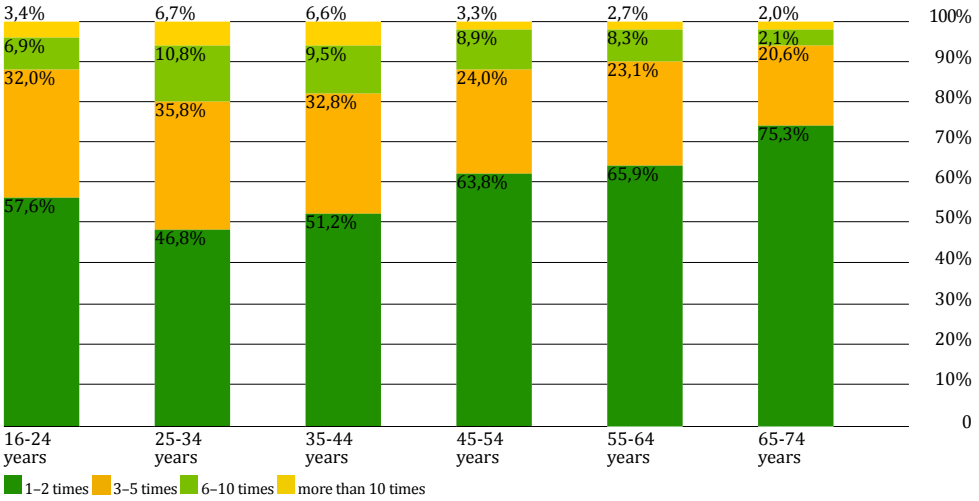
The data on the population who had not made online purchases (Figure 2.6.) broken down by region revealed that the largest number of people who did not use the Internet for shopping was found in Latgale and Kurzeme regions: 31.4% and 31.3% of the total population, respectively. In contrast, in the regions of Riga and Pieriga, the number of people who did not use the Internet for shopping was the lowest: 26.6% and 28.7%, respectively.



Source: CSB database, 2019.

Fig. 2.6. Percentage breakdown of the population who had not made online purchases for personal purposes by region in 2019.

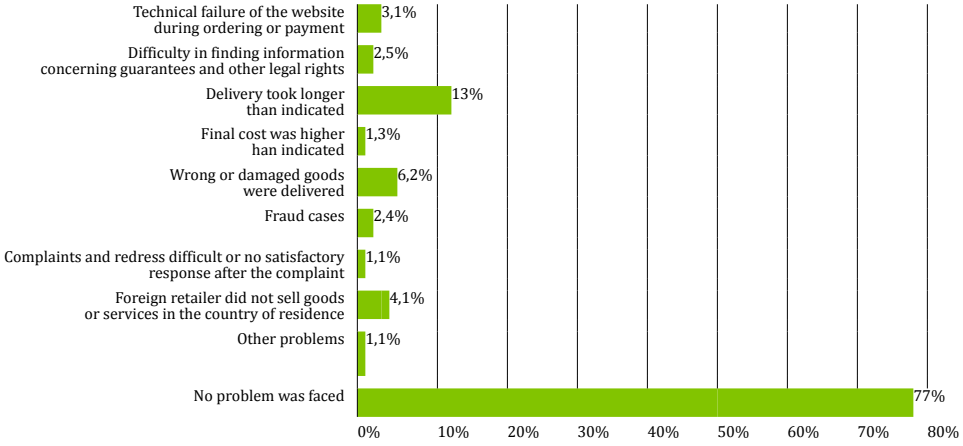
An analysis of the online shopping habits of the population by frequency of purchases (Figure 2.7.) in the last three months revealed that the most frequent (more than 6 times) shopping pattern was observed for those aged between 35 and 44 (16.5% of the population in this age group), followed by those aged 25 to 34 (15.6%). Those aged between 55 to 64 were relatively less likely to shop online – 66.7% of the population in this age group shopped online 1-2 times over the last three months, followed by the population aged 65-74 (65.3%) and young people aged 16-24 (57.6%). Those with higher education shopped more often online (14% of those with higher education and 13.6% of those with primary education shopped online more than 6 times over the last three months). Individuals with basic education shopped online mostly 1-2 times over the last three months (61.3%); 56.6% of those with secondary education and 48.9% of those with higher education shopped online at the same regularity. The population in Kurzeme, Pieriga and Riga most often shopped online, i.e. more than 6 times over the last three months: 18.1%, 15.6% and 15%, respectively.



Source: CSB database, 2019.

Fig. 2.7. Percentage breakdown of the population who bought or ordered goods or services via the Internet over the last 3 months in 2019 by age group and by frequency.

Next, the problems faced by the population when purchasing goods online are analysed (Figure 2.8.). The majority of the population (77%) admitted that they had not had any problems when buying goods online. The rest of the population mentioned the following most common problems: the delivery took longer than expected (13%), wrong or damaged goods were delivered (6.2%), as well as a foreign retailer did not sell goods or services in the country of residence (4.1%).



Surce: CSB database, 2019.

Fig. 2.8. Percentage breakdown of the population who faced problems when buying or ordering goods or services via the Internet.

An analysis of the reasons why people did not shop online revealed that the main reason was that they wanted to see the product by their own eyes, and it was also their tradition to shop in traditional shops (80.1%).

2.2. Use of e-commerce by the SME sector in Latvia

According to the definition of SMEs specified in Regulation (EU) No. 651/2014, SMEs are enterprises with up to 249 employees (inclusive) and an annual turnover not exceeding EUR 50 million or an annual balance sheet total not exceeding EUR 43 million (European Commission Regulation (EU) No. 651/2014, 2014). In 2018 in Latvia, approximately 99% economically active sole proprietors and commercial companies (excluding farms, fishermen farms and self-employed persons engaged in economic activity) corresponded to the SME category[1].

Most small and medium enterprises can benefit from the use of the latest technologies that provide access to the Internet. The Internet can be a good means to:

- increase productivity;
- increase the effectiveness and efficiency of communication with customers and suppliers, as well as between the enterprise's employees;
- build the image and visibility of the enterprise;
- market products on the Internet.

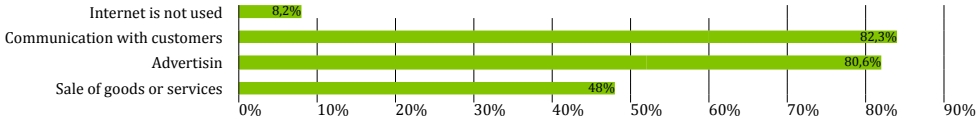
An increasing number of enterprises begin integrating their current administrative systems with online activities to increase their efficiency and improve the provision of their services to consumers.

The Investment and Development Agency of Latvia (LIAA) has developed detailed recommendations on what SMEs should do to increase their efficiency in providing e-commerce, e.g. how to get the most out of the Internet, what the basic principles for developing a website for an enterprise are, how to put websites on the Internet, what domain name to choose and how to advertise a website on the Internet (LIAA, 2019). In addition, LIAA holds seminars to promote the use of e-commerce by SMEs, especially start-ups.

Next, the results of the authors' survey of enterprises on the use of e-commerce in their business are analysed. In total, 100 SMEs representing various industries (manufacturing and services) and regions of Latvia (equal distribution of enterprises by region) were surveyed; the survey period was from April to June 2018. The survey was conducted electronically via the Google Docs platform.

Most of the respondents used the Internet environment, and only 8.2% indicated that they did not use the Internet for doing business (Figure 2.9.). Most enterprises used it for communication with customers (82.7%) and advertising (80.6%). At the same time, about half of the enterprises used it to sell goods or services.

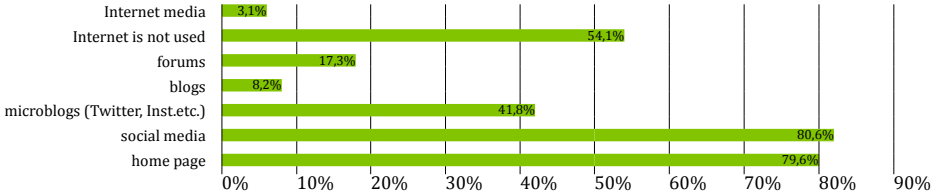
[1] In 2019, according to the CSB data, there were 184854 economically active business entities, of which 250 were large enterprises.



Source: authors' survey conducted in April – June 2019, number of respondents – 100 SMEs.

Fig. 2.9. Percentage breakdown of SMEs by purpose of use of online tools to do business.

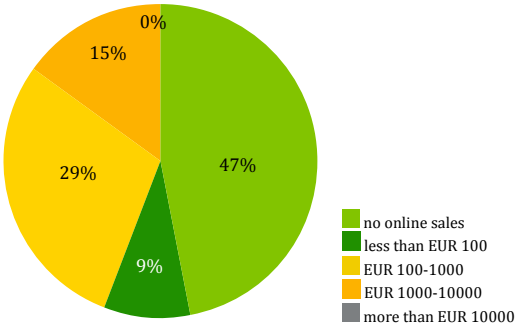
The most popular Internet tools used by the enterprises were as follows: e-mail (87.8%), advertisements (62.2%), SMS (49%) and advertorials (49%).



Source: authors' survey conducted in April – June 2019, number of respondents – 100 SMEs.

Fig. 2.10. Percentage breakdown of SMEs by use of Internet media channels to do business

As regards Internet media (Figure 2.10.), the enterprises most often used social media (80.6% of the total businesspersons surveyed), home pages (79.6%), as well as advertising websites (54.1%) and microblogs (41.8%). The enterprises, however, used blogs and forums less often.

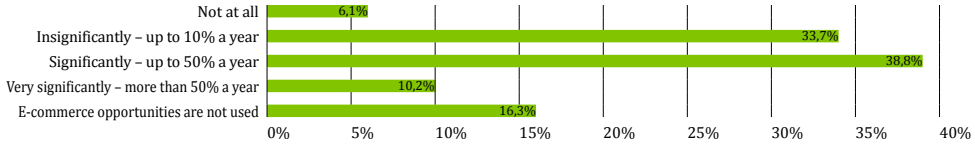


Source: authors' survey conducted in April – June 2019, number of respondents – 100 SMEs.

Fig. 2.11. Percentage breakdown of SME average monthly Internet sales revenues by volume.

When asked about the average monthly revenue from online sales (Figure 2.11.), almost half (47%) admitted that they did not sell goods online. The most enterprises that sold their goods online earned between EUR 100 and 1000 (29% of the total enterprises surveyed). No enterprise indicated that it earned more than EUR 10 000.

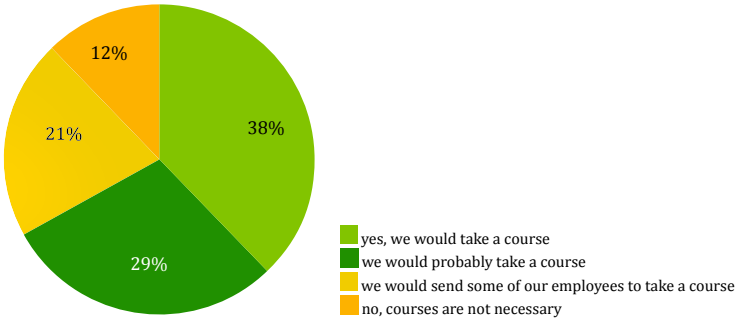
When asked whether the turnover increased (Figure 2.12) after using Internet marketing or e-commerce, 16.3% enterprises revealed that they did not use Internet marketing tools or e-commerce opportunities, while among those that used them, the most enterprises (38.8%) admitted that it made a significant effect on their turnover – it increased by up to 50%. Approximately the same number of enterprises (33.7%) using Internet marketing tools and e-commerce increased their turnover insignificantly (by up to 10%). For one in ten enterprises, the use of Internet marketing tools and e-commerce significantly increased the turnover – it increased by more than 50%. At the same time, the turnovers of only 6.1% enterprises had not changed since they started using Internet marketing tools and e-commerce.



Source: authors' survey conducted in April – June 2019, number of respondents –100 SMEs.

Fig. 2.12. Percentage breakdown of SMEs using Internet marketing tools or e-commerce by significance of increase in turnover.

An analysis of what discouraged the enterprises from using Internet marketing opportunities revealed that about a quarter of them (25.4%) did not have an understanding of e-commerce, 36.6% did not have a specialist in Internet marketing, a similar proportion of them (38 %) did not consider it an effective method. Almost half of the enterprises (47.9%) believed that using Internet marketing was too expensive. The answers to the question whether the enterprises would be ready to attend courses on the use of e-commerce also indicated that the SMEs lacked an understanding of e-commerce (Figure 2.13.).

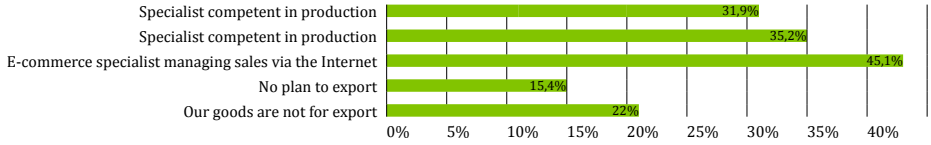


Source: authors' survey conducted in April – June 2019, number of respondents – 100 SMEs.

Fig. 2.13. Percentage breakdown of SME opinions on opportunities to take courses on e-commerce.

The most enterprises (38%) would definitely wish to take e-commerce courses, while 29% would probably take such courses. About a fifth (21%) would send one of their employees to take a course on e-commerce development. Only 12% found such courses useless. The survey

also revealed that the managements of the enterprises would be willing to pay for or co-fund courses on the use of e-commerce: 34.7% would fully pay for the courses, 45.8% would co-fund up to 50% of the participation fee. Only 11.1% of the enterprises would not be ready to provide financial support to their employees taking e-commerce courses. However, 12.5% of the respondents believed that no additional education was needed.



Source: authors' survey conducted in April – June 2019, number of respondents – 100 SMEs.

Fig. 2.14. Percentage breakdown of SME replies regarding what is needed to begin exporting.

Importantly, almost half of the enterprises (45.1%) admitted that they needed an e-commerce specialist to manage sales for export (Figure 2.14.). The other factors – specialists competent in production and new equipment – were noted less often, namely 35.2% enterprises indicated that they needed specialists competent in production and 31.9% admitted that new equipment that would increase their output capacity could also increase their export capacity. Therefore, it could be concluded that knowledge of and skills in e-commerce issues are one of the key factors that increase an enterprise's exports and, consequently, competitiveness.

2.3. Examples of best practices in the use of e-commerce by the SME sector in Latvia

To promote the transfer of best practices, in 2016 the MoE, in cooperation with the Latvian Information and Communication Technology Association, created a new category of awards "Best e-merchant 2016" and invited enterprises or projects that successfully used ICT solutions (e-commerce applications) to sell goods or services to consumers online to be nominated for the award. In the category "Best e-Merchant 2018", the award was received by the online paint shop Krasas.lv, which is the first full-fledged online paint shop in the Baltics, where everything needed for painting is available at affordable prices and with convenient door to door delivery service in Riga, Daugavpils and Liepaja. An award for the best mobile e-commerce application in 2019 was received by the online shop 220.lv. The online shop tet.lv owned by Tet Ltd was recognized as the most innovative company engaged in e-commerce in 2019 (although it did not correspond to the target audience of the research done by the authors – the SME sector), while the e-shop Cherry Picking was recognized as the e-commerce beginner of the year (MoE, 2019).

JSC "Madara Cosmetics"

In recent years, one of the most successful examples of e-commerce has been the largest cosmetics manufacturer "Madara Cosmetics" in Latvia, which in 2019 received orders from 98 countries around the world, including some exotic destinations where natural cosmetics made in Latvian were delivered to. The company has been able to process orders within three days even to such distant countries as Taiwan and Mexico. In 2018, the company has been awarded

the European "Role Model" award of the "SME Star Awards 2018" organised by the European Parliament in Brussels for small and medium companies. "The global development of logistics and the growth of sales via the Internet mean that the goods will be delivered anywhere in Europe the day after purchase. This creates huge opportunities for us, which is why e-commerce is one of our priorities," Uldis Iltners, a member of the Board of Madara Cosmetics, emphasized in the interview. His opinion on the development of e-commerce was as follows: "The geography of orders is very wide, and this confirms the opportunities provided by the growth of cosmetics sales via the Internet. We have invested a lot in e-commerce in recent years and will continue to do so. It is possible that in the future the e-Commerce Department will be the largest in our company" (Madara Cosmetics products ..., 2018).

The e-commerce platform for the company is provided by the external supplier EFUMO Ltd. In 2011, EFUMO designed the first version of the international online shop, which allowed the cosmetics company to gain wide international visibility (Figure 2.15.).

Source: EFUMO portfolio: Madara ..., 2019.

Fig. 2.15. E-commerce solutions at Madara Cosmetics.

The company has pointed out that one of the most important emphases in recent years has been put on modernizing the e-commerce system and implementing information technology (IT) projects to automate business operations, speed up data processing and analytics, as well as increase business efficiency. A total of EUR 280 000 has been invested in the development of e-commerce systems and IT projects (MADARA Cosmetics Plans..., 2019).

The company's turnover in 2018 was EUR 9.51 million (an increase of 29% compared with 2017), the number of employees was 74. In 2018, according to the representatives of Madara Cosmetics, 92% of the turnover was generated in the European Union, including in Latvia, while 8% – outside the EU. The largest sales volumes outside Latvia were achieved in Finland where its turnover in the first six months of 2018 amounted to EUR 1.27 million, which was an increase of 75% (Madara Cosmetics continues..., 2018).

"Krāsu serviss" Ltd

Since its establishment in 2000, the company has grown into one of the largest suppliers of paints and painting services in Latvia. In 2016, it invested in the development of an e-commerce website, establishing an online tinted paint shop Krasas.lv, which operates not only in Latvia but also in the Baltic States and Finland. An English-language website has also been created to attract customers from all over the world.

Kristiāns Gabaliņš, the founder of the company, said the following about the conception of the e-shop: "We focus on people who live in rural areas or small towns where the range of goods available in shops is very limited. I buy a lot of products myself online, and it is really convenient. You do not have to go to the shop, spend some time there and stand in a line". The opinion of K. Gabaliņš on the development of e-commerce: "This is a very complicated activity. We improve our online shop every day. We want to make it as easy as possible for our customers to place an order, spending as little time as possible at the computer. We plan to focus more on advertising campaigns because, at the moment, it is not the case that Estonians, Lithuanians or Australians would "overburden" us with orders. National producers still make up the core

business or 80% of our turnover". In 2018 in percentage terms, the volume of online sales of Krasas.lv reached only 5%. To expand e-commerce and foster the growth of the online shop, the goal is to attract high-class IT specialists. The company's turnover in 2018 was EUR 8 million, the number of employees was 80, and the online paint shop "e-maalit.fi" was opened for the Finnish market (Take paints to..., 2019).

"Autine Tools Company" Ltd

"Autine Tools Company" is an enterprise that specializes in the production of exclusive, high-quality axes and cutting tools, mainly using handicraft. The enterprise sells its products only via the online shop. The enterprise had an opportunity to begin its business by applying for this kind of support from the LEADER rural network, as well as by receiving a loan from the finance institution Altum. The enterprise has signed an agreement with LIAA on the implementation of a project to increase its international competitiveness, as its exports represent a significant share of its output, and the enterprise has already begun cooperation with distributors in the Netherlands, South Africa, Germany and conduct negotiations with potential partners from Sweden, China and Japan (Autine projects, 2019).

"Elitera" Ltd

"Elitera" supplies bedding (including custom sizes) through its online shop and a department store, as well as makes embroidery on textiles, restores down and feather products and produces pillows and blankets. Elitera has an extensive online shop with a connection to its Facebook profile. The information is available in Latvian and Russian. Cooperation has also been established with courier service providers, which allows processing orders within Latvia for no longer than five days (Elitera - services, 2019).

"MarMara Dolls" Ltd

"MarMara Dolls" produces homemade dolls that could be ordered on Facebook, Instagram and www.etsy.com. Each doll is unique and involves new moms in the production (MarMara Dolls – beautiful..., 2019). The average price of dolls is around EUR 100. In 2018 in the business idea competition "Mother. Sigulda. Entrepreneur", the local government of Sigulda municipality supported Māra Ķešāne to develop the brand "MarMara Dolls" (Business Idea Competition Winners ..., 2018).

Farm "Kurmīši"

The farm "Kurmīši" was founded in 1994 as a family farm. It supplies locally produced herbal teas to residents and tourists. In 2013, the farm received a certificate of conformity for organic farming. The medicinal plant fields of "Kurmīši" are located in the territory of the ecologically clean and landscape-rich nature park "Daugavas loki". In order not to deplete the fields, about 25 kinds of medicinal plants have been grown in the fields of "Kurmīši" since 1994. Among them there are several medicinal plants growing in the wild in Latvia, as well as the most popular medicinal plants of America and Asia (Farm "Kurmīši", 2019).

The farm also owns an extensive online shop in Latvian and English, and its products are delivered by means of Omniva Ltd parcel machines or couriers. Order processing time is up to three working days. The farm invites people to apply electronically for excursions to the farm.

"Wooly Organic" Ltd

"Wooly Organic" supplies modern toys and clothes, the design of which does not get outdated and which are suitable for all children. Its products are designed considering simplicity, durability and comfort. They are produced in Liepaja from materials acquired in the EU. All the materials are organic and environmentally friendly – the fabric is 100% organic cotton grown without the use of toxic fertilizers or pesticides and certified in accordance with the Global Organic Textile Standard (GOTS).

The company has developed a modern online shop in Latvian and English. Particular attention was paid to the design of the online shop, the visual identity and the personal story of the company's founders. The company had 20 employees in 2019, its founder Madara More revealed that the company's main markets were France and Germany, yet there was no shortage of buyers in Italy and the Scandinavian region. The representatives of the company pointed out that the domestic market was also extensive, although it was not always sufficiently appreciated – buyers in Latvia purchased the same quantity of products as sold in Europe (Children's Toy Manufacturer…, 2019).

Sole proprietorship "Jack Snipe"

"Jack Snipe" has received support from the Daugavpils Business Incubator to make ergonomic oak pallets – accessories for laptops, tablets and phones. The products are handmade. The company actively markets its products on the website www.etsy.com as well as on Facebook (LIAA, 2019a). The products are mainly focused on foreign markets. The company has a tasteful visual image with emphasis on natural elements.

Municipal e-solutions for business support

Municipalities also develop various IT solutions to promote the growth of local businesses. Based on the municipal functions, they grant tax rebates to their businesspersons, offer to participate in municipal procurement, establish business support commissions, organize breakfasts with businesspersons, participate in business incubator activities, provide free consultations and seminars for companies, hold business honouring events and project proposal competitions etc.

Municipalities are involved in the development of modern IT solutions to provide support and promote business expansion. For example, LIAA, in cooperation with local governments, has developed a real estate database, which contains information on the real estate that can be used for business purposes (LIAA, 2019b). Not all municipalities provide complete information; however, in some municipalities an extensive real estate database has been established (for example, 33 properties have been registered in Kuldīga municipality that could be used for business purposes). Municipalities also provide information on starting a business, support programmes, as well as links to companies registered in the region (business directory).

The main prerequisite for successful e-commerce is the development of an online shopping platform so that it is connected to online payment and courier systems, which would provide convenient shopping and fast delivery of goods. In addition, it is important for enterprises to consider the visual identity of their online shops and their availability in various languages in order to ensure cross-border sales. In most cases, the development of enterprises is facilitated by means of national or municipal support, as well as the implementation of EU co-funded projects. Besides, a product that is unique in its field, tailor-made, should be developed to gain market share. Enterprise profiles should also be created on social media, which allow for quick communication.

2.4. E-commerce development opportunities for the SME sector

A survey of businesspersons on the factors contributing to the development of e-commerce was conducted to examine in detail the use of e-commerce opportunities by businesspersons in Latvia. The purpose of the survey was to identify the factors influencing the use of e-commerce by enterprises in Latvia, incl. whether the factors differed depending on the region of Latvia in which the enterprises operate and the intensity of e-commerce use. The survey was conducted from September to November 2019 and involved 77 enterprises representing all the regions of Latvia as well as various industries of the national economy. The enterprises were selected from the small and medium enterprise sector, from among those producing goods or services that could be distributed using e-commerce opportunities.

The survey was conducted electronically using the e-platform tool WebropolSurveys.

For the survey to be representative, a sample of enterprises that could represent the whole target group – national enterprises – was selected. The following criteria were set for this purpose:

1. The kind of economic activity of the enterprise – the business sector;
2. The number of employees in the enterprise (corresponds to the SME sector);
3. The place of registration of the enterprise (regions).

An F-test was performed to identify whether there were significant differences between enterprises that took full advantage of e-commerce and those that did not used e-commerce at all – whether there was a significant variance between the samples. The calculations showed that in all the cases, the value of F was less than the critical value of F (both values were very similar only for the factor group Legislation). This means that the null hypothesis regarding the same variance in both samples cannot be rejected at the significance level of $\alpha=0.05$, and the variances in both samples (businesspersons who did not use e-commerce at all and those who took full advantage of e-commerce opportunities) were the same.

A t-test on the averages of both samples was also performed, i.e. a null hypothesis (Ho) was put forward that the averages of both samples (businesspersons who did not use e-commerce at all and those who took full advantage of e-commerce opportunities) were the same for each factor group. The calculations showed (Table 2.2) that the statistical value of t was larger than the critical value of t at the significance level of $\alpha=0.05$ for the factor groups Social factors and Legislation. This means that the null hypothesis needs to be rejected because there were significant differences between the averages of both samples. Therefore, it could be concluded that there were significant differences in the ratings of the factor groups Social factors and Legislation that influenced the development of e-commerce between the businesspersons who took full advantage of e-commerce opportunities and those who did not use e-commerce at all. As regards the other factor groups (Economic factors, Public policies and Technological progress), there were no differences in the significance of factors influencing the development of e-commerce between the enterprises that did not use e-commerce at all and those who took full advantage of e-commerce opportunities.

Table 2.2. Results of the t-test on the averages of two samples with the same variance (factor groups) regarding the degree of use of e-commerce

Factor group	t statistical value	t critical value	Result
Economic factors	0.135	2.055	Ho cannot be rejected
Public policies	0.236	2.055	Ho cannot be rejected
Technological progress	0.416	2.048	Ho cannot be rejected
Social factors	2.446	2.051	Ho needs to be rejected
Legislation	2.766	2.051	Ho needs to be rejected

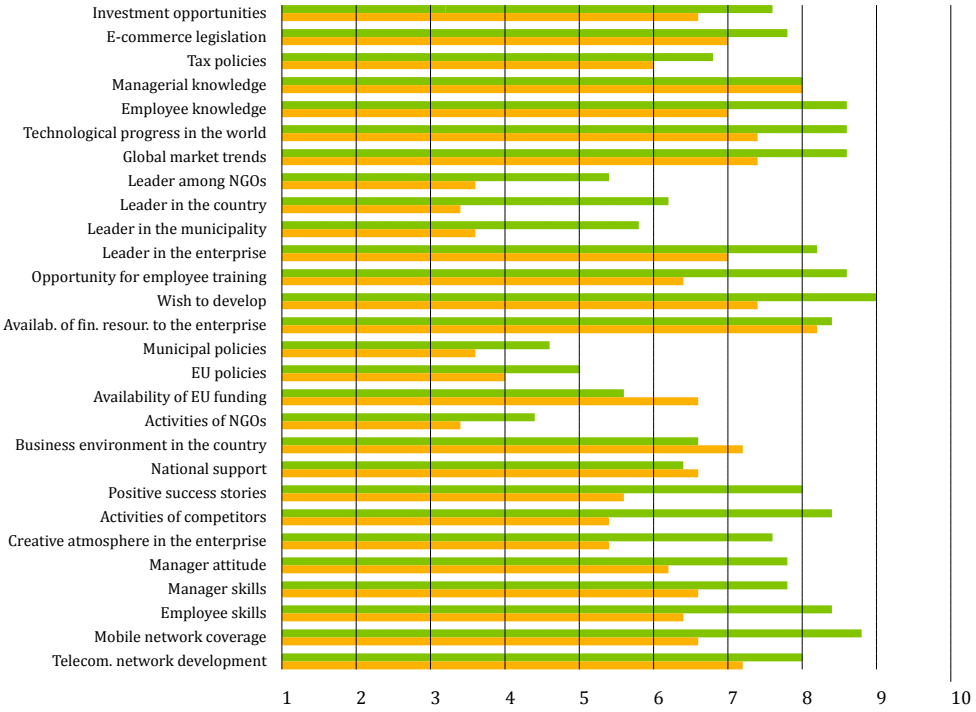
Source: authors' calculations based on the survey of enterprises; number of respondents 77; research period: November 2019 – January 2020.

Next, an analysis was done to identify whether there were differences in specific factors between the businesspersons who took full advantage of e-commerce opportunities and those who did not use e-commerce at all (Figure 2.16.).

A preliminary comparison showed that the average rating of each factor differed the most for the following factors: "Leader in the country" (difference in the average rating of the factor between the businesspersons who took full advantage of e-commerce opportunities and those who did not use e-commerce at all was 56%), "Leader among NGOs" (53%), "Leader in the municipality" (39%), "Activities of competitors" (37%), "Activities of NGOs" (36%) and "Positive success stories" (32%). The difference in the average ratings of the following factors: "Managerial knowledge", "Availability of financial resources to the enterprise", "National support" and "Business environment in the country" between the businesspersons who took full advantage of e-commerce opportunities and those who did not use e-commerce at all was less than 10%.

To identify whether there were significant differences in the ratings of the factors influencing the development of e-commerce, depending on whether the businesspersons took full advantage of e-commerce opportunities or did not use e-commerce at all, an F-test on sample variances was performed first. Its results showed that in all the cases the value of F was less than the critical value of F. This means that the null hypothesis regarding the same variance in both samples cannot be rejected at the significance level of $\alpha=0.05$, and the variations in both samples (businesspersons who took full advantage of e-commerce opportunities and those who did not use e-commerce at all) were the same.

A t-test on the averages of both samples was also performed, i.e. a null hypothesis (Ho) was put forward that the averages of both samples (businesspersons who did not use e-commerce at all and those who took full advantage of e-commerce opportunities) were the same for each factor group.



Ratings on a 10-point scale Used fully Used not at all. *Source: authors' survey of enterprises; number of respondents 77; research period:N ovember 2019 – January 2020.*

Fig. 2.16. Businessperson ratings of factors based on their answers to the question "Would you rank the groups of factors influencing the development of e-commerce by significance (1 – the most significant)" according to the degree of use of e-commerce by the enterprise.

The t-test calculations are shown in Table 2.3. Comparing the statistical values of t with the critical values of t, the null hypothesis (Ho) regarding the same variance in both samples must be rejected at the significance level of α=0.05 for the following factors:

- Mobile network coverage;
- Employee skills;
- Manager attitude;
- Creative atmosphere in the enterprise;
- Activities of competitors;
- Positive success stories;
- Wish to develop;
- Opportunity for employee training;
- Leader in the country;
- Leader among NGOs;
- Global market trends;
- Technological progress in the world;
- Employee knowledge.

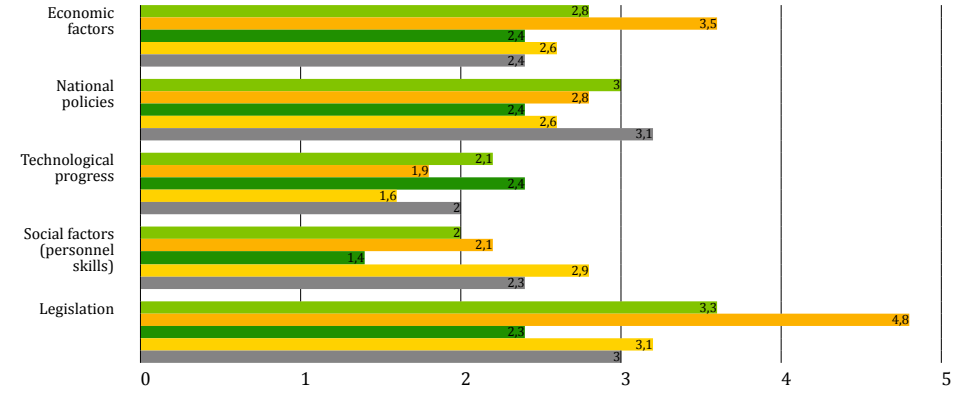
This means that the average ratings of the mentioned factors differed significantly between the enterprises that did not use e-commerce at all and those that took full advantage of e-commerce opportunities. As regards the other factors, e.g. telecommunications network development, manager skills, national support, their average ratings did not differ significantly between the enterprises that took full advantage of e-commerce opportunities and those that did not use e-commerce at all.

Table 2.3. Results of the t-test on the averages of two samples with the same variance (individual factors) regarding the degree of use of e-commerce

Factor	t statistical value	t critical value	Result
Telecommunications network development	0.960	2.048	Ho cannot be rejected
Mobile network coverage	3.159	2.048	Ho needs to be rejected
Employee skills	2.591	2.048	Ho needs to be rejected
Manager skills	1.265	2.048	Ho cannot be rejected
Manager attitude	2.429	2.048	Ho needs to be rejected
Creative atmosphere in the enterprise	2.570	2.048	Ho needs to be rejected
Activities of competitors	4.148	2.048	Ho needs to be rejected
Positive success stories	3.749	2.048	Ho needs to be rejected
National support	0.304	2.051	Ho cannot be rejected
Business environment in the country	0.746	2.048	Ho cannot be rejected
Activities of NGOs	1.343	2.051	Ho cannot be rejected
Availability of EU funding	0.746	2.048	Ho cannot be rejected
EU policies	0.836	2.048	Ho cannot be rejected
Municipal policies	0.839	2.051	Ho cannot be rejected
Availability of financial resources to the enterprise	0.234	2.048	Ho cannot be rejected
Wish to develop	2.925	2.048	Ho needs to be rejected
Opportunity for employee training	3.415	2.048	Ho needs to be rejected
Leader in the enterprise	1.428	2.048	Ho cannot be rejected
Leader in the municipality	1.801	2.048	Ho cannot be rejected
Leader in the country	3.166	2.048	Ho needs to be rejected
Leader among NGOs	2.342	2.048	Ho needs to be rejected
Global market trends	3.142	2.048	Ho needs to be rejected
Technological progress in the world	2.836	2.048	Ho needs to be rejected
Employee knowledge	2.786	2.048	Ho needs to be rejected
Managerial knowledge	0.007	2.051	Ho cannot be rejected
Tax policies	0.604	2.051	Ho cannot be rejected
E-commerce legislation	0.962	2.048	Ho cannot be rejected
Investment opportunities	0.157	2.048	Ho cannot be rejected

Source: authors' calculations based on the survey of enterprises; number of respondents 77; research period: November 2019 – January 2020.

The initial regional comparison (Figure 2.17.) showed that there were mostly differences in the ratings of the following factor groups: Social factors and Legislation.



Source: authors' survey of enterprises; number of respondents 77; research period: November 2019 – January 2020.

Fig. 2.17. Businessperson ratings of factors based on their answers to the question "Would you rank the groups of factors influencing the development of e-commerce by significance (1 – the most significant)" and by region.

To identify whether there were significant regional differences in the ratings of the groups of factors influencing the development of e-commerce by the businesspersons surveyed, an F-test on sample variances was performed first. Its results showed that in all the cases the value of F was less than the critical value of F. This means that the null hypothesis regarding the same variance in the samples cannot be rejected at the significance level of α=0.05, and the variations in the samples (distribution of businesspersons by region) were the same.

Next, a t-test on the averages of the samples was performed, i.e. a null hypothesis (Ho) was put forward that the averages of the samples (ratings of the respective region in comparison with the average) were the same for each factor group (Table 2.4).

Table 2.4. Results of the t-test on the averages of the samples with the same variance (factor groups) by region

Factor group	t statistical value	t critical value	Result
Riga			
Economic factors	0.742	1.980	Ho cannot be rejected
National policies	0.692	1.981	Ho cannot be rejected
Technological progress	0.051	1.980	Ho cannot be rejected
Social factors	0.322	1.980	Ho cannot be rejected
Legislation	0.630	1.980	Ho cannot be rejected
Kurzeme			
Economic factors	0.038	1.989	Ho cannot be rejected
National policies	0.616	1.989	Ho cannot be rejected
Technological progress	0.819	1.988	Ho cannot be rejected
Social factors	1.445	1.988	Ho cannot be rejected
Legislation	0.070	1.989	Ho cannot be rejected
Vidzeme			
Economic factors	0.326	1.988	Ho cannot be rejected
National policies	1.063	1.989	Ho cannot be rejected
Technological progress	0.951	1.988	Ho cannot be rejected
Social factors	1.671	1.988	Ho cannot be rejected
Legislation	1.840	1.988	Ho cannot be rejected
Latgale			
Economic factors	1.778	1.989	Ho cannot be rejected

National policies	0.332	1.989	Ho cannot be rejected
Technological progress	0.290	1.988	Ho cannot be rejected
Social factors	0.126	1.989	Ho cannot be rejected
Legislation	3.460	1.989	Ho needs to be rejected
Zemgale			
Economic factors	0.419	1.988	Ho cannot be rejected
National policies	0.269	1.988	Ho cannot be rejected
Technological progress	0.476	1.988	Ho cannot be rejected
Social factors	0.158	1.988	Ho cannot be rejected
Legislation	0.331	1.988	Ho cannot be rejected

Source: authors' calculations based on the survey of enterprises; number of respondents 77; research period: November 2019 – January 2020.

As shown in Table 2.4., the t-test on the averages of the samples showed that Latgale businesspersons' ratings of the factor group Legislation differed significantly from the overall opinion of the businesspersons surveyed. The other ratings did not differ significantly at the significance level of α=0.05.

Conclusions

- The most comprehensive definition of e-commerce has been given by US researcher Chaffey, who has stated that any information transaction in an electronic environment represents e-commerce. The nature, purposefulness, ubiquity, global access, universal standards, content completeness, interaction, information concentration and personalization of e-commerce enable enterprises to significantly increase their performance and efficiency.
- The research papers examined indicate that the use of the digital environment and e-commerce significantly increases the performance and efficiency of companies, allowing the companies to save human resources on operation, make significant time savings on operations and communication, as well as save financial resources.
- The scientific literature review and an analysis of the development of the digital environment allowed identifying the main factors influencing e-commerce: technological factors, economic factors, as well as organizational and social factors. Each of the factor groups consists of a number of factors that make an impact on the development of e-commerce, and the research papers analysed revealed that the impacts of the factors might vary from country to country. To identify the impacts of each factor on the development of e-commerce in Latvia, it is necessary to analyse each factor group.
- Two factors from the group of economic factors – public policies and EU policies – can make both positive and negative impacts on the development of e-commerce in a country.
- Global and European statistics show that the number of potential consumers of e-commerce in the digital environment is constantly increasing, as the number of commercial transactions in the global market rises rapidly.
- E-commerce turnover growth rates also increase rapidly. Over the last 10 years – from 2014 to 2023 –, global e-commerce is projected to grow at least 5.3-fold.
- According to the 2020 report on the Digital Economy and Society Index (DESI), the level of digitalization in Latvia was slightly below the EU average (18th place among the 28 EU Member States). Since 2014, Latvia has made significant progress in the area of digital public services, as well as in the connectivity dimension. However, the level of digital skills of the population was low, as was the use of digital technologies by enterprises. In 2019, Latvia ranked only 24th in the Integration of digital technology dimension, which includes the e-commerce and business component. Compared with the other Baltic States, Latvia

had very low e-commerce turnover (24th place), and the share of SMEs selling online (25th place) and the share of SMEs selling online across borders (25th place) were also low.

- As regards the online shopping habits of the population in Latvia, the residents of Riga region tended to buy more expensive goods than those of the other regions. Cheaper goods (less than EUR 50) were most often bought in Latgale and Vidzeme regions. Men tended to buy more expensive goods online than women. An analysis of the levels of education of the population who shopped online has revealed that the higher the level of education, the more expensive purchases the population make online. However, an analysis of the population by occupation showed that the most expensive online purchases were made by employees, whereas the cheapest ones by pupils and students.
- An analysis of statistical data showed most people aged 55 to 64 had never used the Internet for shopping (43.5%). In contrast, in the age group from 24 to 35, only 12.5% of the population had never used the Internet for shopping. The regional analysis showed that Pieriga and Riga had the least number of people who did not shop online, whereas Latgale had the most such people. Approximately a third of the population with secondary and primary education and a fifth of the population with higher education had never shopped online.
- An analysis of the online shopping habits of the population by frequency of purchases in the last three months revealed that the most frequent (more than 6 times) shopping pattern was observed for those aged between 35 and 44, followed by those aged 25 to 34. Those aged between 55 to 64 were relatively less likely to shop online. Those with secondary and higher education shopped online more often, whereas those with primary education – less often. Jobseekers were more likely to shop online than others. The population in Kurzeme and Riga most often shopped online.
- The majority of the population (77%) admitted that they had not had any problems when shopping online. The most common problems were as follows: the delivery took longer than expected; wrong or damaged goods were delivered. The main reason why people did not shop online was their wish to see the product by their own eyes.
- An analysis of the profiles of enterprises selling online revealed a trend – the more employees an enterprise employs, the more likely it is to sell its goods online or buy goods from other enterprises. The larger the enterprise in terms of number of employees, the more it buys or sells goods outside the EU. Sectoral data showed that the most export-oriented industries in relation to e-commerce were information and communication services, administrative and support service activities, and wholesale and retail trade.
- In Latvia, the majority of SMEs used the Internet to communicate with their customers and advertise. The most popular digital tools for SMEs were e-mail and advertisements. Approximately half of the enterprises surveyed did not use the Internet to sell their goods online, while those who sold their goods online usually earned between EUR 100 and 1000 in revenue each month. The most enterprises that used Internet marketing tools and e-commerce admitted that it made a significant effect on their turnover – it increased by up to 50%. The main reasons that deterred SMEs from using Internet marketing were a lack of understanding of e-commerce, a lack of professionals who could deal with Internet marketing, and this would require a lot of investment. Most of the enterprises surveyed needed to improve their understanding of e-commerce. Most businesspersons were willing to pay for or co-fund training in e-commerce. Almost half of the SMEs surveyed admitted that the main factor in increasing their exports was an e-commerce specialist in the enterprise that would organize the sales process.

- There are enterprises in Latvia that actively use e-commerce opportunities. The successful experience of enterprises such as the JSC Madara Cosmetics, Elitera Ltd, Autine Tools Company Ltd and MarMara Dolls Ltd in the use of e-commerce showed that the development of e-commerce was an important factor in increasing their competitiveness. The key prerequisites for successful e-commerce are as follows: an online shop platform that is connected to online payment and courier systems to ensure easy shopping and fast delivery; development of the visual identity of the online shop and the availability of the shop in various languages for cross-border sales; a product that is unique in its field, tailor-made, should be developed to gain market share; enterprise profiles should also be created on social media, which allow for quick communication.

Proposals

- In the new programming period of the EU financial instruments for 2021–2027, the Ministry of Economics needs to initiate a "Digital Transformation Programme for SMEs" to provide grants co-funded by the European Union Funds to the SME sector for the implementation of digital transformation and e-commerce solutions in the enterprises that increase their sales and export capacity.
- The Ministry of Economics in cooperation with the Ministry of Environmental Protection and Regional Development and the Planning Region Development Councils should conduct information campaigns aimed at popularizing the most successful e-commerce solutions in the SME sector, showing success stories about the development and export of national products and services and enterprise performance in the global digital environment.
- The Planning Region Development Councils in cooperation with regional universities need to regularly hold hackathons to address regional SME development problems, as well as the development of new products and use of e-commerce solutions to increase the efficiency, competitiveness and export capacity of enterprises.
- The Planning Region Development Councils need to identify potential business development sites in their regions and participate in coordinating the Broadband Network Implementation Project by providing quality Internet connections at potential business development sites.
- Until the end of 2023, the Ministry of Education and Science in cooperation with the State Education Development Agency (SEDA) needs to design adult continuing education and professional development programmes within European Social Fund project No. 8.4.1.0/16/I/001 Enhancement of Professional Competences of Employed Persons, announcing admission to the training programmes at least twice a year and providing all forms of training, especially distance learning, which give training opportunities for regional enterprise managers and employees.
- The Ministry of Economics, in cooperation with the Latvian Chamber of Commerce and Industry, the Latvian Employers Confederation and the Sectoral Expert Councils, has to carefully consider the need for the development of necessary skills and competencies when procuring training services within European Social Fund project No. 8.4.1.0/16/I/001 Enhancement of Professional Competences of Employed Persons to foster the digital transformation of enterprises and the use of e-commerce.

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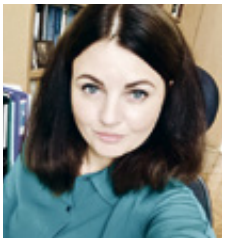
3. Employment

Promoting Employment in the Context of the Covid-19 Pandemic



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The economic crisis caused by the Covid-19 pandemic is a test of the strength and resilience of society and the economy. After the initial shock, economic activity has returned to normal, adapting to the restrictions, the working life has stabilized for many, yet not for everyone, while overall employment processes have been impacted deeply. The present paper analyses the impacts of the Covid-19 crisis on the labour market and the current challenges, highlighting the social groups most impacted by the crisis and indicating where more and longer-term support might be needed.

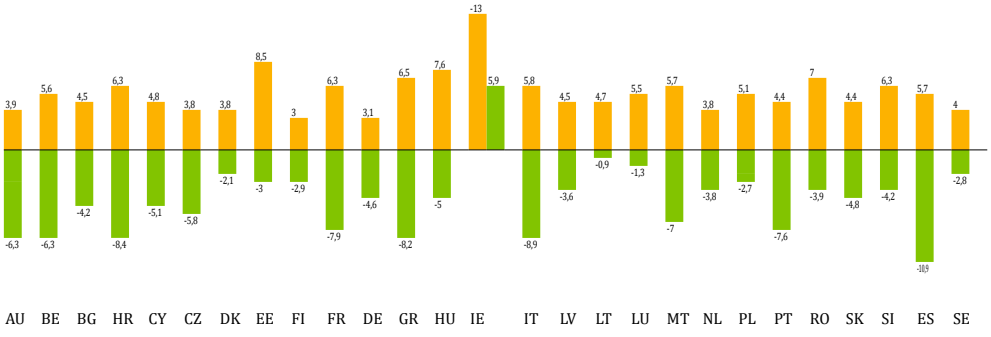
3.1. The economic crisis caused by the pandemic negatively impacted long-term prosperity

The International Labour Organization (ILO) has stated that the Covid-19 pandemic has made significant impacts on the labour market. Not only public health is endangered but also economic and social conditions undermine the long-term livelihoods and prosperity of millions. Both the ILO and national governments, employees and employers play a crucial role in contributing to the sustainability of businesses and jobs (Covid-19 and the ..., 2021).

The World Bank (WB) forecasts that the global economy is going to grow by 5.6% in 2021, which is the highest post-recession growth rate in 80 years. This recovery is uneven and reflects a sharp rebound in some major economies. In many emerging market economies and the least developed countries, slow vaccination barriers continue hampering economic activity. Until 2022, the loss of per capita income will not be fully eliminated in about 2/3 of emerging market economies and the least developed countries. The global outlook is subject to significant risks, including the possibility of additional waves of Covid-19 and financial stress in the context of high debt levels in emerging market economies and the least developed countries. Policymakers need to balance recovery support and price stability and fiscal sustainability and continue implementing growth-friendly reforms (World Bank Group, 2021).

In 2020 in the European Union (EU), the Covid-19 pandemic has plunged the eurozone into the deepest recession and contributes to growing disparities, especially between regions. Even though due to an extensive, rapid, strong and innovative political response to the crisis, incl. the common instrument for financing national recovery plans (NextGenerationEU),

growth has resumed, yet ambitious reforms are needed to heal the wounds made by the pandemic and make progress in the green and digital transitions (OECD, 2021).



Source: author's construction based on World Bank national accounts data, OECD National Accounts data files and International Money Fund data.

Fig. 3.1. GDP growth rates in the European Union Member States in 2020, %.

As shown in Figure 3.1, Ireland stands out as the only EU Member State with a GDP growth rate of above 0 or 5.9% in 2020. The Irish economic minister, Paschal Donohoe, explaining whether the Covid-19 pandemic caused an economic crisis in Ireland stated that the "significant" GDP growth was the result of growing exports. Besides, local economists tended not to focus on GDP as a measure of the Irish economy, given the presence of so many large US companies using the country as a gateway to the European market. The modified domestic demand, which is adjusted for the impacts of various activities on the local economy, contracted by 5.5% in 2020, while household consumption decreased by 9%, which was twice the worst figure than that reported during the global financial crisis in 2009. Although 2020 was a challenging year for domestic exports due to declining food and beverage exports, the pharmaceutical and ICT sectors reported extraordinary increases in exports due to the exports of immunological drugs and Covid-related products as well as the transition to remote work (Flanagan P., 2021).

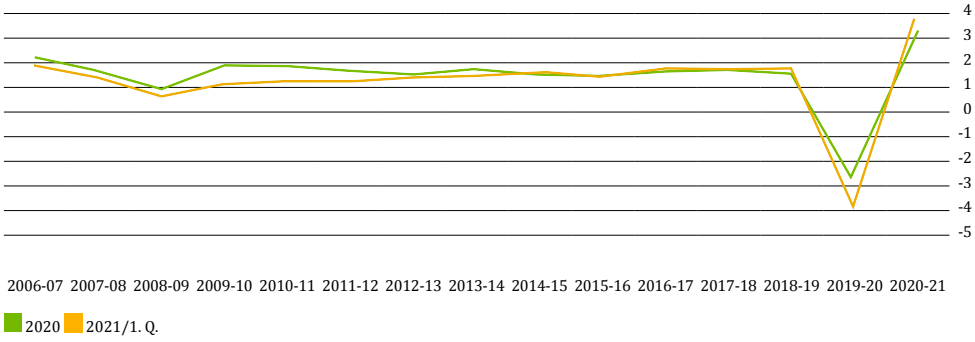
The Organisation for Economic Cooperation and Development (OECD) reports that, following the worst recession caused by Covid-19, the European economy has resumed growth, driven by EU leadership and fast and strong institutional responses. However, the OECD points out that returning to pre-pandemic levels will not be enough. The crisis has both exacerbated current problems, e.g. regional disparities, and created new challenges. A strong and sustainable recovery will play a key role in implementing reforms to boost growth potential with the support of macroeconomic policies until the recovery is steady, while strengthening the architecture of the European economy. The recent EU and eurozone economic surveys warn of the premature cessation of fiscal and monetary support and call for clarification on the future development of the policies as the recovery progresses. NextGenerationEU recovery funds should be invested fast to boost growth and jobs, support the transition to a green and digital economy and reduce territorial disparities (Europe: continue to ..., 2021).

ILO Convention No. 122 and European Commission Recommendation No. 169 provides for a stable and comprehensive framework to promote full, productive and freely chosen

employment, giving an opportunity to recover from the current crisis. The ILO emphasizes that the economy and society need urgent support measures, as well as medium- and long-term measures, to emerge from the crisis stronger and more resilient than before (ILO, 2021).

3.2. Impacts of Covid-19 on gender equality in the global and domestic labour markets

The ILO has stated that in order to promote job creation and decent work in times of crisis, national employment policies need to be inclusive, gender-sensitive and include both immediate and long-term responses and recovery measures (ILO, 2021). The ILO states that fewer women than men are expected to return to work during the Covid-19 pandemic. The new report on policies reveals that the disproportionate loss of jobs and income suffered by women during the pandemic is expected to continue in the nearest future. Women have been hit hardest than men in the worst-affected sectors, e.g. accommodation and food service activities and related services. According to the ILO, the increased inequality between women and men in the labour market during the Covid-19 pandemic will persist in the nearest future (Fewer women ..., 2021).



Source: International Labour Organization. Policy Brief.

Fig. 3.2. Percentage changes in employment by gender in 2006-2021 and the employment rate in 2021.

The economic crisis caused by the Covid-19 pandemic has led to unprecedented job losses worldwide, with employment for women decreasing by 4.2% or 54 million jobs between 2019 and 2020 and for men by 3% or 60 million jobs. Figure 3.2. shows that for both women and men, the decrease in employment during this period was more pronounced than during the Great Recession a decade ago. Many women worked informally in the services and manufacturing industries. Limited access to social protection and an increase in violence and harassment have also made it more difficult for women than for men to retain their jobs.

The ILO forecasts that globally in 2021 compared with 2020, the employment of women will increase by 3.3% or 41 million jobs, while an increase in the employment of men is forecasted at 3% or 59 million jobs. Although the forecasted rate of growth in the employment of women in 2021 is higher than that for men, it is still not enough to return to the pre-pandemic employment rate of women, as in 2020 women experienced a larger decrease in employment (-4.2%). It is forecasted that in the world, the number of employed women is expected to

decrease by 13 million in 2021 compared 2019, while the number of employed men is approximately the same as in 2019, i.e. 1270 mln. women and 2019 mln. men are employed in 2021. Only 43.2% of the world's working-age women are in employment in 2021, compared with 68.6% of working-age men, i.e. women have a 25.4% lower chance to have jobs than men do (ILO Policy Brief, 2021).

Marking the 25th anniversary of the Beijing Platform for Action, the year 2020 was expected to be an innovative year for gender equality. Instead, with the spread of the Covid-19 pandemic, there is a growing risk that even the modest gains of recent decades could be lost. The pandemic exacerbates current inequalities, revealing vulnerabilities in social, political and economic systems, which in turn exacerbates the impacts of the pandemic. In all areas, from health to the economy and social security, the impacts of Covid-19 on women and girls increase solely because of their gender (United Nation, 2020).

A survey of the unemployed was conducted in Latvia to identify the impacts of the Covid-19 pandemic on unemployment in Latvia. The survey was conducted by the research centre SKDS[1]. All 216 respondents, inter alia, were asked whether their remuneration expectations had been affected by the Covid-19 pandemic. Most respondents (39.4%) stated that they expected to find a job with the same remuneration; 14.8% were ready to work for lower remuneration; 15.7% aimed at finding a better paid job, while 30.1% did not plan to enter into an employment relationship; therefore, there is sufficient reason to believe that such unemployed individuals might become long-term unemployed.

To obtain more detailed information, the author performed a cross tabulation analysis of the job positions of men and women in relation to remuneration (Table 3.1.). The Covid-19 pandemic has affected 33.9% men, 13.6% of whom wanted to find a better paid job, and 20.3% agreed to work in a lower paid job than before the Covid-19 pandemic. The opinions of 29.3% women affected by the pandemic in relation to remuneration were as follows: 16.6% aimed at finding a better paid job; 12.7% agreed to work for lower remuneration. However, 42.4% men and 38.2% women wanted to find a job with the same remuneration, while 23.7% men and 32.5% women did not plan to enter employment at all.

Table 3.1. Percentage breakdown of women's and men's replies to the question "Has the Covid-19 pandemic influenced your remuneration expectations?"

Yes, I expect to find a better paid job Yes, I am ready to work for lower remuneration			Has the Covid-19 pandemic influenced your remuneration expectations?				Total
			No, I expect to find a job with the same remuneration	Do not plan to enter employment			
Gender	Men	% for the respective gender	13.6%	20.3%	42.4%	23.7%	100.0%
		% Has the Covid-19 pandemic influenced your remuneration expectations?	23.5%	37.5%	29.4%	21.5%	27.3%
		% of total	3.7%	5.6%	11.6%	6.5%	27.3%
	Women	% for the respective gender	16.6%	12.7%	38.2%	32.5%	100.0%
		% Has the Covid-19 pandemic influenced your remuneration expectations?	76.5%	62.5%	70.6%	78.5%	72.7%
		% of total	12.0%	9.3%	27.8%	23.6%	72.7%

[1] SKDS has been represented in ESOMAR (European Society for Opinion and Market Research) since 2000 and operates in accordance with the ethical and methodological standards set by this organization; since 2014, SKDS has been represented in the WIN network of research communities (SKDS, 2020).

Total % Has the Covid-19 pandemic influenced your remuneration expectations? % of total	% for the respective gender	15.7%	14.8%	39.4%	30.1%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	
	15.7%	14.8%	39.4%	30.1%	100.0%	

The most worrying factor is the relatively high number of the unemployed who did not plan to enter employment at all.

3.3. Impacts of Covid-19 on long-term unemployment

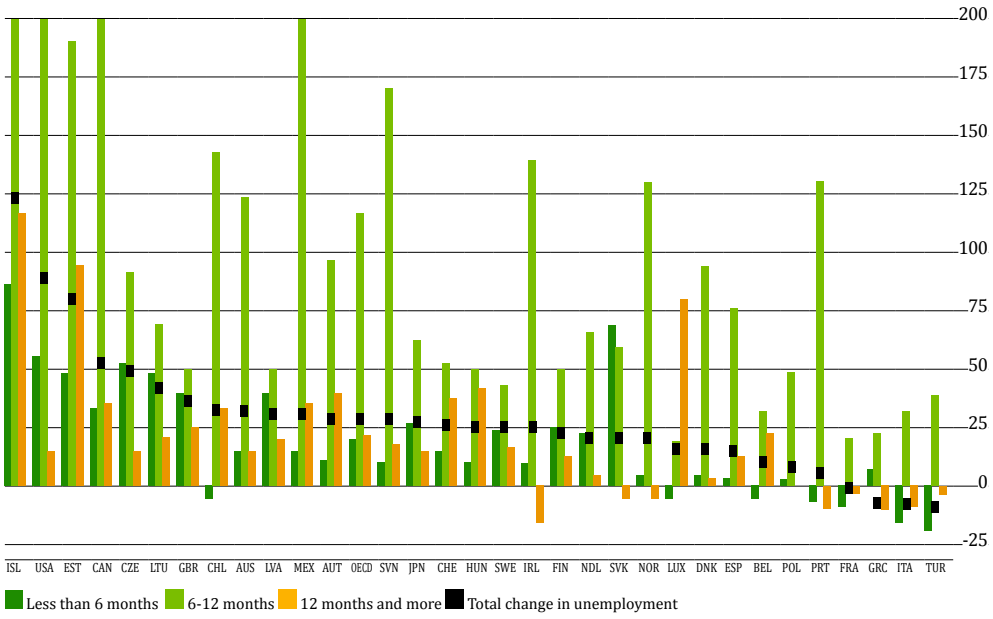
As shown in Table 3.1, 30.1% of the unemployed who did not intend to enter employment could be reasonably considered to be the current long-term unemployed or to become the long-term unemployed in the future.

Long-term unemployment (an individual is unemployed for more than 12 months) could cause serious negative consequences for the individual, society and the economy. It becomes increasingly difficult for individuals who have been out of work for a long time to find a job. They also have lower earnings and limited career prospects. Employee human capital (actual or perceived by the employer) might deteriorate or become obsolete during long-term unemployment. In addition, the time and willpower spent looking for a job tends to decrease, and the probability of leaving unemployment decreases significantly with the duration of unemployment. Over time, the long-term unemployed leave the labour market also because they retire or become participants in programmes for people with disabilities. At the national level, high long-term unemployment jeopardizes the achievement of general employment policy goals, lowers access to decent jobs and limits occupational and geographical mobility (Bejaković, Mrnjavac 2018).

The causes of long-term unemployment are structural unemployment and cyclical unemployment. A recession leads to a considerable increase in cyclical unemployment. Those who cannot find jobs become long-term unemployed, and their skills become obsolete if they are out of work for a long time. This contributes to structural unemployment. Such people have less money to spend, which reduces consumer demand. It also slows economic growth, leading to more cyclical unemployment (Amadeo, 2021).

The Covid-19 crisis could increase long-term unemployment. The pandemic and the lockdowns imposed have led to a significant decline in economic activity, reduced employment and increased unemployment, especially for low-skilled employees who are unable to work from home. Despite comprehensive government support programmes implemented, the unemployment rate in Europe has increased from 6.3% in 2019 to 7.5% in the third quarter of 2020. Although a gradual recovery is observed, the long-term consequence of the Covid-19 pandemic is an increase in the number of the unemployed due to labour market hysteresis. Government policies aimed to reduce long-term unemployment help to limit the impacts of the Covid-19 crisis on the labour market and the entire economy.

The OECD points out that a large number of employees work part-time or have been furloughed, and that the labour market remains vulnerable to a considerable increase in long-term unemployment. There is a risk of emergence of a gap between those who have continued working and those who have lost their jobs and incomes. At the same time, the gap between those who have withstood the crisis, working part-time or being furloughed for a short period, and those who have lost their jobs, exhausted their entitlement to benefits and are at risk of long-term consequences might widen. At the end of 2020, there were 60% more people out of work for at least six months than before the crisis, and in the first months of 2021, the figure was still increasing.



Source: OECD Library. Labour market developments: The unfolding Covid-19 crisis.

Fig. 3.3. Percentage changes in the length of unemployment (4th quarter of 2019 – 4th quarter of 2020).

Usually, the proportion of the long-term unemployed is estimated according to the definition – unemployed for 12 months or more; therefore, the long-term unemployment only starts to increase one year after the onset of rising unemployment. According to this definition and the delay in the availability of international data, the employees furloughed at the beginning of the Covid-19 crisis are not yet included in the latest available data. However, with the number of people out of work between 6 and 12 months increasing and the number of job vacancies increasing inconsiderably, an increase in long-term unemployment could be expected in the nearest future.

At the end of March 2021 in Latvia, there were 19520 long-term unemployed persons registered with the State Employment Agency (SEA), which made up 26.3% of the total number of the registered unemployed. Of the total number of the long-term unemployed, 54.5% were persons aged 50 and over; 24.0% were people with disabilities; 2.3% were young people (15–24 years) (SEA, 2021). It should be taken into account that a large segment of the long-term unemployed were not register with the SEA because the period for receiving unemployment benefits has expired, as well as the SEA requirement to actively participate in the job search seemed difficult for many.

The unemployed respondents surveyed by SKDS were asked two questions to identify whether they planned to cooperate with the SEA[2]. When asked whether the unemployed

[2] In accordance with the Support for Unemployed Persons and Persons Seeking Employment Law of the Republic of Latvia, the SEA implements the State policy in the field of unemployment reduction and in the field of support for unemployed persons, persons seeking employment and persons subject to the risk of unemployment. The SEA not only registers and keeps records of unemployed persons and persons seeking employment but also organise dialogue between unemployed persons, persons seeking employment and employers in order to reduce unemployment, as well as organise or implement active employment measures and preventative measures for unemployment reduction (Support for Unemployed Persons and Persons Seeking Employment Law of the Republic of Latvia, 2002).

persons planned to cooperate with the SEA to find a job, 20.4% answered that they planned to actively cooperate with the SEA; 13.4% indicated that they were forced to cooperate in order to maintain their unemployment status and receive unemployment benefits; 43.1% did not plan to cooperate with the SEA in order to find a job because they wanted to find a job on their own or with the help of friends and relatives; 23.1% did not plan to cooperate with the SEA because they had no intention to enter into employment relationships. According to SEA statistical data on the registered long-term unemployed, more than half of the registered unemployed were of pre-retirement age.

3.4. Impacts of Covid-19 on old-age unemployed and employed individuals

Many EU Member States increase the threshold for citizens to receive a public pension with the aim of keeping old-age people in the labour market longer, while slowing down an increase in the overall financial burden on the public pension system. This partially offsets the impacts of an aging population and increases the financial prosperity of old-age people (Eurostat, 2020).

Old-age employees are among the social groups at risk of the economic turmoil caused by the coronavirus pandemic, and their employment and incomes are affected. The loss of a job or a decrease in remuneration shortly before retirement make a negative impact on pension savings. Such individuals are unlikely to be able to make more savings as intended and might be forced to begin spending their savings sooner than planned. The current Covid-19 crisis could cause difficulties for those whose pension savings are held in equities and whose pension savings will decrease after asset prices decrease. In addition, the loss of a job and forced retirement are known to make a negative impact on health (Institute for Fiscal Studies, 2020).

Labour laws largely protect employees from being laid off due to age, yet it is constantly observed that age discrimination prevents old-age people from finding new jobs. Age discrimination at the job could reduce opportunities for and the job satisfaction of old-age employees and the sustainability of social protection in organizations. Long-term unemployment is the highest among old-age employees, mainly due to a lack of demand for such labour by employers (Lössbroek, Lancee, van der Lippe, Schippers, 2020) and often for objective reasons, especially in terms of skills. Therefore, to return to and remain in the labour market during and after the Covid-19 crisis, old-age employees need to consider and prepare for 5 key challenges.

1. Insufficient skills – old-age people acknowledge a lack of skills to apply for and find a job, as well as a lack of digital skills.

2. Development of new skills to move to other industries – this particularly relates to old-age employees in the industries being most vulnerable to the economic impacts of Covid-19, e.g. tourism and hospitality services. During the pandemic, many industries might not survive or their products might be less in demand, and old-age employees also need to prepare for the transition to new professions, although this is a major challenge.

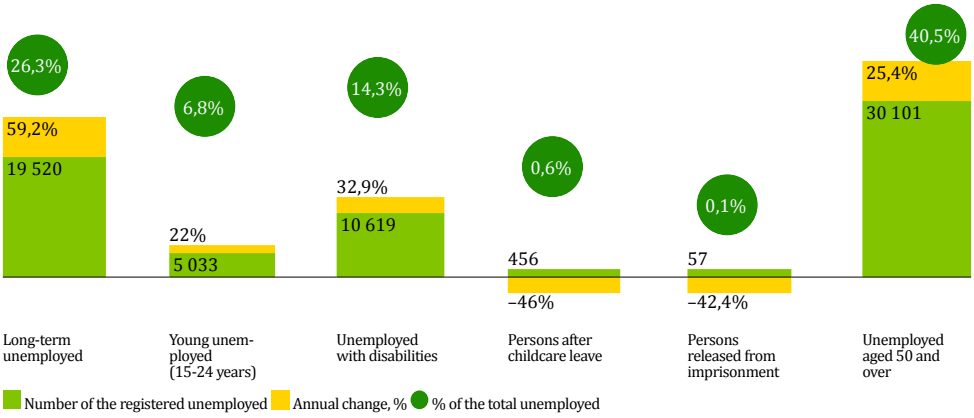
3. Finding a flexible working hour job – it is important for many old-age employees to have flexible working hour jobs, thereby combining their work with taking care of themselves (health care, social life).

4. Stereotypes – old-age people have stereotypes that, first, the employer does not want to enter into an employment relationship with them due to a higher risk of viral infection and damage to the health of old-age people; and second, that old-age employees are much less able to be retrained than middle-aged or young employees if needed.

5. Disbelief and reluctance – this condition is the result of the mentioned stereotypes. Many old-age people do not even try and do not want to look for a job because they feel that they are no longer fit for the labour market and needed by society; therefore, it is not possible to find a job.

These problems need to be tackled so that old-age people can return to the labour market during and after the Covid-19 pandemic (Learning and Work Institute, 2020).

At the end of March 2021 in Latvia, the largest number of the registered unemployed – 30101 – was represented by people aged 50 and over, which was 40.5% of the total (SEA, 2021).



Source: State Employment Agency. Report on the unemployment situation in the country (March).

Fig. 3.4. Unemployed target groups at the end of March 2021.

Even before the Covid-19 pandemic, skills development and lifelong learning represented a growing challenge to meet the needs of a rapidly changing labour market. Global trends, including the emergence of new technologies, are both leading to job losses and creating new opportunities. The Covid-19 pandemic has exacerbated current challenges in the field of education and in the labour market and increased the need to acquire new skills and improve current ones as well as undergo retraining to adapt to the "new normal". That is why quality training is urgently needed around the world to contribute to the economic recovery. Without improvements, there is a risk of leaving the employees of the current and future "Covid-19 generation" at a lower level of development.

To avoid the challenges caused by the pandemic crisis in the future, governments have a crucial responsibility to provide skills training at the job and increase the effectiveness of skills development and lifelong learning systems. An effective skills development system depends on close cooperation and coordination between the government, social partners and private and public education/training providers. Particular emphasis should be put on involving employers in the introduction and implementation of new training programmes, updating training programmes and making current programmes available to adapt working environment-based training programmes for the needs of the labour market (The European Training Foundation, 2021).

Conclusions and proposals

- It is required to achieve gender equality in the labour market and increase women's participation/proportion in the labour force. Specific support measures for women need to be designed, with the government cooperating with social partners, public and private education or training providers, as well as businesspersons.
- Funding should be provided specifically for training programmes for old-age people, placing particular emphasis on the development of their digital skills.
- Support measures for employees and employers to motivate old-age employees to remain in the labour market or enter employment should be extended, in particular for old-age women who have significant potential to increase their employment.
- Preventive measures need to be designed and improved in order to reduce the unemployment rate for people of pre-retirement age.
- Increased attention should be paid to those unemployed who have become or are at risk of becoming long-term unemployed, i.e. maintaining and, as far as possible, building up the job skills of the unemployed in line with labour market requirements.

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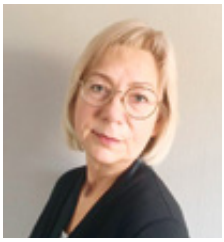
3. Employment
Promoting Employment in the Context of the Covid-19 Pandemic

4. Bio- and Circular Economies

Bio- and Circular Economies as Segments of Structural Transition in the Economic Ecosystem



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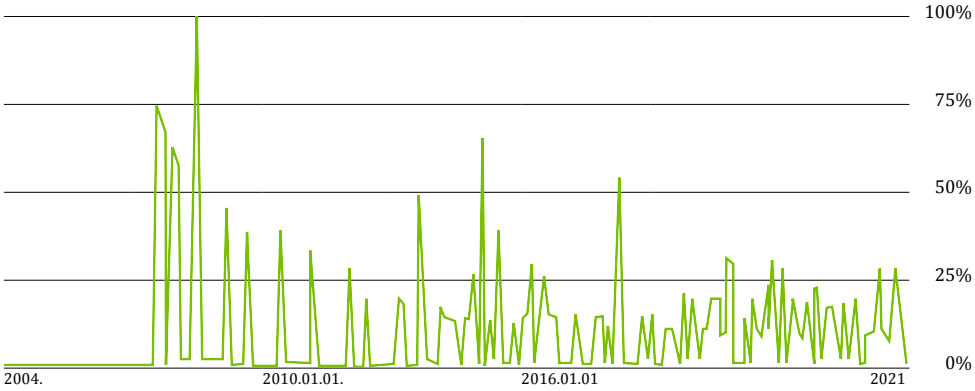
4.1. Bio- and circular economies under the "umbrella" of the green economy

The terms bioeconomy (BE) and circular economy (CE) are interlinked under the "umbrella" of the green economy (GE) with the common goal of promoting sustainable development (D'Amanto et al., 2017). The GE concept was first referred to in a 1989 report by three prominent environmental economists, D. W. Pearce, A.Markandy and E.Barbier, to the British government (Pearce et al., 1989), who found that the economy and the environment were interdependent. The United Nations Environment Programme (2011) defines a GE as "improving human wellbeing and social justice while significantly reducing environmental risks and impacts". It aims to introduce economic models that can generate profits while avoiding environmental damage by improving resource and waste management, the reuse of raw materials and the transition to sustainable consumption and production through eco-innovation.

The BE concept is believed to have been introduced by economist Georgescu-Roegen in 1971, yet according to McCormick and Kautto (2013), a BE is based on efficient use of resources, reduced dependence on non-renewable resources, mitigation of climate change, and food security through use of renewable resources for industrial production and increases in competitiveness and employment. Figure 4.1 shows that interest in a BE has been declining in recent years, but is not losing its relevance.



Source: https://trends.google.com/trends/explore?date=all&geo=US&q=bioeconomy

Fig. 4.1. Interest in the global bioeconomy in the period 2004-2021[1].

The main BE priorities in Latvia are set out in the Latvian Bioeconomy Strategy 2030 (LIBRA): investments in research, innovation and skills; stronger links between various policies and stakeholder involvement; improvement in markets and competitiveness; stimulation of a sustainable and efficient GE[2]. The goals of LIBRA could be achieved in three main areas: promoting and maintaining employment, increasing the added value of BE products and increasing the value of BE exports. Digitalization and the build-up of digital skills in Latvia, as well as their association with a CE play an important role in achieving the BE goals.

***CE* roots.** As early as the 1960s, environmental economists believed that the economy should be viewed as a circular system (Boulding, 1966). Several authors agree with the term CE introduced by Pearce and Turner in 1990, which stems from the desire to replace the dominant, traditional linear economic pattern with a circular economy pattern whose main goal is to retain the value of products, materials and resources in the economy for as long as possible and reduce resource consumption to a minimum. More recently, the definition of a CE has proposed an approach that places greater emphasis on "the re-use, re-production, refurbishment, repair, cascade and modernization of products, components and materials" (Korhonen, Nuur, Feldmann and Birkie, 2018). In this respect, a CE is based on related approaches, from "Cradle to Cradle" (Braungart & McDonough, 2002), biomimicry (Benyus, 2002) to 2019 when the European Commission (EC) issued a Communication on the European Green Deal and the New Circular Economy Action Plan (2020).

The First Vice-President of the EC said the following about the New Circular Economy Action Plan (Franz Timmermans, 2020): "Achieving climate neutrality, preserving our natural environment and strengthening economic competitiveness by 2050 requires a complete circular economy. Today, our economy is still largely linear, with only 12% recycled materials and resources being returned to the economy. Many products break down too quickly, are not easy to reuse, repair or recycle, many are for single use only. This is an area where both businesses and consumers can make huge improvements."

An increase in the popularity of a CE is showed by an increase in the number of respective searches.

[1] Source: https://trends.google.com/trends/explore?date=all&geo=US&q=bioeconomy
[2] Informative report Latvian Bioeconomy Strategy 2030 (2017), 34 p.

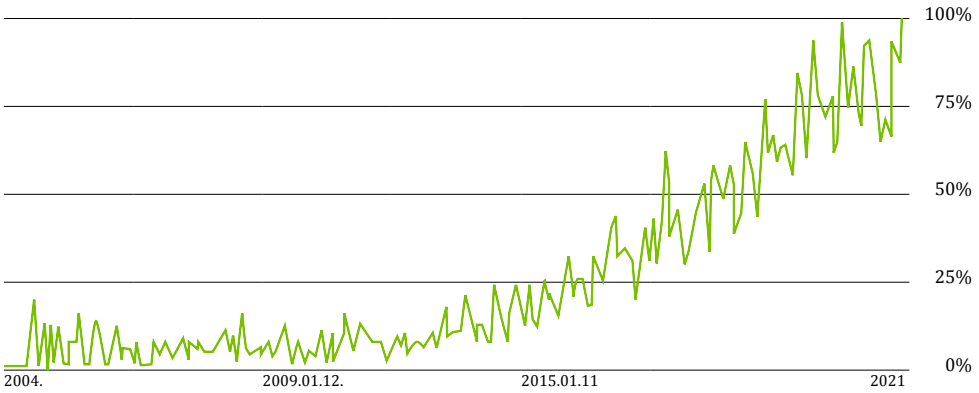


Fig. 4.2. Interest in the circular economy in the world in the period 2004-2021[3].

An analysis of the geographical coverage of the CE (in red) from 2004 to 2021 reveals that the greatest interest in the CE has been found in Europe, especially in Luxembourg, the Netherlands, Finland, Belgium, Norway, Denmark, Estonia, Italy and Chile. Data are not available for Latvia, while Lithuania was in 32nd place (Figure 4.3). Blue indicates an interest in sustainable development.

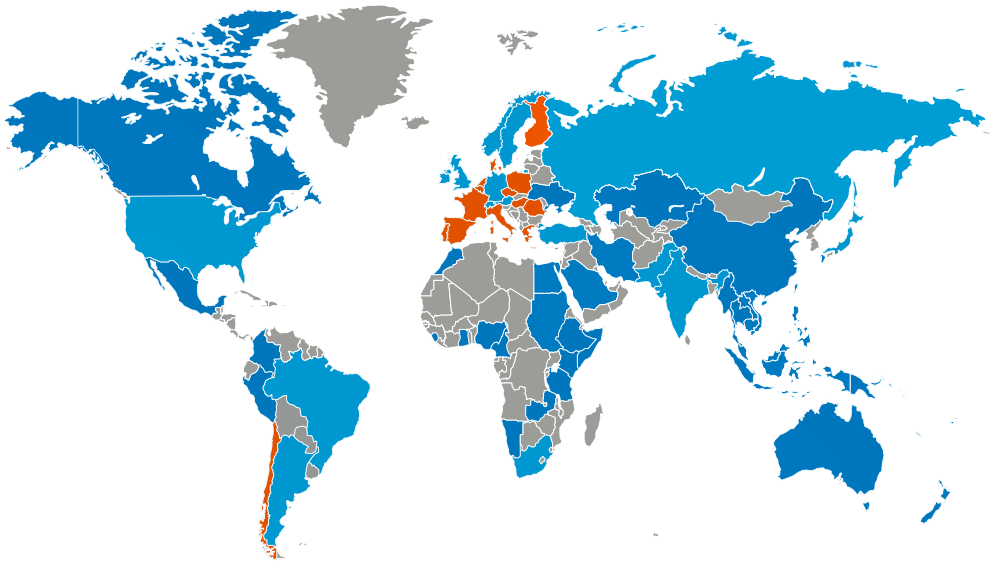


Fig.4.3. Geographical coverage of interest in the circular economy in the period 2004–2021[4]

[3] Avots: https://trends.google.com/trends/explore?date=all&q=Circular%20economy
[4] Avots: https://trends.google.com/trends/explore?q=%2Fm%2F0gtxxx2

Information sources indicate that CE origins could be traced back much earlier (Simmond, 1862) (as quoted in Simrozer, 2001): Each production process involves more or less recyclable raw materials that are collected and used by the original producer. This is now the case in almost all manufacturing plants, but especially in the main industries [in the United Kingdom]: cotton, wool, silk, leather and iron".

The CE origins could also be found in research papers by Kennett Boulding, as he was one of the most unusual economists of the 20th century who clearly outlined the concepts of sustainable development and a circular economy and the roots of the growth dilemma. Boulding's 1966 paper entitled The Space of the Coming Spaceship Earth is perhaps one of his most important contributions to the problem of the circular economy. In his paper, Boulding introduced a rather short but concise concept of the Earth as an non-extensible system and the need to revise the criteria for measuring economic success. Boulding discusses the problem of economic growth, which, like any other growth, is never sustainable. Boulding warns of the dangers that could become real if people do not change their perception of economic growth based on excessive consumption as an objective for the economy. For comparison, he used a cowboy economy as a classic approach and a spaceship economy as an approach to the global economic system that did not expand.

CE cycles

A CE distinguishes between technical and biological cycles. Consumption occurs only in biological cycles, in which food and biological materials are destined to return to the system through processes such as composting. The cycles restore living systems, e.g. the soil that provides renewable resources to the economy. In technical cycles, products, components and materials are regenerated and renewed by using different strategies or principles. Technical cycles involve the management of stocks of non-renewable abiotic resources that cannot be properly returned to the biosphere, while biological cycles involve the flow of renewable biotic resources that can safely circulate and exit the biosphere. Despite this difference, current CE assessments are usually performed for technical cycles and focus mainly on the extent to which resources are returned to the technical sphere. Such assessments are less suitable for examining biological cycles. CE assessments cover four key characteristics of biological cycles:

1. Biotic resources, although renewable, require to be harvested sustainably;
2. Abiotic resources can be restored and recycled to their original quality, biotic resources degrade in quality with every subsequent use and are, hence, cascaded in use;
3. Biotic resources should return safely as nutrients to the biosphere;
4. Biological cycles have environmental impacts due to resource extraction, resulting from land-use and resource-depletion and biogenic carbon flows.

With the growing demand for biotic resources, the gap in the assessment could exacerbate the overexploitation of natural resources and cause the degradation of ecosystems. The research discusses measures to bridge this gap and suggests ways to design a CE assessment framework that is also suitable for biological cycles. The implementation of a CE depends on the level at which it is implemented.

CE introduction levels

Micro – eco-design principles, cleaner production (Van Berkel et al., 1997) and responsible consumption are generally introduced at company or consumer level. This means producing

goods and services that meet customer needs while using minimal resources with minimal impact on the environment and society. Eco-design involves the design or redesign of products, services, processes or systems in order to avoid or eliminate damage to the environment, society and the economy.

Cleaner production involves three interrelated activities: pollution prevention (PP), toxics use reduction (TUR), and design for environment (DfE). DfE and eco-design combine environmental aspects in the design and development of a product to improve its environmental performance throughout its life cycle.

Mezzo – eco-industrial parks (EPI), which introduce mainly cleaner production and pollution control strategies. Industrial symbiosis parks and networks focus on the full availability and exploitation of the advantages of using by-products while reducing product residues or processing them efficiently. This usually relates to a network of independent companies that exchange by-products and possibly use other shared resources (Kalundborg, Sitra etc. industrial symbiosis parks). The key to industrial symbiosis is the synergies generated by geographical proximity. Some industries are involved in applying a collective approach to gaining a competitive advantage, which helps to preserve value chains and create value added for global value chains.

Macro – city, regional, national levels (eco-cities, waste-free programmes, decoupling environmental pressures from economic growth, economic instruments (taxes, subsidies)). At the macro level, it is crucial to assess the development and relevance of projects, legislation and awareness in cities, regions and whole countries. It provides policy makers with information on the soundness of policies adopted to date.

Each level has its own goals and implementation instruments, yet at all the levels, digitalization is one of the support instruments.

Digitalization

Digitalization in the present paper is understood as a set of activities and digital technologies that change current processes at all the three levels (micro, mezzo, macro). In fact, the function of digital technology needs to be considered to be a balance between the environment and the growth of the population and prosperity. Given the rapid development of digital technologies such as big data technology (BDT), Industry 4.0, block chain technology, the Internet of Things (IoT) in combination with other digital technologies, it could be concluded that digitalization contributes to environmental and social sustainability (Esmaeilian et al., 2020, Beltrami et al., 2021) and supports the transition to a CE. An increase in global interest in digitalization correlates with an increase in interest in a CE, with the numbers of both searches growing rapidly since 2015 (Figure 4.4). This is probably due to progress in digital technologies.

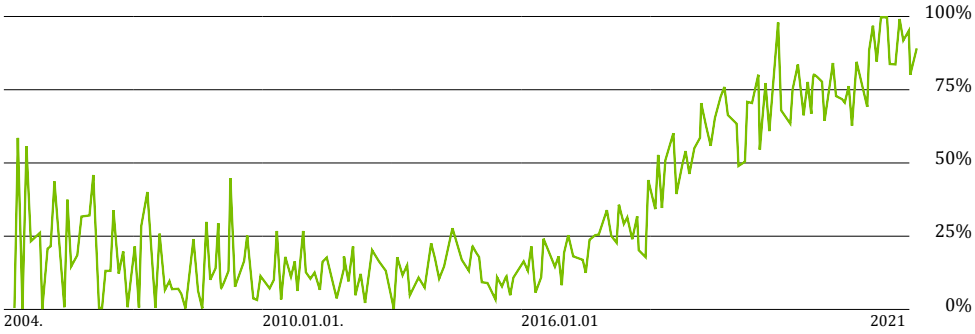


Fig.4.4. Interest in digitalization in the world in the period 2004-2021[5].

For example, the immediate availability and traceability of blockchain information between supply chain partners, consumers and other actors is used to improve the capability of a CE to respond to changing global resource market situations and to track waste. It could be used to improve standards for industries actively shifting to a CE, e.g. the electronics industry. The key question: how to integrate the technologies into the CE system? What key CE practices such as a closed loop, material tracking, incentives for organizations and individuals provide the main advantages of digitalization? How can artificial intelligence (AI) be used in models and algorithms to facilitate the linking of BDT time series and CE data to digitalization decisions? What is the performance of CE systems with and without digitalization?

Economic ecosystem

The economic ecosystem represents the actors in the field and interrelationships and transactions between them, e.g. knowledge, funding, public support instruments and legal regulation. The economic ecosystem includes the representatives of industries, science and education who create knowledge that is part of the economy and for whom the knowledge is crucial for profitability, as well as those who provide education based on the knowledge. In this context, the knowledge could be both coded, i.e. in the form of documents, embedded in technology or might be non-coded, informal (tacit knowledge), which is passed on in direct contact and discussion between the carriers or consumers of the knowledge.

4.2. New segment in the economic ecosystem

It is important for the new segment of the economic ecosystem to promote the development of digital skills and the change of current habits. One potential solution is remote work. To identify the attitudes of employees towards remote work, a survey was conducted in January and February 2021, distributing questionnaires electronically.

To the question "Have you worked remotely for more than one month?", 638 respondents gave answers, 427 (66.9%) answered affirmatively, while 211 (33.1%) noted that they had not worked remotely. The answers about experience with working remotely are analysed below (n = 427).

To the question "To what extent do you agree with the following statements about your

[5] Source: https://trends.google.com/trends/explore?date=all&q=Digitalization

remote work experience?", 378 (88.5%) respondents gave answers about their experience (Table 4.1).

Table 4.1. Experience with remote work in Latvia in 2021

n=378	Do not agree	Partly do not agree	Partly agree	Agree	This does not apply to my job responsibilities
I received necessary support from my employer	6,30%	12,70%	24,30%	48,70%	7,90%
It was difficult for me to comprehend my job assignments	59,50%	22,80%	4,80%	6,60%	6,30%
I wish to continue working remotely after Covid-19	15,10%	16,70%	27,00%	39,20%	2,10%
I had a problem to communicate with my employer	51,30%	22,80%	11,10%	6,90%	7,90%
I was given access to company internal servers	9,00%	5,30%	10,80%	62,40%	12,40%
I was given an opportunity for professional growth	15,60%	21,50%	28,30%	25,10%	9,80%
I received necessary support from my colleagues	6,10%	10,80%	26,50%	48,40%	8,20%
Paper was used less	9,80%	13,80%	19,00%	36,20%	21,20%

Overall, it could be concluded that most of the respondents had positive experience with remote work, which might contribute to its popularity. During remote working, more than half of the respondents had positive experience with support from both managers (73%) and colleagues (74.9%). Most of the respondents were also positive about their communication with their employers (74.1%). The ratings of professional development were both positive (53.4%) and negative (36.8%). It could be concluded that more support was needed in this area. This aspect is in line with the International Labour Organisation's recommendations to focus on training in remote working, yet the results showed that employers had not held any joint activities.

Digitalization in the CE context shows a positive impact on paper savings in organizations: 55.2% respondents indicated that they had used less paper during remote working, and this trend was very promising in the CE context. The goal of reducing paper is a good practice in Latin America and the Caribbean, which announced the introduction of e-commerce and e-government in 2017[6].

Next, the survey asked two related questions: "What technical support for remote work did your employer provide you?" and "What work equipment did your employer provide for remote work in the future?". The answers showed that the primary things, such as a phone and a computer, were provided by the employers (Table 4.2.).

Table 4.2. Technical support for employees and their wishes for remote work in Latvia in 2021

	n	Support provided		Wish for support
Phone	337	53.40%	↘	40.10%
Computer	356	73.30%	↘	49.40%
Printer	285	13.00%	↗	42.50%
Scanner	280	9.60%	↗	24.30%
Internet	357	16.50%	↗	54.60%
Possibility to use electronic signatures	275	21.50%	↗	24.00%
Separate equipped room for work responsibilities	346	5.20%	↗	25.10%

As shown in Table 4.2., 53.4% respondents were provided by their employers with a telephone and 73.3% with a computer, yet not all of them needed it. The respondents were more interested in less accessible technical equipment at home and less provided equipment by their employers: printers (42.5%) and scanners (24.3%). The employees mostly expected Internet provision from their employers (54.6%).

[6] CEPAL, NU. "Trade facilitation and paperless trade implementation in Latin America and the Caribbean: Regional Report 2017" (2017).

According to the State Labour Inspectorate, in order for an employee to work remotely, remote access to workplace e-mail needs to be provided; the work phone number needs to be forwarded to the private phone number, ensuring reachability; personnel need adequate technical support and access to relevant information technology systems. If an employer is unable to provide an employee with the appropriate technical equipment, e.g. a computer, it needs to be assessed whether it is possible to use and adapt the employee's personal computer (with the appropriate connection, settings and software) for the work needs[7].

To the question "Do you want to work remotely", 508 answers were received.

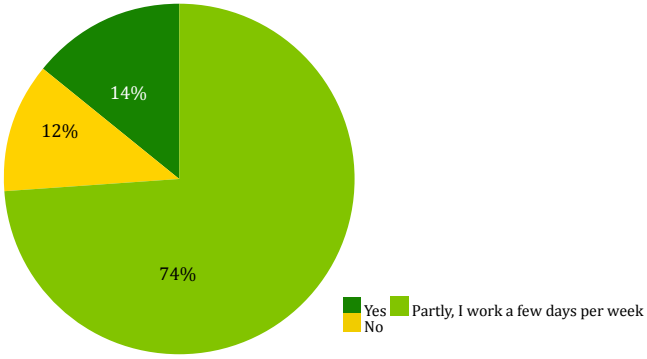


Fig.4.5. Percentage breakdown of answers to the question "Do you want to work remotely?" in Latvia (2021).

Most of the respondents (74%) would like to work part-time in the future, which could be an average of 2-3 days a week. A study published by the European Foundation for the Improvement of Living and Working Conditions (2020) also showed that 78% employees want to work from home from time to time in the future[8]. The respondents who had worked remotely for more than one month had to rate their remote work experience.

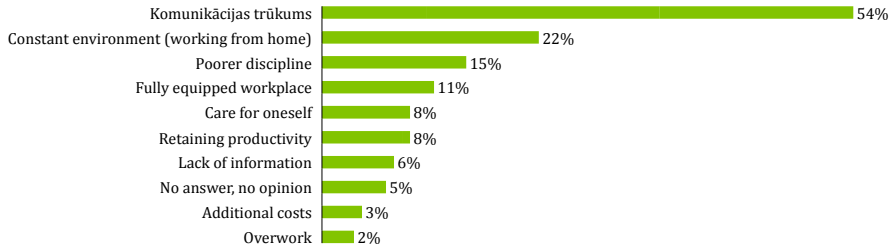


Fig.4.6. Percentage breakdown of answers to the question "What are the disadvantages of remote work?" in Latvia (2021). Disadvantages of remote work (n=372).

The largest disadvantage, according to the respondents (54%), was a lack of "live" communication, including both informal and formal communication. There was a lack of both physical and emotional contact, which resulted in alienation and also affected the microclimate. It

[7] Teleworking. State Labour Inspectorate. Accessed: 29/01/2022 https://www.vdi.gov.lv/lv/attalinatais-darbs
[8] European Foundation for the Improvement of Living and Working Conditions (2020)

became more difficult to draw the line between the beginning and the end of the working day, there were disturbing side factors as well as parallel work (22% respondents indicated that a disadvantage of remote work was a constant environment – work and home in one place). Meetings overlapped, making it harder to switch from work to home. A similar disadvantage was identified by a study published by the European Foundation for the Improvement of Living and Working Conditions (2020). The study found that those who worked from home were often unable to physically separate their work space from their living space. This created blurred boundaries between work and non-work, which under other circumstances could be avoided by going to work[9].

It is required to be very self-organized to work remotely. It is more difficult to motivate oneself to work. The respondents mentioned that it was more difficult to discipline themselves. There was a more motivating environment at work: vitality in the work process, more opportunity to concentrate, creative work, yet there was a slower work pace. Another disadvantage was a lack of a fully equipped workplace (ergonomic) at home, as well as a lack or insufficient speed of the Internet. It was pointed out that there was less movement daily (it required more attention and motivation) and less care of appearance. There was a sense of loneliness, as well as retaining productivity (quality) not only in times of crisis but also over a longer period was important, which was facilitated by working in a stable work environment. Not all work could be done remotely at the same quality as at the workplace. The quality of service might decrease. It took more time to complete the work.

There was a lack of information, as not all the needed information was electronic and available at home, and the way it was provided was important. Security was also important, there were additional costs such as increased electricity and water consumption at home, more tea and coffee being consumed. One respondent was able to indicate several advantages.

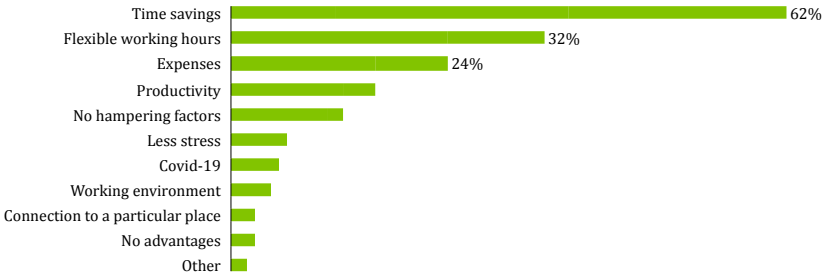


Fig.4.7. Percentage breakdown of answers to the question "What are the advantages of remote work?" in Latvia (2021). Advantages of remote work (n=362).

The main advantage mentioned by 62% respondents was time savings: both on the way to and from work (for those living further away) and lunch breaks. The second dominant advantage was flexible working hours (at least 32% respondents), which included both work planning and the possibility of combining work and home responsibilities; 24% admitted that their spending decreased, for example, on lunch, travel etc.

The respondents were asked to express their views on the facilitators of remote work. Digital technologies (40%) and equipment, Internet connection, virtual assistants were mentioned as the main factor promoting remote work (Figure 4.8).

[9] Eurofound (2020), Living, working and COVID-19, COVID-19 series, Publications Office of the European Union, Luxembourg

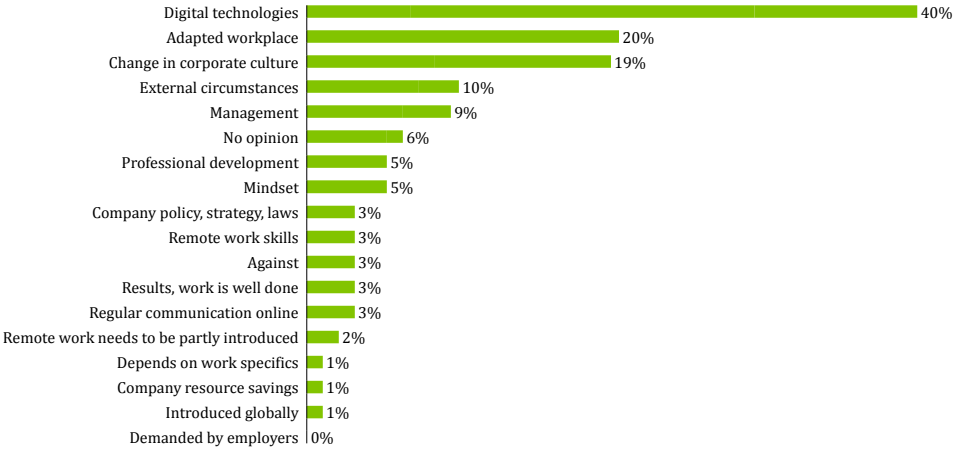


Fig.4.8. Percentage breakdown of answers to the question "What do you think would promote the development of remote work?" in Latvia (2021). What, in your opinion, contributes to remote work (n=324).

Ergonomics was also important for the respondents, e.g. an adapted workplace (20%), which confirmed the employer concern for their health. A workplace at the place of residence, necessary equipment, Internet connection and electricity bills – these were the issues to be solved jointly by the employee and the employer if there was a need to work remotely. The third contributing factor was corporate culture (19%) – changes in values, common understanding, management trust, change in employer attitudes, support for the culture of remote work. Agreements or recommendations are needed on how to calculate the additional service costs incurred. A control system is also needed.

Conclusions

- The bioeconomy and the circular economy are interlinked and form a single segment in the economic ecosystem. Their implementation is associated with the digitalization of the economy and the build-up of employee digital skills in companies.
- Global interest grows faster in a CE than in a BE, and there is more interest in the CE in Europe.
- A CE has its roots in the 19th century, yet a common understanding of the need for it became relevant only in the 21st century.
- The level (micro, mezzo, macro) at which the implementation of a CE and digitalization is planned is important, and the objectives and implementation instruments are dependent on the level.
- The successful implementation of a BE and a CE at all the three levels in Latvia could be supported by digitalization and the build-up of digital skills, including the shift to remote work.
- Most of the respondents have had positive experience with remote work, and some respondents wanted to continue it.

- The main disadvantages of remote work, according to the respondents, were insufficient communication and a constant environment.
- The main advantages of remote work were time savings and a flexible work schedule.
- The respondents mentioned digital technologies and an adapted work environment as the main factors promoting remote work.

Proposals

- Municipalities should be actively involved in the use of financial instruments for the development of digital skills and services, thus facilitating the implementation of a CE.
- To ensure that employees want to continue working remotely, employers need to pay attention to motivators, the main ones being digital technology, an adapted workplace and a change in corporate culture (see the paper for more details).
- It is necessary to assess the possibilities of working remotely in relation to pressure on the environment: transport, electricity consumption and heating costs.

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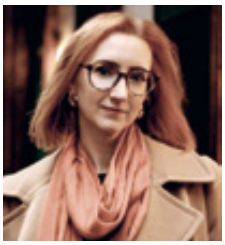
Expert opinion
Digitalization is a Driver in the Circular Economy



Natālija Cudečka-Puriņa,
assoc. prof., Dr. sc. admin.,
head of the Department of
Environmental Quality and Waste
Management of the MEPRD

1) What is your assessment of the different goals of implementing the circular economy?

It is important to understand that the circular economy provides a transition from a linear economy in many different ways. One of them is to completely change the business pattern. But there are also several simpler or less cardinal options. It seems that the most important thing in this case is to put the way of thinking of entrepreneurs on the right path of transformation, which in turn will lead to sustainable thinking and entrepreneurship.

2) What is your assessment of the role of digitalization in the implementation of the circular economy in Latvia?

Undoubtedly, digitalization is the driving force behind the circular economy. Especially now, during the pandemic, the potential of digitalization is evident. The largest challenge in this case is the ability to use the tools properly. Digitalization is associated with a number of circular economy business patterns, providing a wide range of product or service development opportunities in the e-environment. The essential things what we see today are: the population of Latvian have a very positive view of the digitalization of services, including their dematerialisation. Developments in this direction also make it clear that the term services market becomes more relative, as the transition to a digital environment makes a service or product available to almost any individual anywhere in the world, and provides a breakthrough for businesses of all levels.

3) What is the role of the national/local governments in activating digitalization processes in Latvia?

In this context, it is necessary to mention the most significant priorities set in the Digital Transformation Guidelines for 2021-2027, the digitalization processes referred to therein need to be activated by the national government. Municipalities need to be actively involved in the use of financial instruments and attraction of financing, as well as develop the range and quality of digital skills and digital services, thus promoting the development of smart municipalities.

4) What, in your opinion, are the advantages and disadvantages of remote work?

Among the advantages of remote work, the comfort of work needs to be mentioned, as it undoubtedly affects quality and performance. Time is saved on travel, it is possible to plan it efficiently and effectively (this is especially important for employees who work in another city and spend a lot of time commuting to and from work). The freedom of movement is one of the main preconditions contributing to the comfort of the employee. A couple of years ago, you could watch with envy the so-called freelancer who was able to work from anywhere in the world. But in the current situation, this is an advantage for almost every office employee. The key is to ensure stable communication and constant and responsible performance of work responsibilities.

The advantages are the possibility to adapt the workplace in the way you want, as well as lower expenses (travel expenses to/from work, lunch expenses etc.). A disadvantage is a significant increase in the number of meetings. For middle and senior executives today, the reality is that there are scheduled meetings from the morning to the end of the working day, which is one of the risks of burnout. In addition, the fact that it is not necessary to physically attend an event allows the employee to participate in several events in one day, which in turn results in a loss of quality, as the participant (especially the speaker) joins the event, makes the presentation and disconnects so as not to miss the next event, thereby not performing the best in none of the events

For many employers, of course, a stumbling block is a lack of control and suspicions – if the employee is not in the office and is not in front of the manager's eyes, his/her capacity would definitely decrease. However, proper work planning, a strategic vision of the team leader, the ability to delegate important tasks to employees, as well as trust in the team are the prerequisites to ensure effective work arrangements even if working remotely.

Expert opinion
A tool to limit resource depletion

Jānis Brizga, Dr. geogr.,
LU researcher, head of the association Green Freedom (Zaļā brīvība)

1) What is your assessment of the different goals of implementing the circular economy?

Our total global consumption of resources has grown significantly and continues to grow. Therefore, at the national and local levels, the circular economy serves as a means to better manage limited global and local resources and reduce resource depletion. In contrast, companies are more interested in increasing productivity, and efficient use of resources can be very useful. However, efficiency gains are largely unable to reduce resource consumption. Therefore, the principles of the free market are insufficient, and national and local government regulatory measures are also needed.

2) What is your assessment of the role of digitalization in the implementation of the circular economy in Latvia?

Digitalization is an important prerequiste for the development of a modern sharing economy. City Bee Ltd, direct buying groups (supply of organic food from farmers to buyers), Andele Mandele Ltd and other businesses in the sharing economy have gained attention directly as a result of the use of ICT, which facilitates communication and strengthens mutual trust between the stakeholders.

3) What is the role of the national/local governments in activating digitalization processes in Latvia?

The best stimulator of digitalization has been the pandemic, which did not allow many institutions and companies hesitate and forced them to digitalize their business processes and introduce new technologies. It is these stressful conditions that are often the best preconditions for change. Therefore, national and local government institutions need to be ready to use the crisis to implement the planned changes.

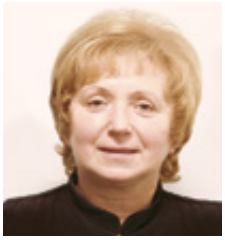
4) What, in your opinion, are the advantages and disadvantages of remote work?

Remote work can help to reduce the environmental pressure associated with mobility, and this is a significant advantage, as transport emissions in Latvia continue to increase. However, remote work shifts part of the cost and environmental pressure from businesses to households. Remote work increases household energy costs and might also increase heating costs (it is possible to reduce the indoor air temperature when there are no people in the building). In addition, it should be taken into account that remote work increases Internet traffic, which is also an energy-intensive process with significant environmental pressures.

5. Aging and Social Stratification

Aging and social stratification slows down the pace of economic development and decreases the wellbeing of individuals in Latvia. Society as a system becomes more multifaceted with more pronounced internal disparities across various social groups and regions. These challenges are researched in Latvia in the context of the EU, analysing the situation and suggesting solutions to the problems of aging and social stratification, incl. measures aimed at promoting regional development, improvement in the pension system, social entrepreneurship and the development of employee skills.

5.1. General Insight into Trends in and Solutions to Aging and Social Stratification in Latvia



Biruta Sloka, Dr. oec., LU professor, leading researcher

Ginta Tora, Mg. sc. admin., Mg. hist., LU researcher

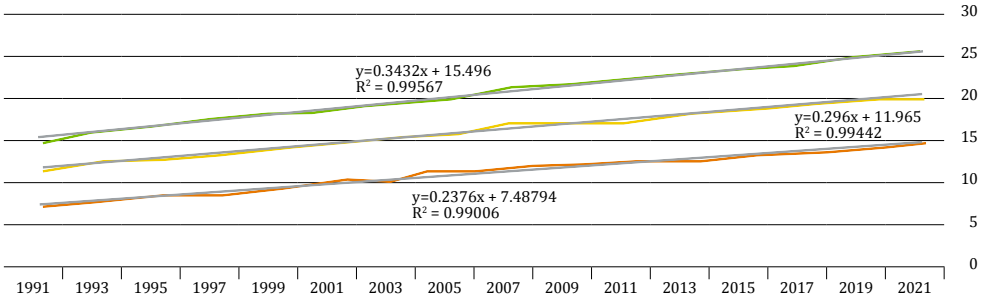
Ilze Buligina, Dr. sc. admin., LU researcher

Juris Dzelme, Dr. chem., LU leading researcher

The experience of various countries shows that seniors need to be more involved in the labour market by encouraging them to participate in the processes of the "silver economy" (European Commission, 2018). A significant number of researchers around the world dedicate their research and develop practical proposals to address the aging population (Aidukaite, Blaziene, 2021; Dzelme, Sloka, Buligina, Tora, 2020; Sloka, Tora, Buligina, Dzelme, 2021; Sloka, Tora, Buligina, Delme, 2020). For example, researchers in the UK have sought solutions for housing (Ruddock and Ruddock, 2016), analysed the silver economy in detail and suggested practical solutions to government involvement of seniors in economic activities in Chile (Leporati, Torres Marin, Roses, 2021). Some researchers (Kohlbacher, Warwas, Mollenhauer, 2017) have analysed aspects of senior employment in Japan and Poland, emphasizing the importance of government policies and practical solutions to involving seniors in employment. Demographic changes stimulate local, regional and national decisions concerning the environment across Europe that contribute to active and healthy aging, improve independent living and wellbeing for older people and create a society for all ages. In 2019 in Latvia, the proportion of the population aged 65 and older in 55 populated areas (out of 1187) exceeded 30%, i.e. one in three residents was a senior. On average, 20% of the population in Latvia are aged 65+ (Official Statistics Portal, 2021-a).

In 2019, according to OECD estimates, the expected level of old-age pension for low-wage earners in OECD and EU Member States was about 60% of pre-retirement earnings (replacement rate). In Latvia, it was even lower - it did not exceed 45%, thus increasing the risk of poverty for pensioners and social stratification. Projections for the replacement rate in 2080 by the Bank of Latvia are even more pessimistic at 20%. The proportion of the population over the

age of 65 has been growing steadily at an average rate of 0.296 percentage points since 1991, and the growing proportion of the population in this age group cause problems with social security (Figure 5.1).



Source: authors' construction and calculations based on the Official Statistics Portal IRD010 (2021).

Fig. 5.1. Proportion of population in the age group over 65 from 1991 to 2021 and the linear trends in Latvia.

The second trend, which is observed in parallel with the aging trend and poses a threat to the successful, sustainable existence of society, is an increase in income inequality and social stratification, division into groups with different financial security status and different opportunities. Statistics show (Table 5.1.) that income inequality among seniors also grows, and the proportion of the low-income group (minimum wage or less) is quite significantly higher – by about 10 percentage points – across all the age groups. The small proportion of the high-income group also grows relatively fast, reaching 0.3% in 2020, compared with 0.1-0.2% about 10 years ago. This trend is observed in the global economy, as the number of medium-skilled jobs tends to decrease as a result of automation and the introduction of robots.

Table 5.1. Distribution of employees by monthly gross earnings and by age group in July 2021 (proportion of employees with earnings, %)

	Earnings	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
65–69 years	More than 6000.00	00.2	00.2	00.1	00.1	00.1	00.2	00.2	00.2	00.2	00.2	00.2	00.2	00.3
	Minimum wage or less	24.4	23.5	25.3	31.3	31.4	30.8	32.6	34.6	34.1	32.5	34.1	32.0	30.7
70–74 years	More than 6000.00	00.1	00.2	00.2	00.2	00.2	00.2	00.1	00.2	00.2	00.2	00.3	00.3	00.3
	Minimum wage or less	29.6	27.4	28.3	34.9	35.1	34.3	36.9	40.1	40.5	39.5	41.8	40.6	39.7
75 years and older	More than 6000.00	00.1	00.1	00.1	00.0	00.1	00.1	00.1	00.1	00.1	00.1	00.2	00.2	00.3
	Minimum wage or less	37.3	36.6	34.7	40.8	40.5	41.1	43.3	45.8	46.5	45.7	49.3	48.2	47.7

Source: authors' construction and calculations based on the Official Statistics Portal DSN030m (2021).

However, when encouraging seniors to participate in the silver economy and involving them in the labour market, an important aspect must be considered: the rapid development of information technology (IT) in one generation's life, which changes all social relations and business. In addition to previous generational conflicts, new conflicts arise, first and foremost

between digitally included and digitally excluded individuals due to insufficient digital skills. Digital literacy becomes a prerequisite for inclusion in social relations and, to a large extent, in the labour market. Many contacts and exchange of information move to the Internet and the digital environment. The biggest problems are for the elderly, yet the change affects everyone. The society, the state and local communities need to support people to deal with the difficulties they have encountered – ageism is unacceptable. Social inclusion and the reduction of inequalities must be addressed in all countries, as part of the population with an education many years ago is currently unable to keep up with the pace of technological progress and the growing demand for digital skills.

Complex solutions – a lifestyle change

Mitigating the negative trends requires **complex solutions, which must include at least a partial lifestyle change**. Two interconnected activities are: the inclusion of seniors in various areas of the silver economy, incl. as mentors, training leaders of younger generations, thereby creating effective intergenerational cooperation, transfer of experience and new, more effective forms of cooperation in society as a whole.

Cross-cutting competencies such as motivation, teamwork and collaboration, which are the result of long-term work and life experience, become increasingly important. Skills and abilities to overcome difficulties and look for solutions for young people are not enough; therefore, there are many mental health problems, depression caused by stress, addictions. Working with seniors helps to alleviate many problems by finding ways to solve problems in a timely manner. However, young people are better acquainted with information technology and are able to help seniors to acquire the missing digital skills.

In Latvia, social security capacity needs to be significantly increased in order to promote employment and the socialization of persons who have reached retirement age, thus not deteriorating the previous quality of life. There is a system in place to help the most vulnerable, yet new solutions and recommendations for welfare and education policies also need to be sought.

One of the mechanisms for bringing the size of pension closer to the level of pre-retirement income is private savings in pension funds or accumulative life insurance. Voluntary savings at the 3rd pension level in OECD countries increase the replacement rate of pension income by more than 6%. The accumulation of voluntary pensions facilitates access to finance for households, and the country has established support mechanisms for pension savings, including tax relief, access to financial services for the population.

There is a need to prepare the public more widely and comprehensively for the cardinal changes caused by further progress in IT and artificial intelligence (AI), incl. the labour market. Although it is not possible to predict in detail all the developments and changes in life related to the progress in IT and MI, because the processes are very fast, the population needs to be more attuned to the inevitable changes and prepare for new knowledge and skills in a timely manner.

The state and society need to plan actions to reduce the increase in income inequality based on the labour contribution. Supporting the acquisition of new skills and competences, which are often lacking in older people, is crucial to ensuring social inclusion. Rapid changes in knowledge require a return to education, including the acquisition of new basic skills, incl. learning digital skills through lifelong learning. Digital literacy improves social conditions, mutual trust and involvement in various activities, as well as creates new business opportunities.

Local communities, social workers, cultural, educational, social and health professionals play a key role in supporting the creation of new networks of technical and social services, incl. distance learning and adult education using the Internet and blockchain technology. Improving knowledge, skills and competences reduces the social exclusion of the population and improves their quality of life.

In most European countries, the average number of people living in one household tends to decrease, while in Latvia the decrease is the fastest, remaining at about 2.2 people per household. The lives of seniors are negatively affected by a lack of contacts, many of whom are lonely. Getting involved in employment helps people to find contacts and deal with the mental and physical health problems caused by loneliness. At the same time, it is necessary to create new living traditions and restore the previous ones aimed at creating joint activities. Municipalities, NGOs, various organizations supporting cultural, folk art and folk craftsmen play an important role. Seniors should be involved in a variety of educational, formal and non-formal activities.

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5.2. Social protection and income inequalities

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Social protection systems and levels of inequality vary widely around the world, including across EU Member States, which are influenced by each country's economic performance and tax burden, and the interaction between countries in relation to growth potential and tax collection. The indicators for Latvia – income inequality, the number of people at risk of poverty, household overcrowding and unsatisfactory housing conditions – are among the highest in the EU. To reduce poverty and the risk of poverty, it is necessary to find sustainable and inclusive development solutions, incl. to ensure the rights of everyone and the adequacy of the social protection system.

With the onset of the Covid-19 pandemic, economic conditions have changed significantly, putting individuals employed in the industries in which economic activity was limited or even stopped at the highest risk of poverty and social exclusion. The spread of Covid-19 has changed the lives of individuals and businesses around the world. According to the World Economic Forum, only coordinated action by companies, in combination with global multilateral cooperation at an extraordinary scale and pace, can reduce the risks and impacts of this unprecedented crisis (World Economic Forum, 2021).

New solutions to economic recovery open up new opportunities and prospects for economic growth, while maintaining a high degree of uncertainty about the impacts of Covid-19 on economic and social processes, as well as public governance patterns in the EU and worldwide.

Many researchers and industry experts worldwide express their opinions on the role of tax policies in economic recovery, labour market flexibility and social solutions to the challenges caused by Covid-19. To deal with the economic consequences of restrictive measures imposed during the pandemic, the countries have introduced exceptional tax and tax relief measures to support individuals and businesses in the event of sudden business closures. Changes in business patterns due to Covid-19 indicate significant changes in demand in the labour market, as there is a very high risk to a category of labour who cannot retrain for various reasons. However, the quality of housing, incl. the suitability of the living space for the size of the household to cope with the Covid-19 situation also plays an important role in the safety of households and residents, as social distancing could be difficult to achieve in overcrowded or otherwise poor-quality housing. The Long-term Development Strategy of Latvia 2030 envisages reducing social and income inequality through promoting social inclusion, reducing the risk of poverty, and contributing to the formation of a socially and economically stable middle

class in society (Parliament of the Republic of Latvia, 2010). In the long term, social inequality can significantly reduce the economic potential and growth opportunities for the main resource of the country – human capital.

Social protection systems play an important stabilizing role, especially during the Covid-19 pandemic when uncertainty about the pace and scale of labour market change tends to increase. The digital transformation undoubtedly creates many new opportunities, yet it also makes an increasing number of current tasks redundant and requires significant restructuring. The trends indicate that employees need to change their jobs, as their need for higher incomes increases. Effective social protection provides a buffer against the individual and social costs of the adaptation and can ensure that those who have lost their jobs have enough time to find good jobs or undergo training if necessary. The world of employment poses different challenges to the development of modern social protection systems (OECD, 2019-a).

Over the last 10-15 years, there is a broad global consensus that well-designed social protection is essential for inclusive labour markets and growth and that it needs to be enhanced to meet the global development goals. Social protection helps individuals and families to manage risks and provides support so that their economically or socially disadvantaged situation is less detrimental to their long-term opportunities. It also helps to maintain and raise living standards and reduce the costs of redistributing jobs by combining labour market risks. From an economic perspective, risk combination, income equalization and redistribution as well as support contribute to resilience to systemic uncertainties, including those related to the pace and scale of future labour market changes (OECD, 2019-b).

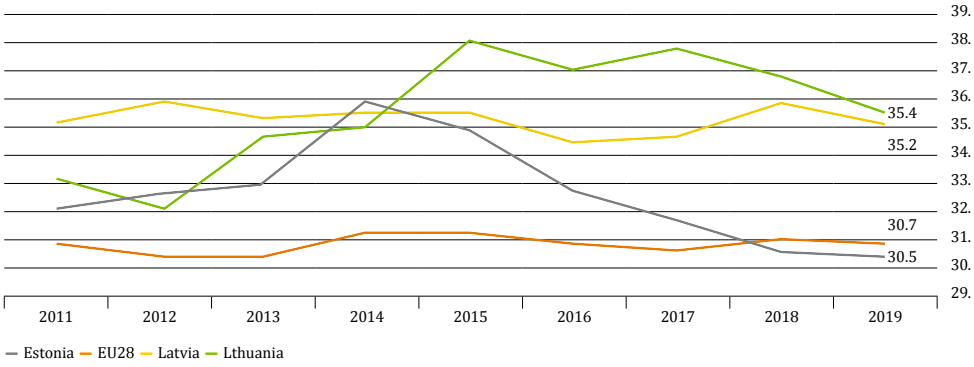
Risk-sharing through collective social protection systems has unique strengths not only in terms of social justice but also in terms of effectiveness (Chetty, Finkelstein, 2013). The main labour market risks, e.g. unemployment and low income, cannot be insured without government intervention through imposing mandatory participation, pricing or other regulation (Boeri, van Ours, 2013).

If the number of social protection participants or contributors decreases, e.g. as a result of readily available alternative employment activities that allow circumventing social protection rules, this might endanger the fundamentals of risk combination. The individuals exposed to a relatively lower risk ("good risks" in insurance terminology) could reduce their social contributions or choose to opt out, which means a higher financial burden or weaker protection for other high-risk social groups. In the absence of legal regulation or public subsidies, this creates additional stimuli to opt out and ultimately a rising cost cycle and reduced social protection (Rothschild, Stiglitz, 1976; Akerlof, 1970).

Governmental budgetary pressure and the changing perception of who benefits from social protection and who pays for it might change the political impulse in debates on social protection. J.Hills pointed out that the key persistent challenge in a rapidly changing labour market is to ensure extensive public procurement and consensus among the majority of individuals: they would be better off with adequate social protection (Hills, 2017).

It has been found that in many countries, social security functions well for employees with a long length of service. However, those with a non-continuous or short length of service, the self-employed and other non-standard employees are often poorly or not at all protected. At the same time, the assistance function of the social protection system – providing a minimum income benefit to those without other incomes – is very cumbersome. The availability and generosity of such support programmes varies considerably from country to country; even in times of crisis, many households in urgent need do not receive enough support (OECD, 2020).

The most commonly used measure of current income inequality – the Gini index[1] – has been relatively steady in Latvia since 2007, yet it has risen in the crisis period and stabilized at around 35 (Bank of Latvia, 2019) (Chart 1). The Gini index in the EU is on average 31 (Figure 5.2). Figure shows that over the last nine years, it has fluctuated between 34.5 and 35.7, indicating a sustained income inequality. When measuring income inequality, official statistics use the so-called equivalent disposable income, i.e. income after taxes paid per household member, calculated as a weighted average, with different weights being applied to different household members. In this way, the inequality that results from market activities (after taxes but excluding pensions and benefits) is compared with the current income inequality (excluding pensions and benefits). The extent to which market income inequalities are reduced by pensions and benefits paid indicates the effectiveness of the public social support system, and in Latvia the reduction makes an effect only by an average of 27%, which is the smallest in the entire European Union; in the EU, it is on average 40% (Bank of Latvia, 2018). Given that among the EU Member States, Latvia spends the least on social protection (pensions, social benefits, administration of social assistance institutions etc.), the Gini index does not improve.



Source: authors' construction based on the Eurostat database (online data code: ILC_DI12$DEFAULTVIEW).

Fig. 5.2. Gini index for the Baltic States and the EU-28 in 2011-2019 (scale 0-100).

Compared with the other Baltic States, the Gini index in Latvia hovered around 35, which was one of the highest among the EU Member States (Latvia was always in the top three with the highest Gini index), while Estonia has successfully reduced this figure to the EU average and slightly below in recent years, whereas Lithuania experienced significant fluctuations in the Gini index from year to year, which both increased and decreased, and in 2019 it was close to that for Latvia.

There are several reasons for the high level of income inequality in Latvia, but the social benefit policy is an important factor. Compared with other EU Member States, Latvia spends very little on income-tested benefits[2] – such benefits represent only about 1% of total expenditure on social benefits (over 12% in the "old" EU Member States) (Zasova, 2018).

Two income-tested benefits are paid in Latvia: a Guaranteed Minimum Income (GMI) benefit and a housing benefit. The GMI benefit is very low and not linked to economic performance. In Latvia, the GMI benefit has been significantly increased since 2021 – from EUR 64 to EUR

[1] The Gini index is a measure of the distribution of income across a population on a scale of 0 to 100. The closer the value of the index to 0, the more even the distribution of material wealth within the society.
[2] Income-tested benefits – paid only to those whose income is below a certain threshold. Therefore, the benefits are well targeted at the poorest (poorest) groups and are an effective way to reduce income inequality and poverty.

109 –, and for each additional person in the household it is set at EUR 76 (Table 5.2.). Although the size of the benefit is small, it still supports the poor.

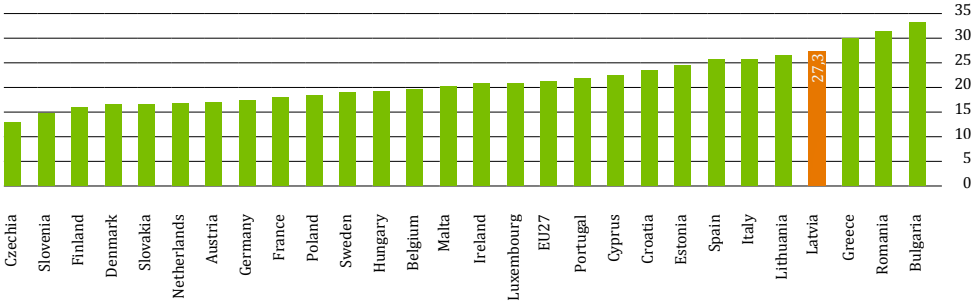
Table 5.2. Income thresholds for poor and low-income households in Latvia, 2021, EUR

Income threshold	For the first or only person in the household	For each additional person in the household
Guaranteed minimum income	109	76
Poor household	272	190
Low-income household	436	305

Source: Parliament of the Republic of Latvia, Law on Social Services and Social Assistance (version of 24/11/2020, entered into force on 01/01/2021).

Basically, income inequality affects not only individuals or households but also the growth of the economy as a whole. Persistent inequality contributes to public dissatisfaction, and the feeling of social injustice among lower-income households are a source of political instability. Inequality emerges both as a result of economic relations between entrepreneurs, employees, cooperation partners and others, and as a result of decisions of the government and various institutions. There is an opportunity to reduce inequality by changing the pattern of economic relations, the tax burden on certain social groups and giving individuals equal opportunities for access to education, health care and social security.

In 2019 in the EU-27, Latvia is among the Member States with the highest proportion of the population at risk of poverty and social exclusion, 27.3 %[3](518 thousand individuals) (Figure 5.3.).

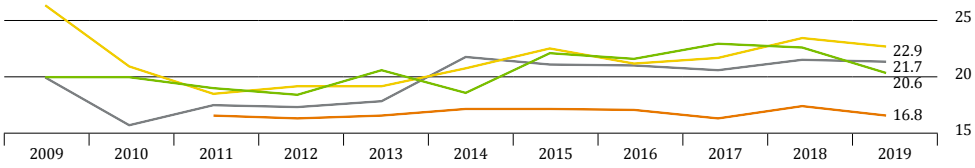


Source: authors' construction based on the Eurostat database (online data code: ILC_PEPS01).

Fig. 5.3. People at risk of poverty or social exclusion in the EU-27 in 2019, %.

In 2019 in the EU-28, Latvia had the second highest proportion of persons at risk of poverty in the total population of Latvia at 22.9% (Figure 5.4). It represented 434 thousand people with an equivalent disposable income (excluding social benefits) of less than EUR 409 per month (or an equivalent disposable income of less than 60% of the total median income in the country).

[3] The risk of poverty and social exclusion is a complex indicator affected by the at-risk-of-poverty index (in terms of social transfers) or very low work intensity or deep financial deprivation. A person is considered to be at risk of poverty and social exclusion if any of the characteristics is attributable to the person.



Estonia — EU28 — Latvia — Lithuania. *Source: authors' construction based on the Eurostat database (online data code: TESSI010).*

Fig. 5.4. At-risk-of-poverty rate in the Baltic States and the EU-28 in 2009-2019, %.

As shown in Figure 5.4., the proportion of persons at risk of poverty in Latvia has fluctuated between 19 and 23% over the last ten years, yet it has decreased by 3.5 percentage points. In the other Baltic States, the proportion of people at risk of poverty has fluctuated widely over the past decade, while the EU average was relatively steady at 17%. The figure shows the proportion of people earning low incomes compared with the rest of the population, yet it might not indicate a low standard of living. For Latvia, the figure is 22.9%, second only to Romania, which has only a slightly higher figure (Figure 5.5.).

Source: authors' construction based on the Eurostat database (online data code: ILC_LI02).

Fig. 5.5. At-risk-of-poverty rate in the EU in 2019, %.

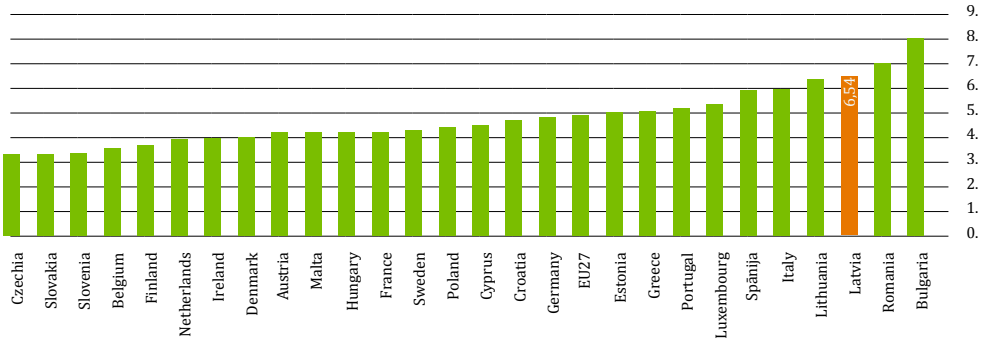
In 2019[4] in the EU, Latvia was in ninth place with 7.8% persons subject to deep financial deprivation, being one of the Member States with the lowest proportion of the population (5.6%) living in households with very low work intensity (Central Statistical Bureau, 2020).

The first social group with the highest risk of poverty was the population aged over 50 years, and 24.6% of the population aged 50-64 and 47.9% of the population aged 65 and over were at risk of poverty in 2019. Almost three quarters (74.9%) of individuals aged 65 and over from single-person households were at risk of poverty, and the proportion of this population has continued to increase in recent years. Among the second group – households with children – single-parent families were most at risk of poverty (26.2%), while the third group represented families with many children, 16.7% (Central Statistical Bureau, 2020).

An analysis by the socio-economic status of the population revealed that the unemployed were most at risk of poverty (57.7%), followed by pensioners (52.5%) and the employed (8.5%) in 2019 (Central Statistical Bureau, 2020).

Income inequality (Figure 5.6) is defined as the ratio of the total income received by the 20% of the population with the highest income (upper quintile) to that received by the 20% of the population with the lowest income (lowest quintile). For Latvia, the figure is the third highest in the EU. The figure should be reduced to at least the EU average.

[4] Eurostat survey data for the previous year.



Source: authors' construction based on the Eurostat database (online data code: ILC_DI11).

Fig. 5.6. Income quintile share ratio S80/S20 for disposable income in the EU in 2019.

Excessive income distribution could also be detrimental to economic growth in the country. The experience with socialism shows that deliberately low inequality does not motivate people to work productively and conscientiously and produce high-quality goods. This generally slows down economic growth and lowers the living standards of the population (Šumilo, 2017). However, the opposite situation – income inequality – can motivate people to improve their situation by working more and better, raising their level of education and qualifications, and engaging in entrepreneurship. At the same time, high income inequality adversely affects people's quality of life, increasing the number of the poor, lowering public health and education, and increasing social exclusion and crime (Šumilo, 2017).

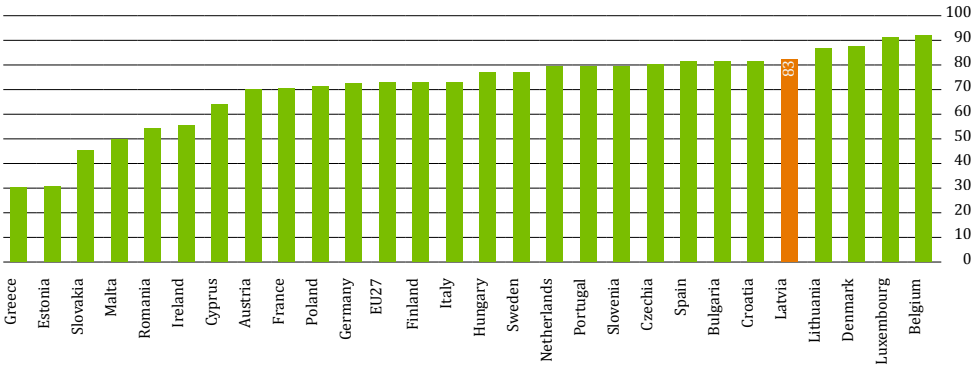
In Latvia, 23.3% households were at risk of poverty in 2018, while in 2019 – 22.9%. The composition of the population by income decile shows that they were predominantly unemployed, pensioners and people with disabilities; only 10% of them were in paid employment. Given this fact, it becomes clear that labour taxes – the non-taxable minimum, benefits for dependents – would not significantly affect the income of the lowest income households (Vanaga, Sloka 2021). Social benefits that are directly targeted at supporting poor households, e.g. the GMI benefit, are much more effective. This is also indicated in a report on social inclusion policy in 2020 by the State Audit Office. A solution needs to be found in a needs-based support system for those who need it the most, as there are limited opportunities for some people to earn an income, e.g. certain categories of people with disabilities and so on (State Audit Office, 2020).

Another important aspect of reducing income inequality is the tax burden on low-income earners. In EU Member States, the tax burden applied to the gross wages and salaries (excluding benefits and social contributions) of low-wage earners varies from 30% to 90% (Figure 5.7). The lowest tax burden on low-income earners is reported in Greece and the highest in Belgium and Luxembourg. For Latvia, which has introduced a progressive tax system since 2018, the tax burden on low-income earners is 83%, which applies to pre-tax earnings.

Many experts believe that reducing inequality needs to be achieved through inclusive tax policies. The social impact of tax systems needs to be identified in order to find an optimal balance between the effectiveness and social justice of taxation in line with national preferences. The European Commission points out that the tax system plays a role in supporting social mobility, e.g. by providing a source of finance for acquiring quality education or reducing the transfer of privileges or disadvantages from one generation to the next and by redistributing incomes, especially wealth, which increases social mobility. The tax system plays a key role in

building a just society by, inter alia, ensuring the right revenue composition to finance public spending, reducing inequalities and/or supporting social mobility and integration fairness (European Commission, 2017).

Providing equal opportunities includes measures to ensure equal access to quality education, health care and social security system services, including social benefits. The tax system finances such public expenditures, relying on the right tax composition and all taxpayers to meet their actual tax obligations.



Source: authors' construction based on the Eurostat database (online data code: TESEM220).

Fig. 5.7. Tax rate on low wage earners – the unemployment trap in the EU in 2020, %.

According to the Employment Outlook 2021 by the OECD, although the unprecedented level of support provided by countries through job retention schemes and income support during the Covid-19 pandemic has saved up to 21 million jobs and helped many households cope with the Covid-19 pandemic, however, the pandemic has widened the existing social and economic divide between various sections of the population. For example, between people with high skills and high incomes, between generations, between men and women, between those who have a good job and those who have a precarious or no job. Unemployment is high and jobs are not expected to recover rapidly. It could take several years for employment to reach the pre-pandemic rate, according to the OECD (OECD, 2021).

The period of the pandemic also gives an opportunity to make more flexible labour markets, addressing the long-standing structural challenges exacerbated by the Covid-19 crisis. If inequality and exclusion are not addressed, deeper social divisions and negative effects on productivity and economic recovery could be expected. Investing in productivity and jobs can help people to return to work.

Given the entry of digital services into all industries of the economy, including the financial services industry, it is important for individuals to acquire digital skills not only to be able to enter the labour market during and after the pandemic but also to make their private payments. It is essential that people with lower levels of education and low incomes do not fall victim to financial fraud or unlicensed financial service providers due to their inability to use new technology tools or technology applications and lose their livelihoods (Vanaga, Sloka, 2020-b). It is important to educate and explain such aspects to the public; therefore, the communication of the financial regulator with the public and the creation of appropriate regulations for innovation technologies play an important role (Vanaga, Sloka, 2020-b).

The Covid-19 pandemic is a global health crisis that also affects social issues such as housing and food security (including hunger). Given that a large part of the population of Latvia lives in cramped housing that has already served its time, however, the conditions cannot be changed due to low income, and the availability of housing and the improvement of living conditions in Latvia need to be addressed.

In 2019, the population of the EU-27 lived in apartments (46.1%), almost a fifth (18.5%) in twin houses and more than a third (34.8%) in detached houses (Figure 5.8) (Eurostat, 2021).

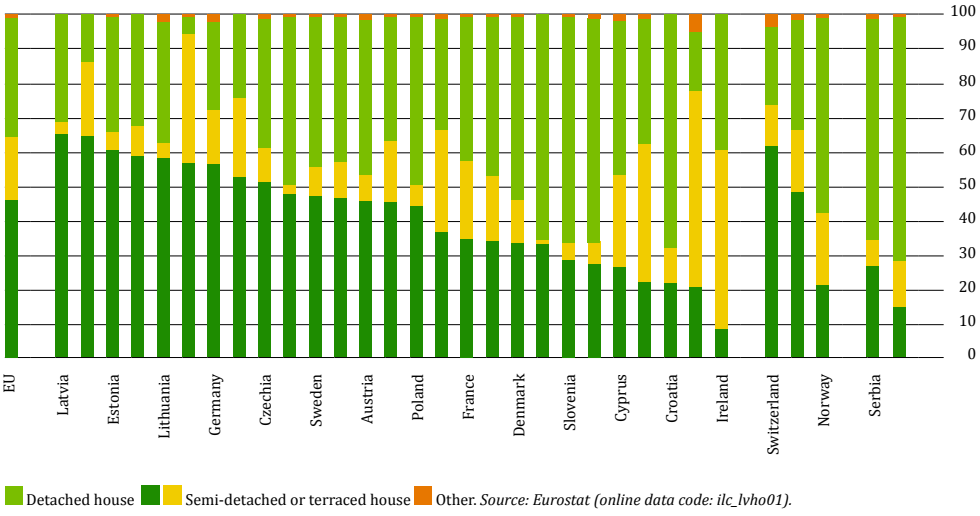
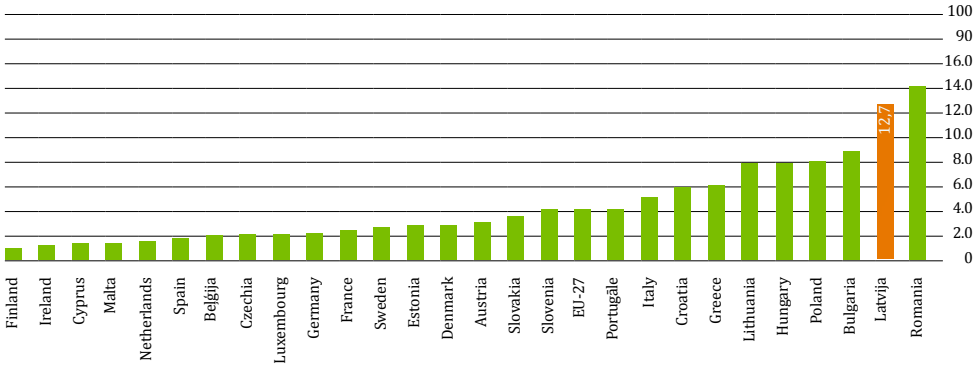


Fig. 5.8. Distribution of population by dwelling type in 2019, (%).

In 2019 in the EU, the proportion of people living in apartments was at least 60.0% in the following Member States: Latvia (65.9%), Spain (64.6%) and Estonia (60.5%), while a slightly lower rate was reported in Greece and Lithuania; a similar proportion of people lived in apartments in Switzerland (62%). The highest proportions of people living in detached houses in the EU were reported in Croatia (67.9%), Slovenia (66.1%), Romania (65.4%) and Hungary (65.4%). Among the other Member States, only Denmark, Poland and Slovakia had the majority of the population living in detached houses. The highest proportions of people living in twin homes in the EU Member States were reported in the Netherlands, Ireland, Malta and Belgium – the only Member States where two-fifths or more of the population lived in twin homes. In the United Kingdom, this proportion was even higher at 60% (Eurostat, 2021).

In 2019 in two EU Member States, at least a tenth of the population had very poor living conditions: in Latvia it was 12.7% and in Romania 14.2% (Figure 5.9.).

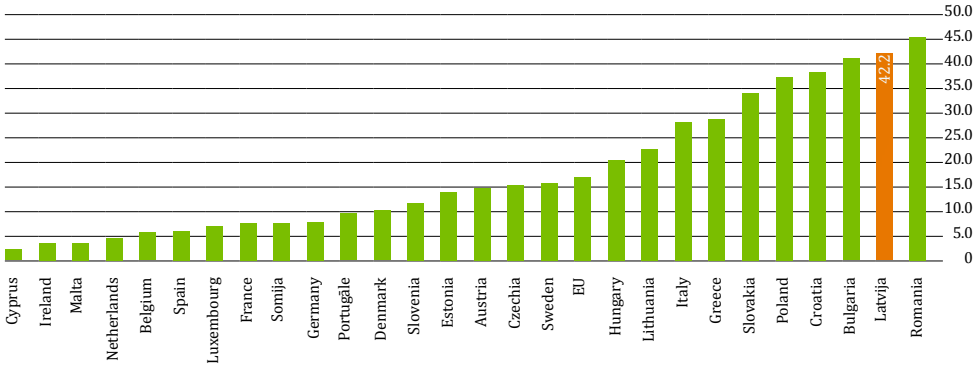


Source: authors' construction based on the Eurostat database (online data code: ILC_MDHO06A).

Fig. 5.9. Housing deprivation rate in 2019, %.

In 2019, according to Eurostat, 44.8% of the EU population lived in owner-occupied housing without a home loan or mortgage – a relatively high proportion, above 60%, was reported in Eastern Europe and the Baltics, except for the Czech Republic (56.8%) and Estonia (58.9%). In Romania, Croatia and Bulgaria, the proportion was over 80%. In several Member States, the proportion was much lower, ranging from 8.5% in the Netherlands to 37.4% in Ireland.

During the pandemic, housing has become very important. The quality of housing and the density of people in the household make an impact on the performance of telework (in occupations where this is possible) and on the opportunities for part-time education for children of the household. In Latvia, 42.2% households were overcrowded[5]. The availability of housing is one of the most important security factors. The EU average household overcrowding rate was 17.1% (Figure 5.10.).



Source: authors' construction based on the Eurostat database (online data code: ILC_LVHO05A).

Fig. 5.10. Household overcrowding rate in the EU in 2019, %.

[5] A household is considered to live in overcrowded conditions if there is less than one room available in each household: for each couple in the household; any person who is 18 years of age or older; for each same-sex couple between the ages of 12 and 17; for each person between the ages of 12 and 17 who is not included in the previous category; and for each couple of children under 12 years of age. The room category includes bedrooms, living and dining rooms, as well as kitchens in countries outside Europe.

Findings

A high concentration of wealth in the hands of a small population is a major barrier to ensuring equal opportunities.

Opportunities for social mobility are endangered, as a person's achievements unfortunately depend not only on his or her own diligence and work but also on his or her initial social status – educational opportunities available to the person, exposure to an unfavourable environment, high levels of stress, the family debt burden) and so on.

Inequality contributes to social stratification, which increases if left unaddressed.

The housing stock in Latvia is in unsatisfactory condition, and it is necessary to promote private investment in housing construction and renovation in order to raise the quality of housing and build housing for sale and rent at market conditions; the government needs to provide guarantees for such programmes.

It is necessary to promote the availability of rental housing for low-income households or needy people by launching support programmes with specific terms and conditions for tenants and involving commercial banks in financing them; the government needs to provide guarantees to investors.

The availability of social housing in municipalities for the lowest income population should be increased by promoting the construction and renovation of social housing and creating support programmes in cooperation with businesses and based on employment projects (Vanaga, Sloka, 2021-a).

In Latvia, the tax burden on low-wage earners needs to be reduced in order to lower the proportion of people living in poverty and social exclusion. In the EU, the tax burden on low-wage earners in more than 2/3 of the Member States is 70% or higher.

More effective support in the form of social benefits should be provided to the stratum at risk of poverty, which is aligned with the composition of the population of Latvia and based on inequality data, by accurately identifying the social status group and taking appropriate social measures through providing social services, which in Latvia since 2021 have begun to be aligned with the problems caused by the pandemic.

Latvia is among the countries with high income inequality, which should be reduced at least to the EU average and to the extent that would motivate people to improve their situation by working more and more productively, raising the level of education and qualifications, as well as engaging in entrepreneurship (Vanaga, Sloka, 2021-b).

Given the pandemic restrictions imposed on industries or their shift to providing remote services or the rapid adaptation of technology to service delivery, it is necessary to invest in building up the skills of low-wage earners so that they enter the labour market with the new skills needed both during and after the pandemic in the provision of digital and electronic services and use of innovation technologies as well as in making private payments (Vanaga, Sloka 2021-b).

The financial regulator of Latvia plays an important role in informing the public about the receipt and use of financial services. Particular attention needs to be paid to innovative financial services based on new technologies, which need to be explained according to the level of awareness of them by the target population. The creation of financial literacy content, as well as the preparation of various alerts on financial fraudsters, needs to focus in particular on the low-income and low-educated population as well as the senior population with poor digital skills, which are required for new financial technologies to be used (Vanaga, Sloka 2021-a). The mentioned aspects need to be considered when organizing the involvement of individuals in the built-up of their digital skills and thus promoting their potential involvement in the labour market.

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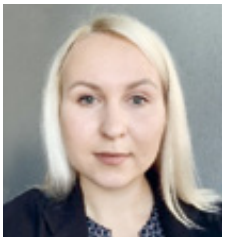
5.3. Economic and Social Challenges in the Regions of Latvia



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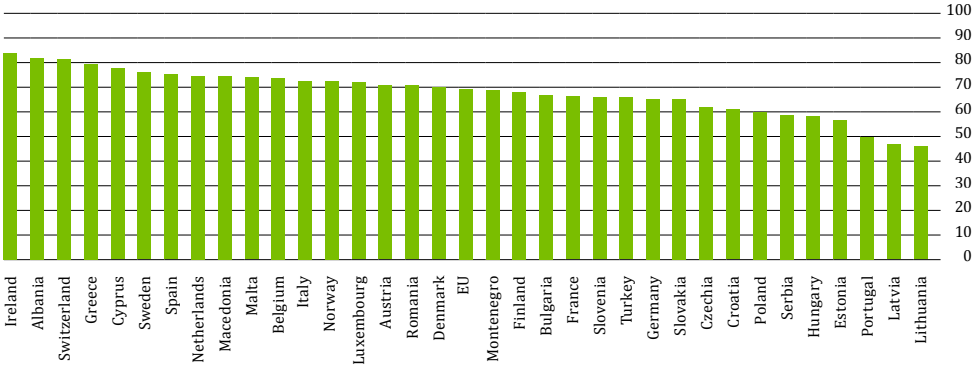
Population aging (increase in the proportion of the elderly population in the total population) is the result of increasing life expectancy and falling birth rates. It is part of long-term development called the demographic transition from a high-mortality and high-birth rate regime to a low-mortality and low-birth rate regime (UNECE, 2021). Since the older generations born during the high birth rate period are living longer and the next generations born during the declining birth rate period are numerically smaller, society as a whole is aging. All countries in Europe are experiencing this process, and it is the richer countries that face it earlier.

The aging of society needs to also be viewed in the light of the fact that longer lives create opportunities not only for seniors themselves but also for their families and society as a whole. Extra years allow people to pursue new hobbies, learn and even build a new career. Older people also contribute in many ways to their own families, yet the extent of this opportunity and contribution depends to a large extent on the key factor: health.



Source: *Eurostat, 2021.*

Fig. 5.11. Self-assessments of health status by adults (good or very good) in 2020, % of total

Latvia is in the penultimate place among the European Union Member States in terms of proportion of the population who rate their health as good or very good, and the situation is worse only in Lithuania; however, in Estonia it is also well below the EU average. The highest numbers of people who rate their health as good or very good are in Ireland, Albania and Switzerland. There are no significant differences in the self-assessment of health by the population between the regions of Latvia; however, a larger proportion of the population rating their health as good or very good is reported in cities than in rural areas (Sloka, Čipāne, Vasina, Volgasts, 2019). In Latvia, only 19.1% of the population over the age of 65 rate their health as very good or good. Although health is largely determined by heredity, health is directly affected by the quality of life.

Although financial deprivation in Latvia has declined since 2011, it is still above the EU average. Almost 10% of the population cannot meet at least three of the six aspects of financial security (Sloka, Čipāne, 2019), which are: financial opportunities to cover utility payments, rent or repay the loan; afford to keep the home warm; cover sudden, unforeseen expenses from own resources; eat meat, poultry or fish every other day; go on holiday away from home for one week every year; use a car, washing machine, colour TV and a telephone for your needs.

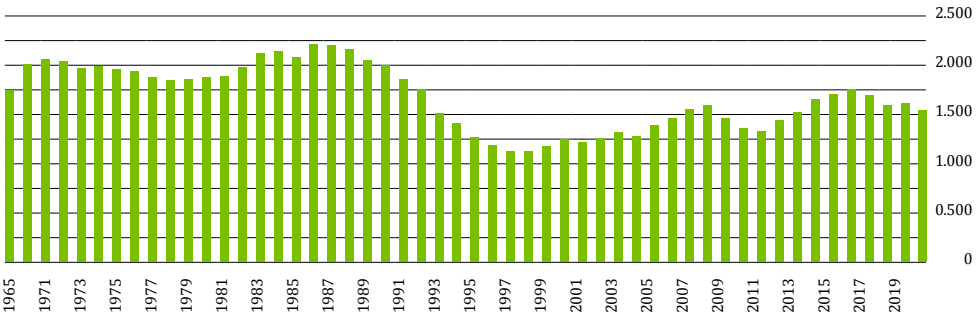
More than 23% of the population in Latvia is at risk of poverty, and seniors are one of the most vulnerable groups in society. One of the main problems in the economy of Latvia is income inequality. The Gini index is an indicator that shows income inequality (CSB, 2021), i.e. if all people have the same income, the Gini index is 0, yet the more unequal the incomes, the higher the Gini index. Compared with the average level of the European Union, the income gap between the richest and the poorest is higher in the Baltic States, with the highest income inequality in Lithuania and the lowest in Estonia. Regionally, Latgale and Pieriga regions have the largest income inequality (Sloka, Jēkabsone, Čipāne, Vasina, 2019). A research study on income inequality in rural areas (Peters, 2011) found that people living in poor places were more equal in terms of income distribution, while those living in a prosperous and affluent areas were more unequal. People living in an area of low inequality had lower levels of education, a lower level of employment, a higher level of poverty and lower average household incomes. In an area of higher inequality, people tended to be better educated, wealthier and more skilled, and there was higher economic growth across various industries.

Along with income inequality, the burden of housing costs has also become a social problem, accounting for almost 25% of monthly household expenditure. Only the residents of Riga and Kurzeme region were less burdened by housing costs, in other regions the situation was worse, for example, most of the residents of Zemgale and Latgale considered the housing costs to be a very heavy burden (Čipāne, Sloka, 2020).

Poor health and difficulty in paying for various daily household expenses make life more difficult. Although people's satisfaction with life increased, Latvia is still among the less satisfied EU Member States. The satisfaction of men and women with life is similar, young people aged 15 to 29 living in Pieriga region are more satisfied with life, and some have obtained higher education. Satisfaction with life in Latgale region is the lowest (Čipāne, Sloka, 2019).

It is important to take care of savings during life. In 2020, almost 30% households in Latvia did not have any savings (CSB, 2021), while in Latvia voluntary investments in the 3rd pension level were made by about 20% of the population, of which less than half did that regularly. Savings, financial literacy and confidence in the financial situation are important prerequisites for starting a family, increasing the birth rate, and consequently for sustainable economic development.

The declining number of children is another important factor contributing to an aging population.



Source: Central Statistical Bureau, 2021.

Fig. 5.12. Total birth rate for women aged 15 to 49 years.

As shown in Figure 5.12., the birth rate in Latvia in 1987 and 1988 has not been reached, and in 1997 the total birth rate was at a historically low level due to migration, the economic situation in the country and sociological processes. Birth rates have decreased since the 2009 financial crisis and continue decreasing during the current pandemic. Financial stability and to some extent a predictable future are important preconditions for an increase in the birth rate. An equally important factor is the average age of the mother, which tends to increase from year to year and is now 30 years. This fact also relates to financial stability, e.g. income discrimination, as women in Latvia earn less than men for the same work. Consequently, having a child at an early age can reduce a woman's chances of earning a higher income.

An important factor influencing the birth rate is regional disparities, as family planning involves significant costs. However, the disparities in wages and unemployment across the regions of Latvia are similar to those elsewhere in Europe where the capital city and adjacent territories are more developed than other regions - wages are higher and unemployment is lower. Riga and Pieriga regions are more developed than Vidzeme, Kurzeme and Zemgale regions, while in Latgale region one in four employees earns the minimum wage or less, and unemployment is the highest (Lase, Sloka, 2020).

There are also regional differences in the development of the Internet and technologies in the digital environment. Although digital inequalities in Internet access in the most developed European countries and in the United States have decreased significantly (Lucendo-Monedero et al., 2019; Khan, Welser et al., 2020), gaps in Internet use (Reddick et al., 2020) and the acquisition of digital skills remain (van Laar et al., 2020). In Latvia, the level of Internet access for households is below the EU average; however, it has gradually improved since 2010. Significant household inequalities are observed between urban and rural areas, i.e. the households in urban areas have better Internet access than those in rural areas. There are still households in Latvia that cannot afford a computer, most or 13% of them live in Zemgale region, while the least number of such households is reported in Pieriga region at 5.1%.

Along with the improvement in general digital skills and the development and availability of the Internet and technologies, social media are also used more widely by both residents and national and municipal institutions (Sloka, Lase, Vītols, 2021). The most commonly used social medium in municipalities is Facebook, followed by Youtube and Instagram. Facebook is the

most widely used social medium in Pieriga and Vidzeme regions, Instagram in Vidzeme region, while Twitter and Youtube in Pieriga region, while in Kurzeme region all the four social media are used less often than in the other regions. The use of social media in municipalities provides many advantages, e.g. easier communication with the population, the transparency of municipal work and the participation of residents in decision-making. However, there are also challenges that employees face in managing social media on a daily basis, e.g. negative and unreasoned criticism, difficulty in reaching a wide and diverse audience.

The most urgent solutions are needed in Latvia to reduce income inequality and regional disparities.

The large remuneration gap discourages people from moving to the regions, living and working in there as well as starting a family. To address the biggest barriers to remuneration disparities in each region, it would be most rational for decision-makers to take a region-specific approach, targeting each region. A possible solution could be to implement a policy to attract large companies to the regions other than Riga. This could help to reduce the inter-regional remuneration gap, especially for low-paid employees, as the entry of large companies into the region means more well-paid jobs.

Health, financial insecurity and the burden of housing costs affect the population's satisfaction with life, which is low in Latvia compared with most other EU Member States. The worst situation in relation the above is reported in Latgale region, while the best situation is in Riga and Pieriga region. In addition to creating new jobs in the regions, significant investment is needed in health, education and other social development programmes, as well as in developing an environment conducive to an active and healthy lifestyle so that people can enjoy wellbeing at all ages.

There is a trend in Latvia – the lower the level of education, the lower the digital skills –, which regionally are the poorest in Latgale and Zemgale region, whereas the highest level is reported in Riga and Pieriga region. The low level of e-commerce activity, the degree of digitalization of companies, as well as the insufficient use of digital solutions in the communication of municipalities with the population indicate the need to promote lifelong learning at the national level, which would reduce the gap between young and older people.

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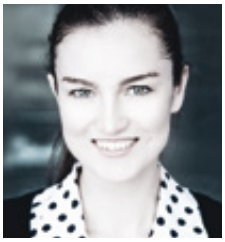
5.4. Evidence-Based Decision-Making in Policy for Social Sustainability



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Social sustainability is becoming more and more important in many countries around the globe. In Latvia it is becoming more important due to the increase of share of retired people and, in recent years, restrictions of Covid-19 limitations for work: it was discovered that a big part (estimated so by different sources – State Revenue Service of Republic of Latvia, State Social Insurance Agency of Republic of Latvia, etc.) of the population in Latvia could not get support in case of limited work possibilities because their social contributions before pandemic were very small or missing. Those aspects are becoming more and more influential to the society mood, and for state and municipality institutions to fulfil their obligations foreseen by the legislative norms, even if some of them concern only the pandemic time.

The aim of this research is to explore the possibilities to increase application of evidence-based approach in social policy making in Latvia in order to maintain social sustainability. The research methods used are literature review, analysis of previously conducted research results that were published as results of several projects but not prepared as scientific publications, legislative document analysis, expert survey and statistical analysis of expert evaluation results in order to identify the main issues and opportunities in the social policy-making process and in the application of the evidence-based approach.

5.4.1. Sustainable development and Social sustainability

The terms *sustainability* and *sustainable development* have been developed to a great extent in the scientific literature in the past decades due to the increasing concerns about the world ecosystem and the capacity in which human-made technologies are developing in the 21st century. Lisa M. Butler Harrington (2016) has defined sustainability as a capacity to maintain or improve the state and availability of desirable materials or conditions over the long term.

United Nations (UN) World Commission for Environment and Development in 1987 published the report "Our Common Future" that contained a definition of sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The UN World Commission determined that the main goal of sustainability is to satisfy human needs. Needs are considered the basic needs to eliminate poverty in the world and provide the opportunity to satisfy inclinations for better life.

Following the report, an important step into maintaining sustainability was taken during UN Sustainable Development Summit in New York in 2015. During this Summit, on 25 September 2015, the UN's General Assembly adopted a Resolution "Transforming our world: the 2030 Agenda for Sustainable Development" that announced 17 Sustainable Development Goals (SDG) with 169 associated targets which are integrated and indivisible. It was envisaged to achieve these targets till 2030. The main target areas are poverty, health, education, equity, energy, infrastructure, climate change, oceanic resources, peace, security and good governance.

Of 17 Sustainable Development Goals 8 goals may be directly attributed to the social development. These are: (UN SDG no 1) Reduced poverty; (no 3) Good health and well-being; (no 4) Quality education; (no 5) Gender equality; (no 8) Decent work and economic growth; (no 9) Industry, innovation and infrastructure; (no 10) Reduced inequalities; (no. 16) Peace, justice and strong institutions. Others, such as, for example, goal no 6 Clean water and sanitation or goal no 11 Sustainable cities and communities, provide for general well-being or are not relevant for Latvia (for example, UN SDG goal no 2 Zero hunger).

The Triple Bottom Line concept of three sustainability elements (economy, environment, social well-being) was developed based on the 1987 UN declaration on development by John Elkington (Ozanne L. K., et al., 2016), which changed the way organisations measure development and efficiency from measuring only profit to measuring the profit, social responsibility and the environmental footprint. The most recent scientific research shows that strong sustainability is possible only when the economy's dependence from society is clearly defined (Thiel E. S., 2016). In case all three elements are not balanced, a threat may appear that when one element is developing disproportionally it is impacting the overall development negatively.

In the scientific literature there is no common agreed definition for social sustainability because of the many different approaches used by the scientists (Littig B., Griessler E., 2005). The available definitions tend to analyse the social sustainability as long-term development of society and necessary requirements to maintain the positive changes focused on solving social challenges (Corsini L., Moultrie J., 2019). Researcher Konstantinos Alexander Polomarkakis (2019) defined social sustainability in the European Union "as a set of policies, rules and principles laid down in the EU legal order, and which aim to reinforce the social dimension of the EU as a long-term solution, ring-fencing it from any relapse into a position of hierarchical subordination to the markets […]". In recent scientific publications social sustainability is analysed for all fields of national economy and in most of the countries around the globe, on environment (Longoni A., Cagliano R., 2015), on health care (Khan M. et al., 2018) and other fields.

In order to achieve sustainable development on a national level, government must make evidence-based decisions to ensure that policies are implemented effectively. On the governmental level, decision-making can be impacted by political ideology, emotions (Umbach G. et al., 2018), values and/or biases (Barbera-Marine M. G., et al., 2019). In the management science there are two main approaches to decision-making — systematic and intuitive (Cervone H. F., 2015). Already since the 1950s when Herbert Simon (1997) with his theory of bounded rationality set the foundation for development of the theory of rational decision-making, it has been one of the leading systematic decision-making approaches. Rational decision-making includes such critical aspects (Cervone H. F., 2015) as defining the issue — identification of stakeholder's needs; determining specific and measurable criteria for success; analysis of alternatives — identification of all possible alternatives, analysis and evaluation; effective collection of information and quality check; comparison of the alternatives according to the criteria; receipt of feedback and necessary modifications; making the decision on the best solution for the

problem. There are different approaches to the comparison of alternatives, for example, the most commonly used one in public management is cost–benefit analysis (Thiel E. S., 2016) where all the values must be expressed as financial values, which is not often suitable especially when decision-making contains complex social and economic considerations.

Evidence-based approach in policy making is being used more and more in the modern management theory. This approach is part of knowledge management theory (Topp L. et al., 2018), and is being analysed according to the rational decision-making process where the basis for decision-making is determined by information, facts and data that are obtained by scientific methods (Sedlacko M., Staronova K., 2015). Evidence is considered to be a result of scientifically substantiated methodology and statistical data analysis (Phillips P. W. B., Castle D., Smyth S. J., 2020). The process of evidence-based policy planning and implementation is a decision-making cycle in which collection and evaluation of evidence to support the solution to a problem, as well as communication of these opportunities between stakeholders is an integral part (Head B., 2010).

This approach in public management is criticised mainly because of the following restrictions (Mikulskiene B., 2013): political commitments of the government; decision-makers' lack of scientific communication and understanding of research; researchers' distance from the political context and needs. Knowledge management requires certain skills (Topp L. et al., 2018) like scientific research synthesis, management of expert communities, understanding of policy and science, intercommunication skills, cooperation with society and stakeholders, scientific evidence communication, monitoring and evaluation and advising to policy makers.

5.4.2. Legislative document analysis

After the financial crisis in 2008 and especially after the establishment of the United Nation's Sustainable Development Goals (UN SDG) in 2015 (United Nations, 2015), the European Commission began focusing on the well-being of society and the need to strengthen the social sustainability aspect in European Commission policy. Certain efforts to balance out the social sustainability pillar in the policy planning are visible in the European Pillar of Social Rights (SRP) (European Commission, 2015) established in 2015 and being implemented since 2017. The policy contains three main objectives: (1) Equal opportunities and access to the labour market; (2) Fair working conditions; (3) Social protection and inclusion. These three objectives contain 20 principles which are established based on the above-mentioned UN SDG (European Commission, 2015).

In order to assess the results from implementation of the Pillar of Social Rights, a Social Scoreboard (European Commission, 2021) is used. In the 2020 Social Scoreboard assessment for Latvia (European Commission, 2020) is critically low on the income level, poverty level and social inclusion risk (SD goal no 1), poverty reduction with transfers, unsatisfactory health care and level of digital skills (SD goal no 3).

The European SRP is an important tool to maintain sustainable development where economy is a tool for developing social sustainability in combination with the European Green Deal (GD) (European Commission, 2019) where society and people are in the centre of the policy, and by preserving and maintaining the environmental capital it is possible to protect health and well-being of society members. The GD is the first visible attempt to implement all three pillars of sustainability with an integrated approach.

In Latvia policy making is regulated by several legal regulations including the Development Planning System Law (Parliament of the Republic of Latvia, 2008) in force since 2009. The

main goal of the law is to promote sustainable and stable development of the country, as well as improvement of the quality of life of the population. The policy-making cycle (Cross-Sectoral Coordination Centre, 2016) is consistent with the cycle of European Commission (EC) and both are based on the rational decision-making model. The main elements of the cycle are preparation (defining problem, identification of alternative solutions, collection of information and analysis and comparison based on criteria, feedback from stakeholders); decision-making on solution; implementation of the policy; impact analysis and modifications.

In order to determine the quality of the regulation, the OECD 2017 assessment of Better Regulation Practice (OECD, 2017), results are read 0–4 where 4 is completely implemented in a country. In 2017, in Latvia the result in the category Regulatory Governance was low for regulatory impact assessment practice for primary regulation (0.45 points or 11%) and regulatory impact assessment for subordinate regulation (0.20 points or 5%), the last being much lower than the average of all OECD countries (2.04 points) and European Commission (3.33 points). The main reason why the result is so low is that the impact analysis in Latvia is done only by determining the impact of the regulation on financial, budget and administrative cost aspect. Much better result is for the stakeholder's engagement practice for primary laws (2.23 points or 56%) and subordinate legislation (2.17 points or 54%) that levels with OECD countries average (2.20 and 2.11 points, respectively, but is lower than EU countries average (3.41 and 3.56 points, respectively).

Social policy-making process evaluation in Latvia and possibilities for improvement

During the survey, all experts were asked to give answers to seven questions (Indriksone, Sloka, 2021). First, the experts were asked to evaluate the significance of the main groups of stakeholders involved in the social policy making in Latvia in scale 1–10. According to experts, educational and scientific institutions are very important in the policy-making process. The expert opinion was positive, and five out of seven experts considered that educational and scientific institutions play a very important role in policy making in Latvia, however, according to two experts, these groups of stakeholders play only a minor role in the policy-making process. According to experts, large and medium-sized enterprises, trade unions and individuals also play an important role in the policy-making process while youth organisations, small business associations and religious organisations are assessed with medium importance. As already discussed in the theoretical part, in policy-making cooperation with stakeholders is extremely important. The results from document analysis prove that policy-makers should strengthen cooperation and communication with all stakeholders, especially to explain notions such as evidence and decision-making.

During the second survey question, experts were asked to evaluate the extent of application of evidence-based decision-making approach in different stages of social policy-making cycle in Latvia in scale 1–10. Expert answers showed that in all stages the application of evidence-based approach is already significant. Seven responses were received from seven experts in all four positions.

Answering to the second question, experts assessed that in 2021 in Latvia evidence-based approach in policy-making cycle was used extensively, especially during the planning of policy objectives, results and actions and policy impact analysis stages of the policy cycle.

In authors' opinion it is necessary to consider the OECD 2017 evaluation of Better Regulation practices, which clearly pointed out shortcomings in the policy impact analysis

stage of the policy cycle and was valued as extremely low in Latvia. The Better Regulation Practice Guidelines state that regulatory impact analysis should have a rationale linked to the problem (consistent with the theory of a rational decision-making method), to the cause of the problem and the objectives and respective alternatives to the solutions expressed in the policy options. As already concluded during the analysis of secondary data, the OECD assessment of the implementation of Latvia's Better Regulation practice is extremely low. However, as the latest data is only available for 2017, it is possible that the situation has changed over the last four years and Better Regulation practice in 2021 is already being implemented according to EC recommendations, as a result of which it would be in line with expert evaluations. The authors recommend in depth analysis of the results of the next available evaluation of OECD Better Regulation practices, when it is available.

In scientific literature evidence-based policy making is criticised, and several limitations are pointed out such as government's political commitments, legislator's ability to communicate research and low understanding of research and scientist's distance from the political context and management needs. Therefore, in the third question the authors included 20 policy-making aspects such as the ability of policy makers to apply data and research, communication between researchers and policy makers, researcher's active involvement in policy making, and others selected after the authors analysis of the theory and analysis of the previous research.

During the third question, experts were asked to evaluate in scale from –2 to 2 how different policy-making aspects of evidence-based policy development influence application of evidence-based approach in policy making currently in Latvia. Seven responses were received from seven experts regarding all 20 aspects.

Policy making is influenced by many aspects, not only the integration of evidence, therefore the authors asked the experts to evaluate whether the 20 different aspects could impede or, on the contrary, benefit decision-makers to apply evidence-based approach more frequently in the social policy-making in the Latvian context. The availability of data for policy makers is more often assessed as an aspect that almost unequivocally benefits more frequent application of the evidence-based approach. Aspects such as policy makers' understanding of the impact analysis process and knowledge transfer between policy makers in different sectors have been assessed as benefiting to application of the evidence-based approach more frequently.

Data, as one of the main types of evidence, is very important in the policy-making process, as it directly supports the problem identification phase, the choice of alternative solutions, and the impact analysis. In addition to this study, it is necessary to study in depth the quality of available data and the possibilities to use and process them in Latvia in order to understand whether there are any obstacles for those involved in policy making.

According to the expert evaluation, aspects that rather benefit to apply evidence-based approach more frequent are communication between researchers and policy makers, decision makers' understanding of the policy-making process, policy makers' ability to apply data and research to policy, and the scientific research availability to policy planners. The last two aspects are assessed as important in the policy-making process and are closely linked to the use of evidence. This is in line with the scientific information analysed in the theoretical section. Aspects such as the quality of publicly funded research and the clarity and formulation of the objectives and tasks of publicly funded research projects were assessed as less important.

According to expert evaluation, rather neutral effect on the use of evidence-based approach has such aspects as expert availability for consultations in the policy-making process, society's involvement in the policy-making process, technical requirements for public research,

decision-making speed in the policy-making process and budget availability for publicly funded research. Two aspects are evaluated as negative. These are: procurement process of publicly funded research and society's understanding of policy-making process.

Expert opinion on public understanding of the policy-making process does not coincide with the results of the authors' analysis of the policy documents, in particular emphasising that public understanding and accessible information on decisions and transparency are necessary to gain public support and successfully implement policies on sustainable development. If societies do not understand the policy-making process, it is impossible to understand its rationale and build trust.

The forth survey question was where experts evaluated the significance of different decision-making methods in the social policy-making in Latvia in scale 1-10. According to experts, decisions in Latvia are currently made mainly based on the results of the cost - benefit analysis which also coincides with the conclusions of the theoretical analysis. This decision-making method is very often used in the policy-making process, as it allows to conduct analysis of the benefits and costs of each alternative. However, this method has its drawbacks, as it is often not possible to quantify and compare the potential benefits and costs, so it works very well in calculating economic solutions, but not in finding more complex solutions. According to expert's evaluation, the second most frequently used method is the Triple Bottom Line where the impact on all three elements of sustainable development - environmental, social and economic - is assessed during decision-making. The third most frequently used method of decision-making according to experts is the heuristic method or experience-based decision-making, where it is assumed that the evidence is not integral part of the process.

During the fifth survey question, experts were asked to evaluate the significance of different tools/ possibilities in maintaining social sustainability in social policy in Latvia in scale 1-10. From the 7 experts were received 7 responses in all 14 positions.

Experts have assessed the regular review and updating of research and data and cooperation between policy makers in different sectors as the most important aspects. Experts also considered it necessary to frequently review the implemented policy and adapt it to the current situation using evidence-based tools as a basis for decision making, educating the society about the meaning and significance of sustainable development, close cooperation with educational and scientific institutions and industry experts.

Experts consider important to increasing entrepreneur's accountability in achieving the sustainable development goals and educating entrepreneurs about the meaning and significance of maintaining sustainable development. Considering that entrepreneurs are a very important stakeholder together with policy planners, implementers and educational and scientific institutions in the policy-making process, it is important to ensure understanding of sustainable development and its role in the country's development, as compliance with the principle of sustainability is often inconsistent with the operational activities of companies and the decisions taken.

Additionally, experts were asked to answer 2 open-ended questions where they could provide their opinion on what are the most necessary improvements in policy-making necessary currently in Latvia, and the second questions: what methods could help maintain balance of 3 sustainability pillars (environment, society, economy) in policy. To the question whether it is necessary to make changes in the policy-making process in Latvia, 6 of the 7 experts answers were received. 5 of the experts answered affirmative, while one replied that the question was too multifaceted to answer. Those experts who responded affirmative mentioned the need for such changes in policy-making as performing an in-depth policy impact analysis based on

facts, data, human needs, research and analysis in relation to available resources and not based on preferences or benefits of political interests. Another expert expressed opinion that it is necessary to educate policy makers and decision makers about science-based decision-making methods. There is a need to foster collaboration between researchers and policy-makers, and to ensure close, regular communication between researchers and policy makers. Several experts stressed the necessity for continuous learning for policy makers, and the necessity to take into consideration opinion of industry experts. It was stressed that research-based policy-making is crucial with a particular emphasis on high-quality evidence-based impact assessments. It was pointed out that it is important to objectively analyze and explain the processes, to eliminate the stereotypes and assumptions which may not correspond to the real situation existing in the society about policy-making related topics. The opinions of the experts on this issue further support the conclusions already reached during the literature analysis.

Analyzing what kind of tools / methods in expert's opinion can be used to manage and balance all 3 elements of sustainable development in decision-making, experts stress several elements of knowledge management, such as close collaboration with researchers and industry experts, improving communication between different sector policy makers. One of the experts argues that the balance of sustainable development requires evaluation and monitoring of the implemented policies, as well as the understanding and insight of sectoral policy makers into issues that go beyond their responsibilities and areas. At the same time, there is a need for a regular review of priorities, not only in a formal way, but also in depth and on a regular and systematic basis. A balanced consultation process is recognized as crucial, as stakeholders may have differing views and transparency and understanding of sustainability issues. As equally important experts pointed out the use of scientific methods in the decision-making process and greater involvement of scientists. The views expressed on this issue largely coincide with the observations and conclusions from the survey results.

Conclusions. Although in theory the social sustainability concept is being increasingly researched, there is a lack of research on practical approaches on how to maintain social sustainability concept in policy. Meanwhile EU and Latvia as a member state since 2008 are extensively working on policies that promote social sustainability and put society as the main element, whilst environment and economy are elements that drive social development. There are visible efforts to continuously improve social policies in Latvia based on available data and other evidence. In 2021, application of evidence-based approach already is extensive in all stages of social policy-making cycle, especially during the planning of policy objectives, results and actions, and policy impact analysis stages of the policy-making cycle. However, based on information from the secondary data analysis, the process and application of evidence-based approach to policy impact analysis must be improved, and not only financial evidence should be used for the impact analysis, but other non-financial evidence must be integrated.

Educational and scientific institutions already play a very important role in policy making in Latvia together with decision-makers which confirms that non-biased advice and evidence is being applied to social policy making in Latvia. The expert survey confirmed that data availability is the most important aspect that benefits application of evidence-based approach to social policy making, as well as improving communication between researchers and policy makers and knowledge transfer between different sectors in different stages of policy cycle, and communication with stakeholders has a positive impact on maintaining policy that supports social sustainability. According to expert's opinion, opportunities to strengthen the successful integration of sustainable development strategies into policy-making can be ensured by strengthening the use of evidence-based tools and methods such as regular review

and updating of research and data, regular evaluation of the impact of implemented policies and adaptation to the current situation, and increased use of cost-benefit methods in decision-making.

Recommendation: successful integration of the sustainable development strategy into policy-making can be ensured by strengthening the use of evidence-based tools and methods such as regular review and updating of research and data, regular impact assessment and adaptation, and enhanced use of the cost-benefit approach to decision-making.

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5.5. Sustainability of the Latvian Pension System

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Latvian pension system is considered one of the most sustainable in the world, but it should be mentioned that financial sustainability may be achieved in different ways and sometimes the aspects of sustainability are estimated without considering system's ability to provide equity, equality and adequacy of retirement provision. Improving democracy, demographic pressure and many other factors constantly create new challenges for well-developed systems as well, thus, one of the main goals of Latvian pension system is to stay financially stable while providing the execution of the main rights determined in the European and international norms.

The overall standards of pension provision are established in the European Pillar of Social Rights proclaimed in 2017. According to this statement delivering on the principles and rights defined under the Pillar is the joint responsibility of the EU institutions, member states, social partners and other stakeholders. The 3rd chapter devoted to social protection and inclusion establishes the key approaches to determining the minimum income, old age income and pensions. In particular, everyone lacking sufficient resources has the right to adequate minimum income benefits ensuring a life in dignity at all stages of life, and effective access to enabling goods and services; workers and the self-employed in retirement have the right to a pension commensurate to their contributions and ensuring an adequate income; everyone in old age has the right to resources that ensure living in dignity (European Commission, 2017).

The European Pillar of Social Rights may create additional risks for the sustainability of Latvian pension system in future; thereby, it is necessary to assess pension system's capability to provide:

1) resources that ensure living in dignity and
2) a pension commensurate to contributions and ensuring an adequate income.

5.5.1. The Concept of Dignity

Scientific literature shows significant historical evolution of the concept of dignity already since Roman times. Despite its relative significance in the development of ideas, dignity began to enter legal, and particularly constitutional and international legal, discourse in any particularly sustained way in the first half of the 20th century. At the same time dignity still remains one of the most disputable terms amongst researchers.

Implementation of dignity in international and regional human rights texts derives from the use of dignity in the Universal Declaration of Human Rights. Dignity is mentioned there in different context; however, the context of social security also exists. Dignity may be achieved as a result of certain activities, i.e. social protection or working (United Nations, 1948). Human dignity is also considered as a foundational concept of the global human rights regime, "the 'ultimate value' that gives coherence to human rights" (Hasson, 2003). The Vienna Declaration of the 1993 World Human Rights Conference claims "all human rights derive from the dignity and worth inherent in the human person" (United Nations, 1993). The 1966 International Human Rights Covenants declare "these rights derive from the inherent dignity of the human person" (United Nations, 1966) Mentioned documents and others, such as the European Pillar of Social Rights, are unclear as to the exact definition of human dignity and how it gives rise to or grounds human rights (Henkin, 1992; Beyleveld & Brownsword, 1998), but it is clear that the idea of dignity has become a central organizing principle in the idea of universal human rights.

At present leading comprehensive doctrines across the globe participate in a two-level overlapping consensus, on the idea that the social and political implications of one's deepest beliefs are appropriately summarized in the idea of human dignity and that internationally recognized human rights provide a detaileaimd specification of certain basic prerequisites of human dignity in contemporary circumstances and essential practices for realizing those that underlying conception of human dignity (Donnelly, 2009; McCrudden, 2008). Human rights, in other words, are both a roadmap and a set of practices for constructing a life of dignity in the conditions of the contemporary world, therefore, it is possible to predict future, judicial popularity of dignity in human rights adjudication.

5.5.2. Adequate Income Dimensions

Adequacy of pensions is one of the main aspects of sustainability policy makers and scientists are concerned about. In some cases, financial sustainability is achieved via the amount of retirement benefits and such scenario is not acceptable anymore as far as sustainability becomes compromised by political and social risks. Therefore, society may start to undermine the implementation of pension rules.

There does not seem to be a broad consensus in policymaking circles and academic literature on what constitutes the best measure of pension adequacy. Some studies claim to define the term of adequacy or assess a limited range of adequacy indicators (Rajevska, 2016; European Commission & Committee, 2018; Saunders & Wong, 2011; Chybalski & Marcinkiewicz, 2016). Another direction of research tries to formulate the systemic approach to measuring pension adequacy (Grech, 2013; Alonso-Garcia, et al., 2018; Alonso-Fernandez, et al., 2018 and its contribution to the efficiency of pension system in general (Chybalski, 2016).

The Organization for Economic Cooperation and Development (OECD) considers an adequate pension system to be one that "replaces a worker's earnings at a level which enables him

or her to maintain a standard of living in retirement comparable to that enjoyed in working life—even though retirement income often do not just replace earnings". (OECD, 2013)

According to Chybalski and Marcinkiewicz (2016) pension system adequacy should be perceived as a multidimensional category consisting of the following three dimensions:

- Dimension I: Protecting against poverty
- Dimension II: Consumption smoothing
- Dimension III: Differences in adequacy between the genders.

In the framework of estimating protection against poverty the at-risk-of-poverty rate for pensioners is considered as one of the most representative indicators. It characterizes the group of people whose main activity status is 'retired' and it expresses the share of pensioners with an equalized disposable income below the at-risk-of-poverty threshold. This indicator is the main measure of monetary poverty included in the EU list of indicators, it is a relative one - net income less than 60% of national median (European Commission , 2011).

Concerning consumption smoothing, usually there are two essential measures based on income: the replacement rate, which is the most commonly used in studies discussing pension adequacy, as well as the relative median income ratio for the population aged 65+ . The replacement rate is a kind of relationship between income in the retirement period and income in the period of economic activity. According to the methodology applied by Eurostat, the aggregated replacement ratio is defined as the ratio of the median individual gross pensions of the 65–74 age category relative to median individual gross earnings of the 50–59 age category, excluding other social benefits (European Commission, 2020).

Eurostat also provides methodology for measuring the last dimension of pension system adequacy, i.e. income disproportions between the genders. Absolute differences between the values of relevant indicators are calculated separately for men and women (European Commission, 2020). These are:

- Gender differences in the at-risk-of-poverty rate of elderly people 65+ ;
- Gender differences in the aggregate replacement ratio;
- Gender differences in the relative median income ratio of elderly people 65+.

5.5.3. Assessment of Latvian Pension System

5.5.3.1. "Living in dignity" estimation

Latvia proclaims dignity in the Constitution of the Republic of Latvia (Satversme). This document does not provide precise definition of dignity. The term is included in the chapter, determining fundamental human rights. From the formulation of the chapter, i.e. ''The State shall protect human honour and dignity'' (Constitutional Assembly, 1922), it is not possible to specify, if dignity is the foundation of human rights in Latvia or one of them. Taking into consideration, that dignity statement is included in the list of traditional human rights together with the right to social security in old age, human health protection and guarantee of basic level of medical assistance for everyone, the right to education etc., dignity in Latvia is supposed to be one of the fundamental human rights. Latvian legislation usually determines financial thresholds for the rights, which maintain some minimum core. In other words, it is possible to specify what amount of financing must be provided for ensuring basic education or health protection, however, financial bottom line for dignity or "living in dignity" does not exist. Latvian legislation doesn't provide a particular explanation in what way living in dignity is achieved,

but the authors assume that it might be a result of the implementation of traditional human rights such as the right to social security in old age, health protection and other.

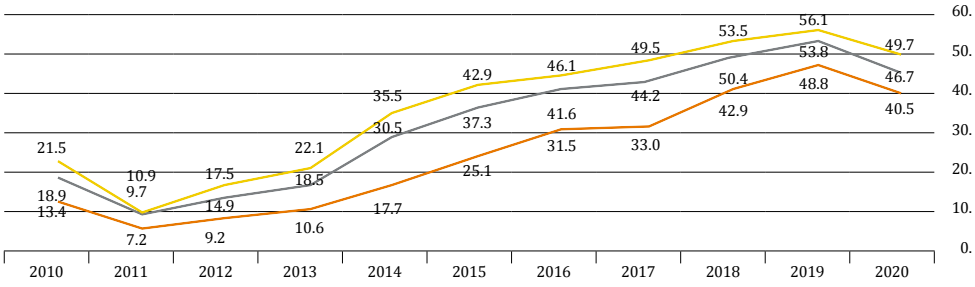
The Ombudsman of the Republic of Latvia (the main independent person, which keeps trace of compliance with the law by Governmental and municipal institutions) constantly receives claims of Latvian citizens being sure, that the amount of old age provision does not provide living in dignity. Only in 2019 the Ombudsman seven times informed Latvian Government about the non-compliance of social benefits (including retirement benefits) with the idea of dignity, equity and equality and twice submitted claims to the Constitutional Court of the Republic of Latvia (Ombudsman of the Republic of Latvia, 2020). The analysis of these reports shows, that the Ombudsmen and the Constitutional Court interpret dignity as a result of realizing the fundamental human rights.

It is impossible to assess if Latvian pension system and benefits provided provide an opportunity to live in dignity without estimating the adequacy of realizing other human rights regarding retirees. However, pension provision is an essential element of social protection in old age, thus provision of adequate pension benefits is one of the steps in achieving living in dignity.

5.5.3.2. Adequacy of retirement benefits

Assessment of indicators according to the three-dimensional approach does not demonstrate positive performance of Latvian pension system. Data shows, that in 2020 the at-risk-of-poverty rate for pensioners in Latvia is the second highest in the EU (European Commission, 2021).

Fig.5.13. demonstrates historic development of the at-risk-of-poverty rate for pensioners in Latvia. Since 2011 the rate is constantly increasing, that is to say, Latvian pension system itself does not provide an opportunity to avoid the risk of poverty for the majority of retirees. Gender differences in replacement ratio lead to much higher the at-risk-of poverty rate for female.

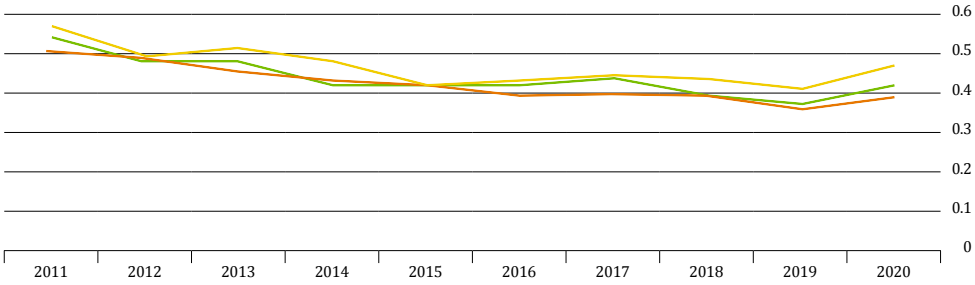


Source: Eurostat (2021).

Fig. 5.13. At-risk-of-poverty rate for pensioners in Latvia 2010–2020, %.

As for the second dimension of adequacy- replacement ratio- the results of assessment are almost similar to the previous comparison: in 2018 aggregate replacement ratio for pensions in Latvia is the third lowest in the EU and its development trend shows constant negative dynamics since 2011 (see Figure 5.14). Figure 5.14 also shows non-compliance with the 3rd dimension of pension adequacy. According to the methodology of the European Commission the

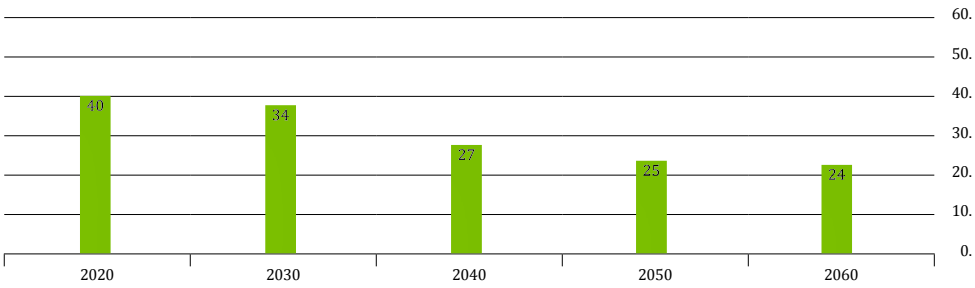
aggregate replacement ratio is gross median individual pension income of the population aged 65–74 relative to gross median individual earnings from work of the population aged 50–59, excluding other social benefits.



Source: Eurostat (2021).

Fig. 14. Aggregate replacement ratio for pensions by sex in Latvia 2011–2020.

Obvious question is the dynamics of replacement ratio in future. Worth mentioning that different projections of future replacement ratio show different dynamics. For example, the forecast of the Bank of Latvia, carried out in 2019 (see Figure 5.15), demonstrates twice lower replacement ratio in 2060 (Tkačevs & Kalniņš, 2019). It is necessary to mention, that this replacement ratio takes into consideration the amount of average gross pension benefits provided by 2 mandatory levels of Latvian pension system and average gross salary, not median indicators.



Source: Tkačevs & Kalniņš (2019).

Fig.5.15. Replacement ratio forecast for pensions in Latvia 2020- 2060, %.

Other projections also show the decrease in replacement ratio but more moderate. Net theoretical replacement ratio projection of the European Commission shows 10% drop down for Latvia in 2016- 2056 based on the assumption of male worker at the standard pensionable age after an uninterrupted 40-year career on a standard employment contract, for longer working career the projected decrease is 6%., (European Commission, 2018). Latest assessment and projection of Latvian NDC scheme show rather positive development prospects, claiming the theoretical pre-tax replacement ratio of 47% and after-tax ratio of 65% (European Commission, 2015; Palmer & Stabina, 2019). Due to differences in assessment methodology the differences in replacement ratio appear.

The approach of the Bank of Latvia is not common in assessing the replacement ratio, but the authors suppose it rather valuable. This approach discovers the main risk, which may jeopardize the sustainability of the system and create barriers in attaining its goal of providing equity, equality and finally living in dignity. Table 5.3. shows the development of average and median salaries and wages in Latvia.

Table 5.3. Average gross and median monthly salaries and wages in Latvia in 2011–2021, EUR

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Average monthly wages and salaries	660	685	716	765	818	859	926	1004	1076	1188
Median wages and salaries	NA	NA	NA	NA	NA	NA	707	774	832	920
Median as % of average	NA	NA	NA	NA	NA	NA	76,3	77,1	77,3	77,4

Source: Central Statistical Bureau of Latvia, 2021.

Unfortunately, median income is supposed an experimental statistic in Latvia, that's why data prior to 2017 is not available. Median gross salaries and wages in Latvia are more than 20% lower, than average. Such distinction at present reflects income stratification and demonstrates, that half of Latvian taxpayers contributes to pension capital accumulation from relatively small income. As far as the pension system provides benefits commensurate to contributions, insufficient contributions lead to inadequate benefits.

The median income of population aged 50-59 is very close to the median income of the whole population (Central Statistical Bureau of Latvia, 2021). Consequently, even relatively high 60% replacement ratio assessed according to the methodology of the European Commission at present locates a person directly at the at the risk of poverty line. In other words, the pension system is not responsible for low pension provision, low salaries and wages are the basis for inadequacy. It is worth to mention, that the second tier of Latvian pension system- mandatory funded scheme- at present is not able to increase pension benefits substantially. The main reason is the same: low salaries, thus, low contributions lead to insignificant amount of accumulated capital. Moreover, the efficiency of private fund managers is also a very disputable topic in Latvia (Bule & Leitāne, 2017).

Inadequate pension benefits create the best motivation to continue working after achieving the retirement age- the goal pension reformers fight for. Pension recipients are ready to work for low salaries, which younger workers can't accept. The authors consider this phenomenon as one of the main driving factors of severe emigration, which in turn, is supposed to be one of the main risks of pension system's financial sustainability.

5.5.4. Social sustainability as an additional risk for financial sustainability

Latvian pension system is financially stable, but its sustainability is achieved mostly by supporting low level of retirement benefits, this seems to be financially fair: low salaries- low pension insurance contributions- low pensions. In 2018 the authors have carried out a representative survey with the aim to figure out the main aspects of people's attitude towards Latvian pension system. 66% of respondents agreed with the statement, that their opinion on pensions is shaped by the experience of their parents and grandparents, thus, negative experience creates negative attitude. 86,5% claimed, that current level of poverty amongst pensioners eliminates motivation to undertake pension insurance contributions (Bule, Leitane, & Rozite, 2018).

Retirees usually are the most active voters in Latvia. Current ratio of population over the working age is already 23%, but the amount of pensioners is close to 30% (Central Statistical Bureau of Latvia, 2020). Political impact of this group is very significant. Taking into consideration demographic trends, it is possible to assume, that in future this impact will become even stronger and under this pressure policymakers will have to change the norms of the system as it already happens. There are few examples of such activities changing the context of financial sustainability. One of the latest is the correction of capital indexing procedures. Previously pension capital (not retirement benefits) has been indexed according to the development of total amount of all taxable salaries, in case of decrease the index has been negative. The retirees appealed against this norm and the Constitutional court agreed with the objection, that's why indexation doesn't reduce pension capital anymore, even if general taxable income is falling, so to say, indexation creates liabilities not covered by working population.

Most of retirees are not satisfied with the amount of pension benefits. As it has been mentioned previously, the amount is commensurate to contributions, but pension recipients don't agree, that it is adequate and fair as far as benefits are compared with an average salary. Table 5.4 indicates, that the absolute majority of retirees are the recipients of benefits much lower than median and average salary, therefore, EU-SILC 2018 shows extremely low level of satisfaction with financial position amongst pensioners (Central Statistical Bureau of Latvia, 2020). It is not surprising, that this group of voters creates enormous political pressure and Latvian pension system doesn't have immunity against it.

Table 5.4. Number of pension recipients by average size of pension granted in 2020, persons

≤ 100.00	15725
100.01-150.00	24023
150.01-200.00	7183
200.01-250.00	13307
250.01-300.00	53564
300.01-400.00	173278
400.01-500.00	75883
500.01-1000.00	72729
>1000.01	11833

Source: Central Statistical Bureau of Latvia, 2020.

Assessing the financial situation and the opinion of retirees, the younger population forms negative attitude towards the pension system in general (Bule & Leitāne, 2017). As a consequence the following problems emerge:

1) the absence of confidence in the long-term sustainability of the pension system and therefore

2) low pension insurance contributions and traditionally high tax avoidance (1/3 of socially insured contribute from the minimum salary), thus low savings and small pensions.

Conclusions. The European Pillar of Social Rights together with demographic and economic changes obviously will create new challenges for Latvian pension system. At present the system does not comply with the requirement of the European Pillar of Social Rights, furthermore, its financial stability and sustainability are under the risk of negative social impact. Being well-designed, financially smart and fair, the system suffers from local population's severe critics, hatred and defiance. The authors assume, that without parametric corrections and financing model's reestimation Latvian pension system alone will hardly be able to guarantee living in dignity and adequate income for all if income stratification and demographic and social risks will continue to develop in the same way like at present.

Proposals. Latvian policymakers should not rely only on raising the retirement age and must consider an opportunity of parametric corrections, like other Baltic states do. It is also necessary to improve protection of the system itself against social risk via:

1) reassessing the system of healthcare and social assurance;

2) increasing the level of financial literacy and motivation to avoid shadow economy activities;

3) developing real welfare growth and decreasing income stratification.

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5.6. The impact of the mandatory funded pension pillar on income inequality among seniors in Latvia

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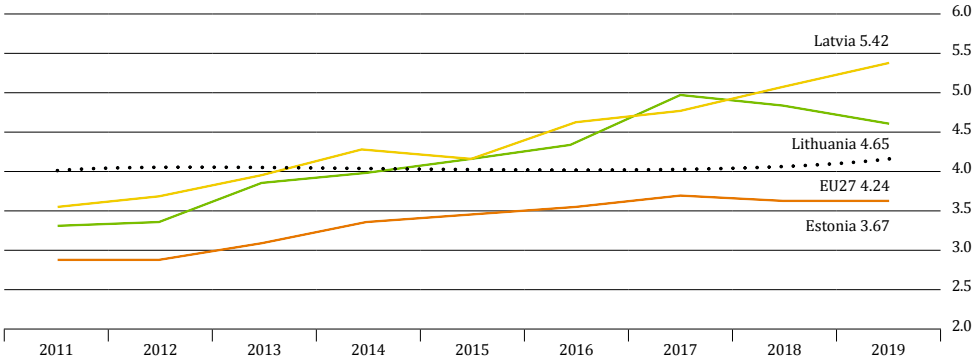
The system of mandatory funded pension was introduced in Latvia in 2001 as a part of a fundamental pension reform of building a sustainable multi-pillar system in accordance with the guidelines outlined by the World Bank in their seminal report "Averting the Old-Age Crisis: Policies to Protect the Old and Promote Growth" (1994). The main rationale for the introduction of mandatory private pension funds (called also 'pillar II funds') was the intention to reduce public pension liabilities in the long run, as well as to improve the incentives to declare the full amount of their work income for employees, thus decreasing the share of grey economy.

The proportion of social contributions directed to the funded pillar has remained stable since 2016 at six per cent of the insured wage or 30 per cent of the total old-age pension contributions accounted individually. This means that by the age of retirement, at least one third of the total pension capital of a person will be accumulated in pillar II. Most probably, its share will be even larger, as the funded capital in pillar II is predicted to grow faster than the notional capital in pay-as-you-go pillar I.

A very important 'side effect' of this process is seen to be the exacerbation of the problem of income inequality among seniors. The more the funded pillar starts to play a role in the pension system, the less redistributive the system becomes. The pillar II aims at smoothing the level of consumption over the lifetime of a contributor to the scheme from their productive years to the retired years. The funded pillar is not at all designed to smooth the differences between different income groups. Funded pensions are entirely dependent on individual contributions and provide no redistribution from richer to poorer. On the contrary, higher earners are generally better educated and better informed about investment strategies, so their returns are higher on average (Lussardi and Mitchell 2011, Rajevska 2018). So, in fact, redistribution goes in the opposite direction, and the inequalities that existed at working age are maintained and even increased. Moreover, people with higher incomes live longer on average, while the same life expectancy values are applied to all for capital annuitisation. This factor contributes to the redistribution from poorer to richer, as well (Holzmann et all 2019).

The income inequality among seniors in Latvia is the highest in the EU: the income quintile share ratio S80/S20 for disposable income in the age group 65+ equalled 5.42 in 2019,

compared to the EU-27 average of 4.24, and the ratio is steadily growing during the last decade following the end of the Great Recession (Fig. 5.16.).



Source: Eurostat, EU-SILC [ilc_di11].

Fig. 5.16. Income quintile share ratio S80/S20 in the Baltic States and in the EU-27.

The other Baltic countries, in particular, Estonia, demonstrate lower levels of income inequality. We suppose, that to a certain degree, it is caused by the institutional design of the mandatory funded pillar in these countries.

The existing comparative research of the funded pillars in the Baltic States (e.g., Dunajevas and Skuciene 2016, Mączyńska et al. 2021, Rajevska 2013, 2021) mainly focuses on the design of the accumulation stage of the funded pillar in the public old-age pension insurance schemes and performance of pension funds. We, however, would like to draw the attention to the way how the payout stage is organised in Latvia and to compare it to other Baltic States. It appears to us that we have uncovered significant flaws in the system and would like to offer the ways of rectifying the found deficiencies. In particular, we analysed the functioning of life pension insurance.

When the accumulation phase is over and a fund participant retires, the pension fund transfers the money to a life insurance company chosen by the participant, and all further obligations and risks are undertaken not by the pension fund, but by the life insurance company.

In Latvia, in June 2021, 6.0% of old-age pensioners received also life pensions from an insurance company; this proportion seems small, but it is increasing quite rapidly: in March 2020, there were only 3.4% of such pensioners (authors' calculation from LabIS data). The respective ratios in the other two Baltic States are smaller: in Lithuania, fewer than 1% of retired participants received life insurance annuities in 2018 (Lazutka, Poviliunas and Zalimiene 2018) and the share has not grown considerably since then bearing in mind the reforms that took place in Lithuanian pension system in the recent years. In Estonia, 2.7% of all pensioners had life pension policies in 2020 (Rahandusministeerium 2021), and it is very likely that this number would become smaller in 2021 as the possibility to break the existing life pension contracts was introduced as a part of a major funded pension scheme reform.

Exchange of pension fund accumulation for a life pension insurance (annuity) was designed to become the mainstream one, however, as of today, the accumulated savings are often insufficient to buy a life pension insurance policy, and many of those who are retiring now have to use other options. First, we consider Latvian regulation in this field.

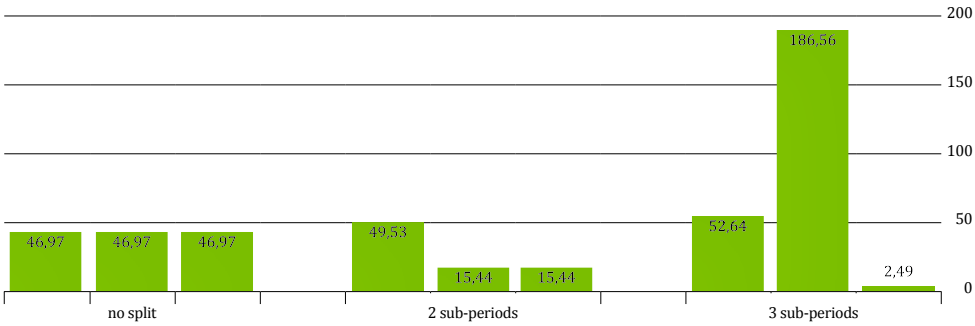
In Latvia, should the accumulated amount be lower than necessary for purchasing a life pension policy (in 2021, this means €2 000 or €3 000 depending on a chosen provider), the capital would be transferred back to the state social budget from a private pension fund and added to the notional pension account in pillar I; and then the total would be converted into annuity by dividing the total capital by the remaining life expectancy. This can be also done if the accumulated amount is sufficient for purchasing a life pension policy from a private insurer, should a pensioner not want to by a life pension policy from a private provider. The choice is not an easy one. As shown by OECD experts (OECD 2019, p. 125-126), when the capital is transferred to notional account, its rate of return is actually equal to the indexation of pensions in payment - that is inflation plus part of real growth wage, however only part of pension up to a threshold is indexed. Meanwhile traditional life annuities of insurance companies apply the risk-free rate of return when calculating annuity payments, leading to a larger retirement income from life pension insurance than from state social insurance. At the same time, in order to protect the lifetime payments from inflation, low and middle-earners may prefer the option of appending pillar II accumulations to pillar I notional account rather than buying a life pension insurance.

Other factors, such as a possibility to specify an additional beneficiary (heritability) and behavioural inertia, may tilt in favour of one or the other option, where risk assessment is in hands of pensioners themselves. A major advantage of a life pension is its heritability: 99% of life pension contracts in Latvia have a designated heir (LabIS, data for June 2021). In Estonia, 88% of life pensions are heritable (Rahandusministeerium 2021, data for December 2020). But naturally, this results in a lower payment.

In Estonia, the legislation stipulates that life insurance payments shall be equal or increasing (but the growth cannot be more than 3 per cent per year). In Lithuania, where all annuities are processed by the State Social Insurance Fund Board (SoDra), all annuity payments are equal. Although, theoretically, insurance companies could offer inflation indexed policies, in practice they do not, and life pensions are not safeguarded from inflation. So, the great majority of pillar II pensions will not maintain their value over time. Only one country in CEE, Croatia, requires price adjustment of second-pillar pensions in the same manner as first-pillar public pensions. This requirement provides essential protection for pensioners but is designed in a way that poses a risk for the pension provider, due to the uncertainty of future inflation rates. Governments can mitigate such risks by issuing inflation-indexed bonds. Through investing in them, private insurers can shift the risk of uncertain inflation rates to taxpayers (Fultz and Hirose 2019, p. 13).

However, the system that exists in Latvia raises the most serious concerns. In this country, life pension insurers may offer either equal payments throughout the whole length of the policy or split the payout period into two or three sub-periods. The payments within each sub-period are equal, and it is allowed to have the payment amount decreasing in each subsequent sub-period. The first sub-period should last at least give years using no more than 50 per cent of the savings, while the second and the third period have no limitations in respect of their duration and the paid amounts. Therefore, it is possible to use 50 per cent of the accrued pension capital in the first five years of retirement, then to receive 49 per cent during the sixth year, and the remaining one per cent of the savings to be spread over the rest of life. The vast and increasing majority of lifelong pensioners choose this option: in June 2021, 83% had policies with three sub-periods (compared to 71% in December 2019), 6% – two sub-periods (7% in December 2019), and 13% bought a policy without a split into subperiods (22% in December 2019). The three-periods scheme results in extremely low levels of life pension amount during

the last sub-period, which, in fact, is supposed to be the longest one in the individual life story (Fig. 5.17.).



Source: authors' calculation from LabIS data.

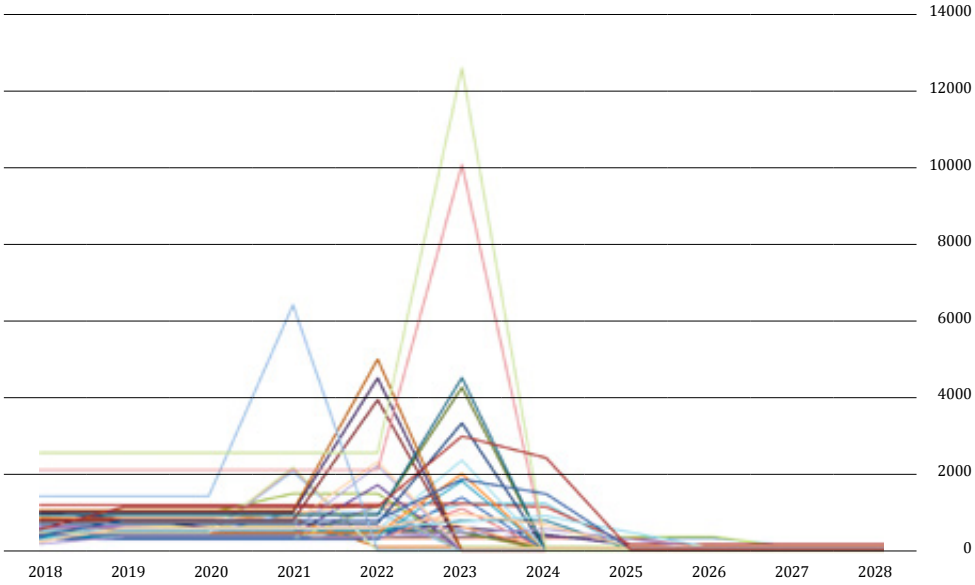
Fig. 5.17. Average monthly amount of life pension in Latvia (as of June 2021).

Moreover, most of the recipients (77%) choose annual payments and only 4% receive monthly payments (9% get their life-pension payments quarterly, and 10% - once in six months). In our opinion, this contradicts the very concept of a pension as a regular payment ensuring adequate old-age income and consumption smoothing in non-productive years.

Apart from analysing aggregated numbers, a different tool, namely, the EU-SILC microdata analysis was applied. Since 2005, the Central Statistical Bureau of the Republic of Latvia (CSB) has been carrying out an annual survey on income and living conditions (EU-SILC). The survey takes place in all EU member states and collects data on the income of the population, including old-age pensions. As life pension is a part of the old-age pension, in 2019 the CSB approached the State Social Insurance Agency (SSIA) with a request to provide micro-data on life pension benefits from the Welfare Information System (LabIS) for the respondents participating in the EU-SILC 2019 survey (which collected income data for 2018) in accordance with the Cabinet Regulations No. 490 (dd 26/06/2016).

The microdata file received from the SSIA contained information on the life pensions of 60 EU-SILC 2019 respondents, including the starting dates of each sub-period of their life pension policy contracts and the amounts of their life pension payments. In total, there were 60 respondents, whose income sources included life pension benefits. Of them, 9 (or 15%) have chosen not to split their annuity payments into sub-periods, 7 (or 12%) have chosen a policy with two sub-periods, and 44 (73%) a three-phase annuity. The next two figures illustrate show individual lifetime pension amounts trajectories over several years for those respondents who have opted for a three-period life pension.

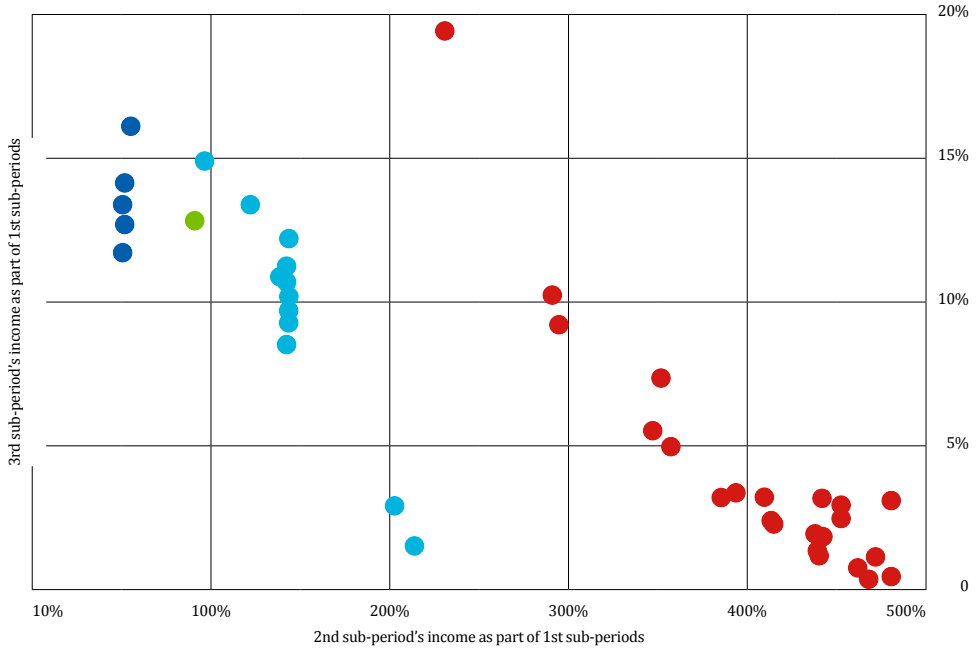
Fig. 5.18. shows how the benefit amount culminates in the second sub-period among the respondents who chose to receive the life pension using the split into three sub-periods.



Source: authors' calculation from LabIS data

Fig. 5.18. Trajectories of life pension annual amounts in Latvia (each line represents an individual EU-SILC 2019 respondent).

Fig. 5.19. shows the ratios between the amounts received in the three sub-periods, where each dot indicates one respondent, also considering the duration of the 2nd phase. As one can see, the majority of the dots are red meaning that the respondents preferred to choose the minimum possible duration of one year. Regarding the duration of the 1st phase, all respondents have chosen the minimum possible, i.e. 5 years.



Note: colour of dots indicates the duration of the 2nd sub-period: red – 1 year, light blue - 2 years, green – 3 years, dark blue – 5 years.
Source: authors' calculation from LabIS data.

Fig. 5.19. Share of 2nd and 3rd sub-period's income as part of 1st sub-period's income (%) (each dot represents an individual EU-SILC 2019 respondent).

The coordinates of the points on the graph give an indication of the relative size of the life pension in relation to the first-phase amount. Thus, the numbers at the X-axis show how large is the 2nd period payment compared to 1st period payment (i.e., 300% means that the benefit in the 2nd stage is three times higher than that received during the 1st stage). The numbers at the Y-axis juxtapose the 3rd period to the 1st one (i.e., 10% means that the benefit in the 3rd stage is 10 times lower than that received in the 1st phase).

The design of the payout stage in Estonia and Lithuania many similarities (see Table 5.5.) and is very different from Latvian case. There are three options of the accumulated capital redemption depending on the accumulated sum: life pension (annuity), lumpsum payment or fund pension (programmed withdrawal). Buying a life pension is supposed to become the mainstream option. However, as long as the system is not sufficiently matured and participants have not accumulated significant amounts, two other options predominate.

Table 5.5. Payout options of pillar II capital in Estonia (before 2021 reform) and Lithuania

Accumulated II pillar capital		Life pension (annuity)	Lumpsum payment	Fund pension	
Estonia	Lithuania			EE	LT
≤ € 2 216 (less than 10 NP1)	≤ € 5 000	yes	yes	yes	no
€ 2 217 - € 11 081 (from 10 to 50 NP)	€ 5 001 – € 9 999	yes	no	yes	yes
≥ € 11 082 (more than 50 NP)	≥ € 10 000	yes	no	no	yes3
≥ € 155 141 (more than 700 NP)	≥ € 60 000	yes	yes2	yes2	yes3

[1] NP – 'national pension': an annually uprated amount of social assistance pension, which also serves as a statutory minimum old-age pension in Estonia
[2] for the part above the limit
[3] only in combination with a deferred life pension (annuity)

Source: Central Depository of Estonia, State Social Insurance Fund Board of Lithuania.

In 2021, an overhaul of the pillar II was launched in Estonia, including considerable changes in the payout options. Firstly, as a participant can now leave the funded scheme at any time and withdraw their accumulations, the possibilities to receive the full amount in a lumpsum at retirement have been extended. There is no longer a cap on the amount, but a 10% personal income tax is payable irrespective of the sum. Secondly, while earlier the purchase of a life pension policy was mandatory when the accrued capital exceeded 50 minimum pension amounts, starting from 2021 it is no longer a must, but just an option (and two out of three life insurance companies that used to offer such policies ceased their activities in this business). Thirdly, the regulation of fund pensions was relaxed. Before 2021, minimum durations of fund pension contracts were stipulated depending on the age of taking the pension; presently, there is a recommended, but not obligatory, minimum length of contract, and if a fund pension is concluded for a shorter period, such payments are subject to 10% income tax.

In Lithuania, from July 2020, private insurance companies cannot anymore offer life pension annuities, such policies are provided by SoDra exclusively. SoDra offers three types of annuities: standard annuity (non-heritable), standard annuity with guaranteed payment period (heritable if a person dies before reaching the age of 80 years) and deferred annuity when a certain share (10 to 15 per cent) of the accumulated capital is reserved for later annuity payments, meanwhile the insured person receives a fund pension from their pension fund until the age of 85, and only then starts to receive life pension from SoDra.

The initiative of centralisation and 'nationalisation' of life pensions originated from the Bank of Lithuania and was supported by the leading parliamentary party at the time. It was decided that in such a small economy, a single provider would be a better solution and would also bring better returns to pensioners, due to all the investment profits are planned to be used to increase payments to pensioners. In addition, it was considered that the unified system would be clearer for users who trust SoDra better than private companies.

Such forms of accrued capital payout as lumpsum or funded pension are used much more frequent than the life pension in both Lithuania and Estonia. A lumpsum payment is allowed for smaller amounts, and is still the main method in Lithuania, where the second pension pillar was launched later. In Estonia, by the end of 2020, the most frequent form of payout were fund pensions – regular payments from pension fund(s). This option was chosen by 42% of all pillar II pensioners. When retirement comes, one does not withdraw their capital from the pension fund. They continue to be a member of the fund, and their fund units remain in operation. The fund pension amount is denominated not in euros, but in fund units and can increase or decrease in conjunction with the changes in the unit price. The fund pension is a fixed-term

pension, it is not a life-long contract. In Lithuania, there can only be one term - up to 85 years, with no other options, while in Estonia the corresponding regulation is more flexible. Fund pensions are fully heritable - if a person dies before the end of the contract, the remaining units are transferred to the heir(s).

Conclusions and recommendations. Overall, it can be concluded that there are much larger differences between the three Baltic States in the payout phase than in the accumulation phase of pillar II. A life pension plays a stronger role in Latvia than in the other two countries. At the same time, only Latvia has the malpractice of splitting the payout phase into sub-periods, allowing the pension to be reduced over time. The overwhelming majority of annuitants myopically opt for a three-stage scheme with extremely low payments in the third stage. The continuation of current rules will increase the risk of poverty in the oldest age group, as well as income inequality between pensioners. We suppose that the regulation of life pensions in Latvia should be reviewed in the very near future in order to avoid inadequately low payments at the later stage. It also seems worth considering the introduction of a fund pension system in Latvia, using the best practices of the Baltic neighbours and other countries.

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5.7. Voluntary pension savings development factors

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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 research 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 1st 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.

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 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. Realizing the intention to move from a full state responsibility pension to a greater involvement of the population in pension savings, a pension system has been set up, consisting of 3 parts:

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

1st Pension Pillar	2nd Pension Pillar	3rd Pension Pillar
Serves as a mean for avoiding old-age poverty	The aim is to increase the adequacy of pensions by involving the financial markets	Meant to provide an opportunity for individuals to save towards increasing the retirement income
State guaranteed pension, compulsary	Pension part cumulated from funded contributions, compalsary (LV) or semi-compalsary (LT, EE)	Fully voluntary pension schemes
Defined benefits	Covered by contributions from employment social tax or partly by state budget	Covered by personal earnings and/ or employer
State managed Pay-As-You-Go system	Asset management companies and pension funds	Pension funds or insurance companies

Source: Elaborated by the author based on Holzmann R. (2012), Lannoo K. et al. (2014).

Figure 5.20. Structure of the pension system.

Therefore the contributions into the third pension pillar – private pension funds have become one of the solutions. Besides, according to Robert Holzmann (2012), a World Bank expert, the countries having lower replacement rates for state-guaranteed pensions accumulate more in private pension funds.

The factors influencing the decision to create voluntary pension savings

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 (Dundure, Sloka, 2021). Lusardi and 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.

Research demonstrates that development of voluntary savings for retirement depends on several important aspects: people soft skills like awareness, knowledge, attitude, and behaviour to take financial decisions (Atkinson, Messy, 2011), people ability to take care their personal financial wellbeing, attractiveness of service providers offers and communication (Dundure, Sloka, 2019), and finally – additional incentives to create pension savings established by legal acts (Dundure, Sloka, 2020). 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 et.al., 2018) as the result of evaluation of factors such as age (Dundure, Sloka, 2021), household size, income and wealth, levels of formal education, job situation, health status, long-term planning horizons and financial risk aversion. In the wake of the Covid crisis in particular, differences in age social protection for different types of employment have been widely discussed (Dundure, 2020).

It is important to emphasize that all these aspects are interlinked. World Bank (Demirgüē-Kunt et al., 2018) in their analyses of people's financial literacy level emphasizes the governments' role in the expansion of financial inclusion. Academy highlights the countries duty to "invest in education and public campaigns to make those groups that are now less literate more aware so that they can make informed decisions about whether and how much to save voluntarily for retirement" (Le Blanc, 2011). Meanwhile, OECD in its Pension Outlook (OECD, 2018) names "Simplification of information and choice" as one of five policies to improve the design of funded pension arrangements. It suggests developing web applications, better show information and facilitates offers comparison options.

Financial literacy and financial inclusion

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 (Demirgüē-Kunt et.al. 2018). This is justified by the need to create access to financial services to be able to put financial literacy into practice. Access to a bank account and the opportunity to use financial services are the basis for building financial depth and thus increase financial inclusion on the country level as well as within the country (Beck et al., 2007). Studies (Allen at al 2016) have shown that greater financial inclusion is associated with lower costs of bank account opening and higher availability of financial institutions or representatives. On the country level, the higher financial inclusion is linked with macroeconomy development factors such as economic growth and income equality.

Thus, financial literacy and financial inclusion have become related and mutually reinforcing concepts. Aware of the real situation in both areas, the parties involved - citizens, financial service providers, and public policymakers - have a better opportunity to make informed decisions and enlarge common wellbeing (Altman, 2020).

In 2018, academics Grohmann, Klühs, and Menkhoff (Grohmann et al., 2018) conducted a study on the interaction of financial literacy on the level of financial inclusion and demonstrated their interaction. Financial inclusion is seen as part of the 'supply' of financial services and is primarily determined by the available financial infrastructure. In turn, the level of financial literacy determines the 'demand' side of financial services, as it characterizes the level of competence of the population in the use of financial services. The researchers created the cross-country analyses based on two principles – according to general country statistics and main characteristics of the financial infrastructure. The observed variables were GDP per capita, population share between 15-64 years, secondary, tertiary education, private credit to GDP, branches of commercial banks per 1000 m^2, automated teller machines (ATMs) per 1000 m^2 as well as several indexes such as *Strengths to legal rights* index, *Ease of doing business* index, and Political Risk Rating of the country.

Another group of researchers, Demirgüē-Kunt, Klapper, and Singer in 2018, interpreted the data of The Global Findex database in a way to identify the benefits of financial inclusion and their contribution to the economic growth. The central discussion theme was bank account ownership, payment services, saving products, credits, and insurance. In studies on long-term savings habits, and in particular, on voluntary pension savings, financial literacy is one of the main influencing factors (Van Rooij et al., 2012; Clark et al., 2012; Kalmi, Ruuskanen, 2018).

There is one more parameter having the direct and most noticeable impact on financial literacy level. It is education. Researchers have focused on measuring the financial education of the population in a variety of ways. One of the popular approaches is the possession of a certain level of education – starting from primary schools until doctoral degrees. The researchers in finding the correlations between the factors influencing financial literature emphasize the effect of numeracy from early childhood (Grohmann et al., 2015). Hence, there are differing views on the most effective measures of educational attainment. Jappelli and Padula (2013), in their research about the financial literacy impact on the wealth, suggest using the OECD's Program for International Student Assessment or so-called PISA data.

This research has been provided to analyse the main factors that characterize financial literacy in Latvia in comparison with the other two Baltic countries - Estonia and Lithuania.

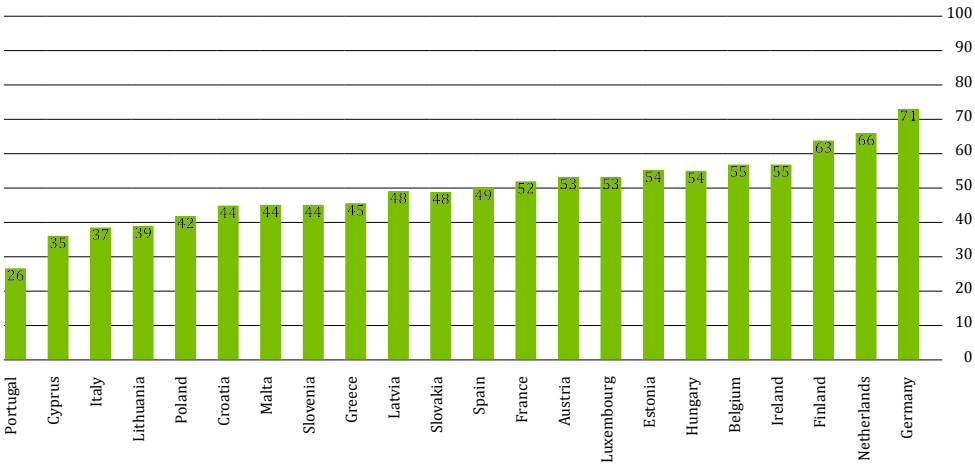
The primary sources of data were publicly available databases: S&P Global FinLit Survey, The Global Findex database, World Development Indicators, and PISA. Based on the indicators used in previous studies by academics, four factors and eight aspects will be used for further analysis (Table 1).

Table 5.6. Financial literacy and inclusion factors and aspects

Factor	Aspect
General country development	GDP per capita, PPP
General country development	Ease of doing business score
Savings	Voluntary pensions/ life insurance, and mutual funds
Education	Averages for age 15 years PISA mathematics scale: overall mathematics
Financial services availability	Account ownership at a financial institution or with a mobile-money-service provider (% of population ages 15+)
Financial services availability	Automatized Teller Machines (ATMs) per 100,000 adults
Financial services availability	Commercial bank branches per 100,000 adults
Financial services availability	Individuals using the Internet (% of the population)

Source: Elaborated by the author.

To evaluate the factors' impact on the level of financial literacy of the country, it is important to start with the comparison of the financial literacy rate. For Estonia, Latvia, and Lithuania's in comparable way, the latest data are from the year 2014. They are conducted by the World Bank in the S&P Global FinLit Survey (Figure 5.21.).



Source: Report on S&P Global FinLit Survey, 2014, https://gflec.org/initiatives/sp-global-finlit-survey/

Figure 5.21. Financial Literacy rate in % from adults population year 2014.

Considering the average ratio of 140 economies of 36.6% observed in the Survey, the level of the three Baltic States is higher than average. The highest results are in Estonia, with 54% of adult literacy, Latvia is second with 48%, and Lithuania lasts with 39%.

Table 5.7. presents all the aspects analysed in the paper. To make sure that the considered factors correspond to the assigned Financial Literacy level, each country is ranked in turn in each aspect, thus obtaining points from 1 (highest scores) to 3 (lowest scores). Data are taken from 2014 statistics or the nearest available.

Table 5.7. Factors influencing Financial Literacy level

Factors / country	Estonia	Latvia	Lithuania
GDP per capita, PPP	29136	23844	28156
GDP per capita, PPP, RANK	1	3	2
Ease of doing business score	81	79	79
Ease of doing business score, RANK	1	2	2
Has voluntary pensions/whole life insurance, %	19	22	9
Has voluntary pensions/whole life insurance, %, RANK	2	1	3
Has mutual funds, %	3	1	2
Has mutual funds, %, RANK	1	3	2
Averages for age 15 years PISA mathematics scale: overall mathematics	520	482	478
Averages for age 15 years PISA mathematics scale: overall mathematics, RANK	1	2	3
Account ownership at a financial institution or with a mobile-money-service provider (% of population ages 15+)	98	90	78
Account ownership at a financial institution or with a mobile-money-service provider (% of population ages 15+), RANK	1	2	3
Automated teller machines (ATMs) (per 100,000 adults)	77	63	51
Automated teller machines (ATMs) (per 100,000 adults), RANK	1	2	3
Commercial bank branches (per 100,000 adults)	12	20	16
Commercial bank branches (per 100,000 adults), RANK	3	1	2
Individuals using the Internet (% of population)	84	76	72
Individuals using the Internet (% of population), RANK	1	2	3
Total of RANKS	12	18	23

Source: Elaborated by the author based on data from the database: World Development Indicators, Last Updated: 09/16/2020, https://databank.worldbank.org/source/world-development-indicators#; Report on S&P Global FinLit Survey, 2014, https://gflec.org/initiatives/sp-global-finlit-survey

The total number of points awarded ranks the countries as follows: the highest position for Estonia, the 2nd position for Latvia, and the lowest position for Lithuania. Given that the measured financial literacy level was: the highest scores were obtained by Estonia with 54% adult literacy, Latvia second with 48%, and Lithuania last with 39%, this rating exactly coincides with the total of the criteria observed in this study.

Conclusions and recommendations. Three Baltic States – Estonia, Latvian and Lithuanian financial literacy levels are different. Analysed financial services supply and demand indicators proved the main aspect of financial inclusion – the bank account existence, Internet use, ATMs and bank branches, the impact, and the relationship between the financial literacy level. A factor that significantly affects the demand for financial services is a level of knowledge in mathematics. There is a statistically significant close correlation between the PISA average assessment in mathematics in the country and the level of financial literacy. The analysed private savings factor – voluntary savings for pension, life insurance and investment in mutual funds showed a heterogeneous situation – countries sorted differently from the level of financial literacy. This proves that the level of financial literacy is important, but it is not a decisive factor in creating voluntary pension savings. The results of the study provide reasons for pension policy makers to use others, more effective financial and non-financial incentives to promote long-term pension savings and to address the part of society that can contribute to their private pension accounts.

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5.8. Regional Stratification at Various Scales and its Impacts on Municipal Development

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In the context of public administration, both belonging to multi-scale regions and division into multi-scale regions are important for Latvia. In multilevel governance, the success of a municipality is determined by both the external environment and autonomous municipal policies.

Externally, Latvia belongs to the European global region, which maintains the status of a developed region, yet after the Second World War it has lost its significance as the most developed region. Latvia is linked to Europe by a number of treaties and intergovernmental organizations, and Latvia is one of the 27 EU Member States. Until recently, the EU was the largest source of added value, yet in recent years it has lagged far behind China and the United States. This means that Latvia belongs not to the largest, but to the third largest economy, which has overestimated its prospects and opportunities by adhering to the 2000 Lisbon Strategy for a long time.

Within the EU, Latvia belongs to the peripheral Member States, which are characterized by pooper performance regarding health, education, welfare and nature protection. Although the relevant performance indicators under the EU Cohesion Policy gradually approach the average level of the EU Member States, in recent years Latvia has lagged behind the closest neighbours, Lithuania and Estonia, which were more successful in the cohesion.

Within the country, regional stratification is even more pronounced. Several development indicators show that Latvia is the most monocentric EU Member State, with huge disparities between the Riga metropolitan area and the rest of the country. The collected data on Riga and suburban Riga show that a third of the country's population lives in this area, yet two thirds of products and resources are produced there. This leads to significant disparities in

available human, financial and social capital, yet the potential of natural capital is not fully exploited.

Within each NUTS 3 region (except for Riga region, which has had only one municipality since the centralization implemented in 1994), regional stratification is observed between the municipalities. It manifests itself in disparities in income and wealth, as well as in the level of education, age composition and other indicators. Stratification promotes not only emigration abroad but also a high level of internal migration (Krišjāne, 2007). Under the circumstances, it is important to have a connection between the incomes of the population and the possibility of using taxes collected on the earnings of the population for the development of their territory. The trend to reduce income inequality by increasing progressiveness drastically reduces development opportunities for municipalities where entrepreneurs and employees are more successful.

The rationale for the administrative and territorial reform (ATR) is based on economies of scale. At least the Constitutional Court has come to a conclusion that the result of the reform will be determined by the existence of a successful development centre (Constitutional Court, 2021). Stratification between the declared development centres is important. If nothing is done to reduce the significant socio-economic disparities between the development centres, the positive effects of the reform will not be achieved.

The debate on the reform raises the question of the expected peripheral effect. By concentrating resources in a development centre, the resources are lacking in the rest of the territory. Therefore, it is important to obtain information on stratification in the territories of a municipality. After the reform, municipalities consist of many (in some cases more than 30) territorial subdivisions. To reduce the peripheral effect, it is necessary to constantly measure and assess the changes occurring in the territorial subdivisions: State cities, towns and rural territories.

When carrying out a public administration reform, it is a matter of good faith to measure the consequences of the reform and inform the public about them. (There is negative experience after the 2009 local government reform (regional reform has not yet started) when the collection of statistics on the territories of the previous municipalities is stopped. Therefore, there is misinformation about the next reform, as the true data on the peripheral effect are not available, and no political party has taken political responsibility for it.) In recent years, the situation has significantly improved owing to new methods applied in the population census and the publication of experimental statistical data on the CSB website www.csp.gov.lv and on the open data portal. Mobile data processing also gives new opportunities (Bērziņš, 2018). Public administration institutions such as the State Revenue Service, the Ministry of Welfare, the Ministry of Education and Science, and the Analytical Service of the Parliament show interest in evidence-based policy analysis.

The research aim is to assess how regional stratification at various levels affects the development of local governments in Latvia and what available data could improve the course of future reforms. The term regional policy is used by the research in all cases where the administrative institutions apply different rules or different administrative approaches to various territories. The research questions are: does participation in EU and national policy-making allow municipalities to foster sustainable development of their territories? Does stratification between development centres endanger the achievement of the declared goal of the ATR? Does stratification between municipalities arise mostly from the monocentric governance pattern? What publicly available data could be used to reduce stratification in municipalities?

The problems mentioned in the present research are highlighted as priorities for future research. The ability to deal with the research priorities depends on political decisions at all levels of governance, from global to local, and on the participation of a civic society in requesting information from the authorities on what is happening in their cities, rural territories and municipalities.

Methodological approach. Stratification between the EU and other global regions, stratification between EU Member States and between the internal regions of Latvia at NUTS 3 level are external processes in relation to local governments. Therefore, trends are identified that significantly affect the situation in the municipalities of Latvia, as this affects the distribution of tax revenues, the amount and nature of benefits, and the amount of nature protection commitments. The research also describes the main available participatory democracy mechanisms that provide consultation with local governments.

To describe the stratification between development centres and the resulting stratification between NUTS 3 regions, between and within municipalities, the research employed CSB experimental statistics. According to the municipal marketing theory, the large target groups are residents, visitors and entrepreneurs, as well as an organized civic society (Pūķis, 2010). Municipal residents, legal and natural persons have various relationships with the municipality. Each of the kinds of relationships play some role in the implementation of the municipal mission, the relevant interest groups receive services and influence municipal policies. Access to data on the situation and needs of the groups is limited, as only some actively lobby for the interests of the groups, while official statistical rules and the protection of personal data hamper data processing.

The political connection with the local government takes the form of the right to vote and the earmarking of taxes paid to the local government. EU citizens over the age of 18 registered in the territory of the municipality have the right to vote, as well as EU citizens of this age if they own property in the municipality and choose to participate in the election. EU citizens of other territories also have the right to vote if they work permanently in the municipality.

However, a significant part of the citizens registered in the territory do not live in the municipality or do not work in the municipality. Some emigrants (both external emigrants to other countries and internal emigrants to other municipalities) have not registered in this status. The census methodology used by the CSB seeks to distinguish those actually living in the territory of the municipality, which could be both persons registered in the municipality and those registered outside it. Some of the emigrants vote in municipal elections according to the registration address, mostly those living in Latvia, yet such an opportunity is also provided for municipal citizens living in other countries. Before municipal elections, the target audience is potential voters, yet other groups of the population also make an indirect impact on the election result.

Visitors could be both permanent (usually on weekdays, those living in the municipality and educational institution students), (on weekends and holidays – those who visit their parents, children or summer cottages) and tourists. All the categories are important for the municipal economy. Data on commuting (for those working in enterprises in other territories) only partially describe the situation.

Value added could be reported for a territory based on the legal address of the company and the address of the company owner or distributed in proportion to the remuneration of employees living in the territories. The third method reports value added generated by companies and institutions for the smallest territories available for the purpose of experimental statistics.

This method distributes value added by NUTS 3 region of Latvia differently. According to official statistics, the total value added was distributed in 2018 as follows: Riga 57%, Pieriga 16%, Vidzeme 6.3%, Kurzeme 9.3%, Zemgale 7.4% and Latgale 7.1%, while according to experimental statistics, the distribution differed significantly: Riga 39.8%, Pieriga 21.6%, Vidzeme 7.8%, Kurzeme 10.9%, Zemgale 11.2% and Latgale 7.7%.

The incomes of individuals employed in a territory and pensions paid in the territory, as well as the cadastral value of land and buildings owned by households could be used to give insight into the financial wellbeing. Such data make it possible to compare financial stratification across the territories of a municipality, although there is always a risk that the collection and publication of data on this scale will be discontinued (as was the case after the 2009 reform).

The proportion of the population with higher education or doctorates, as well as the average age of the population, could be used to give insight into the available human capital. The difference (%) between average and median earnings could be used to indicate income inequality. Using such an indicator, it is possible to rank municipalities and see how inequality relates to wealth.

Complex development indexes could also be used to compare the achievements of municipalities. According to the Cabinet regulation, the Territorial Development Index has been calculated and used for 20 years (Vaidere, 2006; Krastiņš, 2010), which compares the socio-economic performance of local governments, depending on whether they represent cities of national significance or municipalities (in the past also regions). The municipal activity index also gives new opportunities for evaluating local governments (Arhipova, 2017). Comparing the activity of mobile calls on weekdays and holidays allows assessing the economic activities occurring in the municipality, which complements the experimental statistics.

The ATR is halfway through, with most decisions on competences and future institutional structures still under development. The possibility to measure success and failure is also important. Therefore, the present research highlights trends and opportunities based on the questions formulated in the introduction, illustrating them with some examples.

5.8.1. Stratification impacts on a global and EU scale

The EU, as a region of the world, has until recently generated a considerable GDP, yet in recent years there has been a breakthrough in productivity not only in the US and Japan but also in other regions, first and foremost in China. The withdrawal of the United Kingdom and internal EU conflicts with Hungary and Poland also weaken the influence of the EU. In this situation, the EU no longer sets targets for economic growth, but seek to become a moral leader by investing more in climate stabilization and nature protection.

For the Member States that have reached a satisfactory level of prosperity, such a paradigm shift might seem attractive. By increasing prices and tariffs (with the aim of reducing greenhouse gas emissions) and reducing energy consumption, the most economically backward countries and their municipalities, including Latvia, are at a disadvantage.

By increasing the costs of the factors of production, entrepreneurs in the most developed countries gain a comparative advantage, competitors from Latvia are less able to withstand the fast rise in energy and labour prices. In the countries where the development of "environmentally friendly" technologies is underway, entrepreneurs gain new export markets. However, in a country that has not invested enough in the development of science and innovative technologies for 30 years, this could lead to stagnation and backwardness.

Stratification in the EU is also reflected in policies that benefit the "old Member States". In achieving nature and climate targets, the principle of proportionality is chosen – the commitments of each country are determined in proportion to what has been achieved before. For example, Latvia has much higher targets for the use of renewable energy than Germany or France. For example, Latvia does not use coal in its energy sector, although 60% electricity in the EU and the US is generated from coal. However, higher requirements are set for our energy sector, which leads to higher tariffs and hampers business development.

Problems also emerge for Latvia as an EU border country. Politicians in Latvia's neighbours, Russia and Belarus, violate human rights, fundamental municipal rights and international treaties. The economic sanctions imposed by the EU and Latvia's ally the United States on the trading partners of the regions and municipalities of Latvia significantly worsen the development opportunities for local governments. However, residents and entrepreneurs from the municipalities of Latvia have to pay a lot for the EU democracy defence policy, as global policy implementers do not come to give some assistance.

Significant problems for local governments emerge because of EU bureaucratization. The European Commission adopt an increasing number of regulations and directives and is constantly expanding the EU legal framework. The subsidiarity and proportionality principle provided for in Article 5 of the Treaty on the Functioning of the EU (EU, 2007) is not being implemented, and over-regulation is increasing every year. It induces structural changes in the institutional and functional structure of the Member States.

The loss of influence on issues that should be left within the competence of the Member States in relation to content and meaning rather than to be taken over by the EU tends to induce centralization: national parliaments and governments are increasingly interfering in matters that are naturally a matter for local authorities. In fact, it means fighting for the votes of the electorate, as something needs to be done after the transfer of national competences to the EU. Publicly, this is explained by the attractiveness of uniformity – equal rights to the same services – that have nothing to do with the nature of local government. Only by maintaining territorial diversity, any local government can make optimal use of resources for the benefit of the population.

As regards exogenous factors in stratification, local governments have an opportunity to give advice, they are represented both in the EU Committee of the Regions and in a well-developed consultation system with the Parliament and the Cabinet of Ministers. The representation of local authorities in the Congress of Local and Regional Authorities of the Council of Europe (CLRAE) and the Council of European Municipalities and Regions (CEMR), which actively cooperate with the European Commission and the European Parliament, offers significant opportunities. The Association of Local and Regional Governments of Latvia (LPS), which represents local governments, participates as a partner in the tripartite social dialogue and in the many consultative councils established by the central government, as well as in dialogues with the Council of Europe, the OECD and other experts influencing national policies.

The main objectives arising from global stratification and stratification at EU level are as follows:

1) reduction of over-regulation at EU level, thus decreasing the pressure on centralization;

2) support for EU border regions and municipalities when they suffer from political sanctions against third countries and help businesses to enter other markets;

3) greater flexibility in meeting climate targets, allowing each local government to optimize the result rather than to fulfil the responsibilities set by the European Commission, thereby creating an opportunity for competitiveness in the conditions of change.

5.8.2. Stratification impacts in development centres

The ATR designated the former 9 cities of national significance have been as development centres of the highest importance. The level of capability of the centres varies. In one case – regarding the territorial development index (TDI) –, the indexes for cities of national significance and municipalities have been calculated separately; therefore, the data on the State City of Ogre were considered when calculating the index for Ogre municipality before the ATR. The economic activity index considers the dimensions of working days and holidays and is calculated for the initial reform plan with 36 municipalities (the Parliament, in response to a Constitutional Court ruling, is going to return to this plan in 2025). The productivity of those living in the territory is characterized by the added value generated by companies and institutions registered in Latvia, which is attributed to those living in the region. The productivity data, as well as data on income inequality and median income (income indicator), as well as the proportion of higher education graduates over the age of 18, are obtained from experimental territorial statistics.

Table 5.8 shows a comparison of the current rankings of State cities. It reveals that economic activity is weakly correlated with other variables. The territorial development index correlates more with the median income and productivity. The level of higher education is more strongly related to the availability of higher education institutions. The rankings of cities among 119 municipalities are a cause for concern. For cities to become drivers of development, their potential needs to be increased. In terms of productivity, Daugavpils, Rezekne and Jekabpils are ahead of most of the municipalities, including those with a peripheral role in the new territorial division.

Table 5.8. Rankings of cities of national significance (now – State cities)

	Economic activity, ranking out of 36	TDI, ranking out of 9	Employee productivity, ranking out of 119	Income disparity, ranking out of 119	Median income, ranking out of 119	Higher education and doctors of science, ranking out of 119
Riga	9	1	15	15	9	8
Daugavpils	27	8	86	71	84	19
Jelgava	2	4	24	58	20	14
Jekabpils	1	6	52	69	62	38
Jurmala	28	2	20	5	22	9
Liepaja	5	5	36	66	47	23
Rezekne	9	9	73	78	63	18
Valmiera	3	3	28	108	15	20
Ventspils	7	7	9	72	13	27

Source: authors' own compilation based on Bērziņš, 2018, State Regional Development Agency (SRDA) and CSB experimental statistical data for 2017, 2018 or 2019 (latest data).

Income equality is positive only in the case of Valmiera city. Overall, the greater the inequality, the higher the potential for development. As shown in Table 5.8, a lot needs to be done to support the centres if the sustainability of the regions is based on the development centre model. This is also evidenced by the local government financial equalization system, under which Daugavpils and Liepaja are among the largest beneficiaries.

Only some of the most successful pre-reform municipalities have become the administrative centres of the new municipalities. The same data (except for TDI, which this time is calculated for 110 municipalities) as for cities of national significance are shown for Pieriga region pre-reform territories in Table 5.9 (informally – part of the nearest ones, not including Zemgale region municipalities, which also belong to the Riga metropolitan region).

Table 5.9. Rankings of Pieriga region municipalities

	Economic activity, ranking out of 36	TDI, ranking out of 110	Employee productivity, ranking out of 119	Income disparity, ranking out of 119	Median income, ranking out of 119	Higher education and doctors of science, ranking out of 119
Adazi	33	7	5	7	5	6
Babite	–	2	8	3	6	4
Carnikava	–	10	6	6	7	3
Garkalne	–	3	2	1	2	1
Ikskile	–	8	3	4	4	5
Kekava	6	5	10	10	3	7
Marupe	21	1	1	2	1	2
Ogre	7	19	37	30	24	21
Ozolnieki	–	12	14	16	12	15
Salaspils	26	13	7	24	10	13
Sigulda	16	9	17	17	14	12

Source: authors' own compilation, see Table 5.8.

Table 5.9. shows that 5 out of the 11 most successful municipalities have not become the development centres of the new municipalities. Some of the municipalities are leaders in both productivity and education. The Constitutional Court did not recognize Ikskile as a development centre, although the data indicated the opposite. The reason was that formally the municipality was not referred to as a centre in the policy document, although it was characterized by several important indicators: the highest relative population growth, the lowest average age, the leader in the field of remuneration and higher education. This way of thinking points to a misunderstanding of the economy by the legal sector and vice versa. It is also obvious that the economic activity index needs additional interpretation in each case. In other indicators, this index gives a low ranking to the best municipality – Marupe – and the promising development centre Adazi, which represents the impacts of stratification in NUTS 3 regions.

Among the other declaratively identified "development centres", there are many that were at the bottom of development before the reform. The situation (Table 5.10) is similar to that with State cities. For a development centre to become a pull factor for the surrounding area, significant resources need to be invested or its economic independence needs to be increased.

Table 5.10. Rankings of selected municipalities (city or regional development centre)

	Economic activity, ranking out of 36	TDI, ranking out of 110	Employee productivity, ranking out of 119	Income disparity, ranking out of 119	Median income, ranking out of 119	Higher education and doctors of science, ranking out of 119
Cesis	15	18	43	85	30	17
Aluksne	31	77	96	50	88	56
Gulbene	18	55	74	106	68	64
Madona	25	61	59	91	57	50
Kuldiga	23	53	84	31	94	59
Tukums	8	27	47	90	39	41
Saldus	4	41	40	67	56	52
Ludza	35	99	111	74	96	48
Aizkraukle	10	43	12	117	16	32
Kraslava	34	107	109	36	110	72

Source: authors' own compilation, see Table 5.8.

5.8.3. Stratification impacts in NUTS 3 regions

For EU statistical purposes, the whole of Latvia is defined as a single NUTS 1 region and as a single NUTS 2 region, which is divided into 6 NUTS 3 regions. The six regions are dominated by centralised public administration with a small element of decentralization – planning regions. The planning regions were once set up by local governments on a voluntary basis. Later, the national Law on Regional Development (Parliament, 2002) set restrictions on the activities of regions, granting them the status of a derived public person. However, due to a lack of resources, the regions cannot take responsibility for the failed national regional policy (as evidenced by excessive monocentrism).

During the administrative and territorial reform, the ruling coalition was unable to decide on decentralization at the regional level. Although the Law on Administrative Territories and Populated Areas provides for the establishment of administrative regions, the regions are intended to have no regional governments, and their institutional model needs to be enshrined in the Law on Administrative Regions. Due to the disagreements in the coalition, it is not known when and whether the Cabinet of Ministers performs the task specified by law. The previous governments have not performed the task of submitting a Law on Administrative Regions since 2000 (Parliament, 1998), i.e. legal nihilism in this area has persisted for more than 20 years. This fact makes it clear that this government does not intend to reduce regional stratification between NUTS 3 regions either.

During the reform, both researchers (Miglavs, 2019) and regional universities and local government associations have indicated that balancing regional stratification requires a governance reform, the main element of which is directly elected regional governments. However, the central government does not want to share power; therefore, inequalities between NUTS 3 regions are not expected to decrease.

Regional stratification on this scale is accompanied by an outflow of human capital. The level of education is significantly higher in Riga and its vicinity, as well as in places where universities and hospitals operate. Unfortunately, trends in concentration and centralization have also dominated healthcare for 30 years, while the Covid-19 pandemic revealed that many municipal hospitals still have buildings, yet the hospitals are understaffed.

5.8.4. Stratification impacts in administrative territories

Normally, the peripheral effect should intensify. Politicians who act rationally – with a view to the next election – should copy the ongoing centralization in the country and implement "large" projects also in their municipality, i.e. closer to the majority of voters. Doing otherwise risks losing the next election, as voters in the new administrative centre will be unsatisfied.

At the time of submitting the present paper to the Parliament, the discussion was approaching the issue of citizen councils. The draft Law on Local Governments submitted by the government (Cabinet of Ministers, 2021) provides for directly elected (from among the citizens of the administrative unit) citizen councils with a wide range of consultative rights, but without remuneration and without permanent resources. However, the councils may regularly hear municipal politicians and representatives of the administration out, and draft decisions prepared by them need to be considered at council meetings.

Such councils can reach several dozens in number. It is not known whether the Parliament is going to support such a system (similar proposals were rejected in connection with the local government election law). However, it is clear that such a system will be at least partially

implemented and a discussion will take place on the need to assess the situation in administrative units. Such a discussion based on no data is dangerous – in the absence of data, it is easy to destabilize the situation in municipalities with all the consequences that this entails. The experimental statistical data are suitable for maintaining such a discussion and for a constructive discussion on the distribution of priorities in the municipality.

The authors analysed examples of two municipalities. Ogre municipality consists of 20 administrative units: a State city, two towns and 17 rural territories. Part of the territory is located in the Riga metropolitan region and is characterized by high pre-reform performance. Part of the territory is a pronounced periphery with significantly worse performance. Territorial stratification in the county is quite pronounced, and this could be a typical example of a municipality with large internal disparities, where it is difficult to provide the same level of services throughout the territory. Kraslava municipality consists of 27 administrative units, 2 cities and 25 rural territories. All the three amalgamated municipalities were ranked in the lowest ten among 119 municipalities and seemed to be more homogeneous, with the smallest territorial disparities. The administrative units of the municipalities are different, according to the population activity index. Table 5.11. shows activities on weekdays and holidays, as well as a number of other indicators for the pre-reform administrative units of the municipalities.

Table 5.11. Characteristics of the pre-reform territories of Kraslava and Ogre municipalities

Municipality before the reform	Pattern of activity	Average earnings, 2018, including self-employment	Number of employees, including self-employment	Higher education %, aged over 18	Average age, years	Number of pensioners	Average pension, EUR
Kraslava municipality after the reform							
Kraslava	Moderate	684.03	3006	18.3	47	3752	353.67
Dagda	Apathetic	691.53	2670	16.6	46	1526	333.48
Aglona	Apathetic	708.41	1253	18.9	47	743	328.52
Ogre municipality after the reform							
Ikskile	Harmonic	1272.61	5355	44.9	37	1604	478.66
Ogre	Workaholics	919.46	17761	28.7	42	7579	433.66
Lielvarde	Moderate	905.34	5324	24.6	41	2038	413.95
Kegums	Moderate	919.31	2889	25.1	43	1181	404.80

Source: authors' own compilation based on Bērziņš, 2018, experimental statistics and MoW data.

The 7 pre-reform municipalities analysed by pattern of activities are associated with four groups of activities. However, prosperity depends mainly on the proximity to Riga. Before the reform, Ikskile municipality was ahead of all other municipalities in terms of education level, earnings and pensions. In this municipality, even larger differences in indicators for administrative units could be expected.

The indicators shown in Table 5.12. indicate the pre-reform situation in all 22 administrative units of Ogre municipality. The new State city is in fourth place in terms of average earnings and in last place in terms of total cadastral value of land per capita. The latter indicator relates to not only household land but all land and indicates the potential benefits of land management. The disparity in average earnings between the administrative units is 1.79 times. In Ikskile rural territory, earnings were 79% higher than in Taurupe rural territory and 34% higher than in the current State city of Ogre. However, the cadastral value of land per capita is higher in sparsely populated areas.

Table 5.12. Incomes and the cadastral values of land in the administrative territories of Ogre municipality

Administrative unit	Population, 2021	Number of employees	Average earnings, EUR	Cadastral value of property per resident
Ogre	23022	12 535	990.91	1923.24
Krape rural territory	605	323	775.74	6454.43
Keipene rural territory	809	417	785.82	5872.80
Laubere rural territory	549	297	805.28	7219.44
Madliena rural territory	1446	773	786.00	5675.80
Mazozoli rural territory	425	207	766.72	9435.70
Mengele rural territory	454	240	769.24	8227.71
Ogresgals rural territory	3010	1 669	987.23	4377.62
Suntazi rural territory	1642	872	803.91	5667.99
Taurupe rural territory	687	349	739.27	9057.35
Ikskile	7317	3 868	1 325.22	3492.11
Tinuzi rural territory	2742	1 472	1 140.43	4520.51
Kegums	2063	1 229	975.25	2487.27
Tome rural territory	648	358	933.44	5673.29
Birzgale rural territory	1470	748	857.74	8645.62
Rembate rural territory	1033	544	872.31	7011.51
Lielvarde	5896	3 312	949.01	2473.82
Lielvarde rural territory	864	573	759.12	5387.12
Jumprava rural territory	1653	926	879.82	4134.80
Ledmane rural territory	1071	3 312	949.01	6076.70

Source: authors' own compilation based on Land Cadastre data and experimental statistics.

Table 5.13. contains indicators for 27 administrative units of Kraslava municipality. Although the indicator values for all the three pre-reform municipalities are relatively similar (prosperity in this case is mainly determined by belonging to the border and the external border of the EU), the disparities between the rural territories are significantly higher than the averages.

The maximum average earnings were reported in Auleja rural territory at EUR 778.43 and it exceeded the minimum average earnings (EUR 501.98 in Kastulina rural territory) 1.55 times or by 55%. The indicator values for the best-performing rural territory exceeded those for Dagda by only 0.1%. The largest difference was found for the development centre prescribed by law – Kraslava –, which lagged behind the best-performing rural territory by11 %.

The situation regarding cadastral values was similar to that regarding rural land cadastral values shown in the previous table. Both cities lagged behind in cadastral value per capita.

Table 5.13. Incomes and the cadastral values of land in the administrative territories of Kraslava municipality

Administrative unit	Population, 2021	Number of employees	Average earnings, EUR	Cadastral value of property per resident
Kraslava	7303	3 529	700.81	776.45
Auleja rural territory	424	160	778.43	5551.19
Indra rural territory	778	265	674.36	6503.93
Izvalta rural territory	493	230	773.29	5513.82
Kalniesi rural territory	555	200	576.96	6341.22
Kaplava rural territory	414	182	673.61	7422.24
Kombuli rural territory	434	179	765.34	6017.85
Kraslava rural territory	408	164	719.46	4704.65
Piedruja rural territory	364	708	767.63	6298.79
Robeznieki rural territory	691	133	605.63	6825.03

Skaista rural territory	483	237	608.69	7478.93
Udrisi rural territory	1054	174	680.13	3146.43
Dagda	1916	840	777.55	540.61
Andrupene rural territory	911	388	674.52	4786.86
Andzeli rural territory	455	182	605.91	5852.43
Asune rural territory	368	166	612.38	6707.46
Berzini rural territory	284	100	586.87	11247.30
Dagda rural territory	580	248	704.15	3584.37
Ezernieki rural territory	577	255	711.91	6419.82
Konstantinova rural territory	398	156	614.41	6404.53
Kepova rural territory	140	57	560.97	13850.98
Svarini rural territory	267	105	576.19	10075.32
Skaune rural territory	435	171	628.50	8397.57
Aglona rural territory	364	166	616.83	11185.32
Graveri rural territory	691	285	606.72	3240.45
Kastulina rural territory	483	205	501.98	6824.76
Skeltova rural territory	1054	489	642.63	2464.13

Source: authors' own compilation based on Land Cadastre data and experimental statistics.

It should be emphasized that a number of experimental statistics for 2017 are no longer published. Data collection could provide significant support for the dialogue between citizen councils and local governments. Data on internal stratification could be used to design and implement municipal development strategies.

Discussion

Voter manipulation plays a key role in practical politics. By failing to provide and publish data on peripheral effects (as has been done after a fivefold reduction in the number of municipalities in 2009), voters tend to ignore the process of rural depopulation. The argument against such a position is a belief in the principle of good administration and integrity. If the data are revealed, politicians lose much more than they gain.

The potential advantages of concentration and economies of scale have been implicitly indicated during the reform. Explaining the impacts of expected changes, politicians offered to increase mobility and provide services to a wider population. Information on the peripheral effect, the increase in time spent on the road and the increase in household expenditure outside the new centres might hamper concentration processes. The argument against this view is that the basic idea of municipal policies is to seek balance between the interests of various social groups, including potential peripheral residents. Another argument is that the development of the whole territory of the municipality is possible only by constantly working on the peculiarities of the administrative units, looking for specific solutions, different from those applied by the neighbours, based on data analysis.

One of the declared goals of the reform is to increase the participation of the population. Regular publication of data can draw undue attention from an organized civic society and individual activists to negative phenomena. The argument against such concerns is the belief that better solutions can emerge in the debate and that more capable local politicians will appear.

Custodians of trade secrets and personal data could object to the collection of data if there are only a few hundred people living in the area but less than 100 entrepreneurs. An argument against such concerns is the possibility to change the form of data collection without changing the substance.

Overall, it is useful for local governments to be involved in advising on policy decisions on a global and EU scale that affect their economies. The main focus should be placed on

over-regulation and a relaxation of requirements that lead to stagnation of a local economy or the outflow of capital – social, economic, political and especially human – from municipalities.

Stratification between development centres, without a special support programme for improving the situation in the lagging centres, does not allow for a centre-oriented strategy to be implemented. Both some of the State cities and some of the centres of regional significance with low development potential must be supported. Without investment in development centres, it is not be possible to even out the development of NUTS level 3 regions. The stratification between municipalities is largely due to the backwardness of the NUTS 3 regions located in the regions. Concentration policies play a key role, yet the EU's common foreign policy also lags behind, providing no support for eastern border municipalities.

The experimental statistics on inequality in administrative units need to be further developed and published. If there are problems with compliance with the requirements for statistical publicity or certain kinds of data need to be protected, solutions should be sought for the way of collecting data and the necessary economic or social content. Based on the experimental statistics, it is desirable to implement internal regional policies in municipalities in parallel with sectoral policies.

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5.9. Fostering Citizen Participation in the Decision-making Process of Public Administration in Latvia

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Citizen participation is an important value of a democratic country. However, in Latvia rates of citizen participation in elections are gradually decreasing, a small percentage of citizens are members of non-governmental organisations or political parties, and a small part of society is directly engaged in the decision-making process of public administration. Thus, decisions of public administration that affect everyday lives of all citizens are taken with a contribution of only a fraction of all stakeholders – society and businesses. Hence, there is developing a gap between the minority of citizens who are participating in the decision-making process and the rest of society. The situation when most citizens are not actively participating in the decision-making process becomes a problem if decisions made by public administration are not accepted by citizens and citizens do not trust public administration in general. This problem exists also in Latvia, thus, there is a necessity to foster citizen participation. That can be done by actively promoting current participation opportunities or by developing new participation methods that can engage a larger part of society. A wider participation of citizens could help to ensure that their needs and views are included in the new policies developed by public administration and that more citizens are familiar with the policy before it is approved by the final legal entity. For individuals, such an open and collaborative decision-making process could help to increase trust in public institutions and democracy. For entrepreneurs, it could bring a better comprehension of the development of the business environment in Latvia, ensure business-friendly conditions and strengthen trust in institutions (Lielpeters, 2021A). Nevertheless, improvements of the citizen participation opportunities should be a well-planned process, considering the best solutions that the 21st century can offer for fostering relations between public administration and citizens.

5.9.1. Citizen participation in the decision-making process

Good relations between the state and citizens are essential in a democracy to ensure that democratic processes are working properly and successfully. However, keeping up good relations is a two-way process where citizens and public administration have different criteria

that indicate if relations are good. From the perspective of public administration, those indicators are the level of legitimacy that institutions have gained, for example, via citizen participation in elections, as well as citizens motivation to follow the rules and laws, for example, by paying taxes. From the perspective of citizens, indicators of good relations with the state are a sense of being heard by the institutions, trust in public administration that institutions work in favour of society, as well as a feeling of security about one's life, health and financial situation. Thus, one of the key elements that could help to foster good relations between the state and citizens is the opportunity for citizens to participate in the decision-making process of public administration (Lielpeters, 2021B). It is up to citizens how much they are ready to participate in the democratic processes. They can choose to participate in elections by voting giving their mandate to the public institutions to make decisions on their behalf. Citizens can also seek for more active participation opportunities, participating in political parties, becoming members of non-governmental organisations, business associations or lobby organisations, taking part in public consultation processes or providing their opinion about draft legislation and other decisions that public institutions are having on their agenda (Gaušis, 2018). For the sake of democracy it is essential that institutions are providing citizens with various participation opportunities and easy-to-use methods for participation in the decision-making process. As well as it is necessary that public administration motivates citizens to take part in those activities, hence – all the time seeking to broaden the population that can participate and does participate in the democratic processes of the country. 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 (Lielpeters, 2020A). The current situation of democracy in Latvia can be evaluated to some degree by using statistical data about citizen participation in non-governmental and political organisations, as well as participation in the democratic processes. The situation in Latvia is heterogeneous (see Table 5.14.), for some activities, such as voting in elections, participation rates are gradually decreasing. At the same time proportion of civic-active citizens is increasing and citizens are demonstrating interest in digital participation opportunities, for example, by using participation portal Manabalss.lv.

Table 5.14. Citizen participation in Latvia (2011–2021)

Participation activity / indicator	Data	Source of the data and year
Voting in the latest municipal elections (2021)	34.01%	Central Election Commission of Latvia, 2021
Voting in the latest municipal elections when all municipalities were included (2017)	50.39%	Central Election Commission of Latvia, 2017
Voting in the latest Parliament elections (2018)	54.56%	Central Election Commission of Latvia, 2018
Voting in the latest European Parliament elections (2019)	33.53%	European Parliament, 2019
Number of political parties and Associations of political parties (22.09.2021)	62	The Register of Enterprises of the Republic of Latvia, 2021
The proportion of citizens who are members of political parties	1%	Van Biezen et. al., 2012
The proportion of citizens who are members of political parties (in 2017)	1.1%	Latvian Public Media, 2018
Consultative bodies in Latvian ministries (in 2018)	170	State Chancellery of Latvia, 2018
Consultative bodies in Latvian ministries (in 2019)	147	Cabinet of Ministers, 2021
Number of non-governmental organisations participating in the consultative bodies of Latvian ministries (in 2019)	839	Cabinet of Ministers, 2021
A number of non-governmental organisations that have signed a cooperation document with Latvian ministries	288	Cabinet of Ministers, 2021
The proportion of Latvian citizens participating in non-governmental organisations (in 2017)	5%	Interdepartmental Coordination Center, 2017

The proportion of civic-active citizens	14%	Providus, 2021
Civic participation index (in 2015)	10%	Interdepartmental Coordination Center, 2020
Civil Society Participation Index (in 2018)	7	The World Bank Group, 2021
Public submissions to Parliament (2019/2020)	5467/4542	Commission for Mandates, Ethics and Submissions, 2021
Number of citizens that have used participation portal Manabalss.lv in time from 2011 until 2021 (have voted at least once)	344074	Public Holding Fund, 2021
Number of votes casted in the participation portal Manabalss.lv in time from 2011 until 2021	1759019	Public Holding Fund, 2021

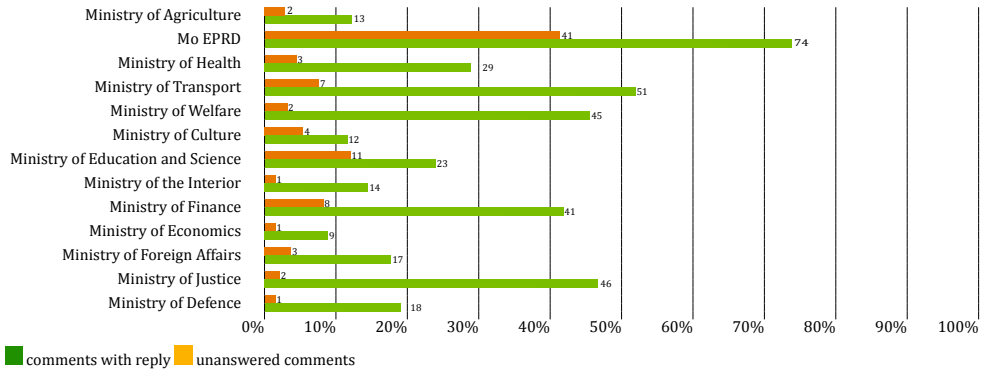
Source: Construction by Eduards Lielpeters based on statistical and public information.

Considering current participation habits in Latvia, citizens who are already participating in the decision-making process are often connected with non-governmental organisations. As the categorisation is not well established (Latvijas Pilsoniskā alianse, 2021A), that means both civic society organisations and lobby organisations. In 2020 there were 24367 registered and active non-governmental organisations (Latvijas Pilsoniskā alianse, 2021B). Nevertheless, only a few percent of those organisations are engaged in the decision-making process, for example, participating in the Consultative bodies in Latvian ministries. In the Civil Society Organization Sustainability Index review it was pointed out that in Latvia "Organisations have relatively easy access to politicians and civil servants who are responsible for various public policy issues" (United States Agency for International Development, 2019), hence, those citizens who are participating in non-governmental organisations have a comparatively better impact on the decision-making process of public administration in Latvia. Thus, according to the current organisation of the decision-making process, if a citizen would like to make an impact on the decisions made by public administration, it is also officially advised by the State Chancellery (Ministru kabinets, 2020) that the best choice would be to find a non-governmental organisation that is already participating in the decision-making process and is acting as a representative of citizens in the specific area. That rises discussion if public administration is motivated to support innovations of new citizen participation methods, or they prefer the current participation model with a small but active representation of citizens via non-governmental organisations. Cooperation with organisations is beneficial to public administration as the members of organisations are providing expertise and it is easy to announce that public participation is happening. If the new participation methods are developed and institutions are trying to reach individual citizens, bypassing the middleman – non-governmental organisations, that is a bigger challenge and work for the representatives of institutions. There is a need to work with a larger amount of data, as well as foster communication with citizens and develop closer relations with them. Although it is understandable, that for the public administration it is easier to continue the existing model of cooperation, the current open government and transparency tendencies are pushing institutions towards the necessity to communicate with all citizens and ensure communication and cooperation in the digital environment as well.

5.9.2. Digital environment as a common space for cooperation

The citizen participation situation in Latvia demands that public institutions find new ways that would help to engage citizens in the dialogue and motivate them to participate in the decision-making process. Social media could help to foster dialogue since communication in social media is direct, fast, and comparatively cheaper than in traditional mass media, moreover, technical possibilities of social media ensure several ways to establish two-way

communication. Latvian society and public administration are comparatively well represented in the digital environment already. Access to the internet in the last decade has grown significantly, from 53 percent of households in 2008 to 90 percent in 2020 (Central Statistical Bureau of Latvia, 2020). For the last five years, Latvian citizens are also actively using the internet on their smartphones, thus, they are online at any moment of the day. People in Latvia are also actively using social media. In 2019, 65 percent from the Latvian population were participating in the social networks, for youth, the participation rate being even higher – 95 percent, which is in both age categories above the EU average (Eurostat, 2020). Thus, there is a significant potential that content produced by institutions on social media can reach people in Latvia and engage them in two-way communication. The most often used social media in Latvia is *Facebook* – in May 2021 there were 1215000 *Facebook* users in Latvia (Napoleon Sp.zo.o., 2021). Nevertheless, analysis of the institutions activity on social media are suggesting that for now Latvian public administration is not fully using the opportunities that digital environment is offering. Content analysis of social media pages of Latvian ministries was conducted in 2020 (Lielpeters, 2021A), analysing the content of 13 *Facebook* pages of Latvian ministries in the six months period, from July 2019 until December 2019. In this period all ministries together have published 3181 entries. Analysis of the commentary section is providing a worrying tendency (see Figure 5.22.). Most ministries are using this section selectively – sometimes engaging with followers in discussions but in most of the times ignoring commentaries that are made by followers and even not providing answers in cases when followers are asking questions about information published in the entry. This attitude is demotivating other followers to use the commentary section, thus taking away from social media one of the opportunities that could provide two-way communication and citizen participation in the decision-making process (Lielpeters, 2021C). Although Latvian institutions are using social media for more than 10 years already, there is still a need for improvements, also in the comprehension on how to develop meaningful two-way communication with citizens in the digital environment.



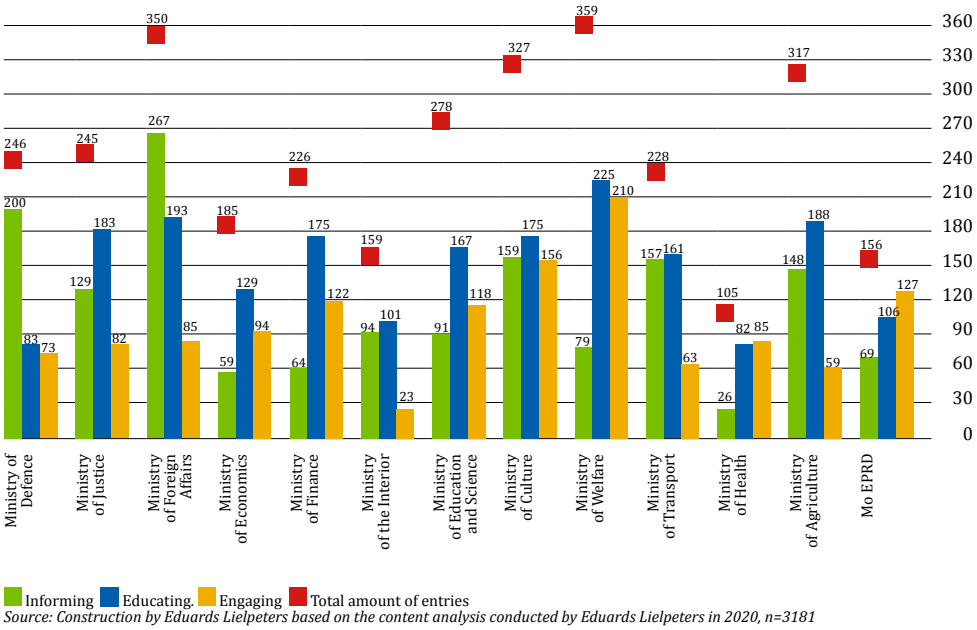
Source: Construction by Eduards Lielpeters based on the content analysis conducted by Eduards Lielpeters in 2020, n=3181

Figure 5.22. Comments and their responses in the *Facebook* pages of Latvian ministries, July-December 2019 (only those comments where reaction from the institution was needed).

Digital solutions cannot become the only channel for citizen participation and offline participation possibilities should be maintained as well, but digital participation should be endorsed so more people are aware that they can participate in the decision-making process also individually and online. Although not all citizens are using the internet and participation habits are different depending on age group, the number of citizens that are regularly using the internet is gradually increasing, also in the age group of elderly people. Thus, public administration should pay attention to the development of online communication and digital participation of citizens. Activities of public administration in the social media should be maintained because that is the current sector of the digital environment where citizens and public institutions are already represented and have the potential to strengthen cooperation. However, it must be emphasized that there is only a certain level of how much social media can be used for citizen participation. For now, social media cannot serve to confirm the identity of the person, thus, social media can be used to gain simple opinions and ideas from citizens or to understand public mood, but when citizens are providing their input for the final decision, for example, voting about the ideas that should be implemented, other digital solutions must be used, such as participation portal or institutions home page where person`s credentials can be verified by e-signature or other authentication tools.

5.9.3. Fostering cooperation and long-term relations between public administration and citizens

Currently, each institution in Latvia has its own internal regulations for digital communication and cooperation with citizens. Survey to representatives of Latvian public administration who are responsible for communication with society and cooperation with citizens was conducted in 2019, representing 55 respondents from Latvian ministries, Parliament, Cross-Sectoral Coordination Centre and several other Latvian public institutions (Lielpeters, 2019). According to the results of the survey, from all the represented institutions, 62 percent have informal rules and communication habits which they are following, half of the represented institutions have also communication guidelines and work descriptions which are regulating communication with citizens. This precondition is creating a situation that each institution has its own communication style, thus, there are noticeable differences in the writing style, use of visual materials and utilization of social media specific opportunities. Those differences were recognised in the content analysis of *Facebook* pages of Latvian ministries (Lielpeters, 2021A). In the entries published by ministries were analysed the meaning of the message in the text and in the visual material. Meaning of the message was identified as informative, educating or engaging, considering that the same entry could also have several of analysed aspects at the same time, for example, have both educating and engaging elements.



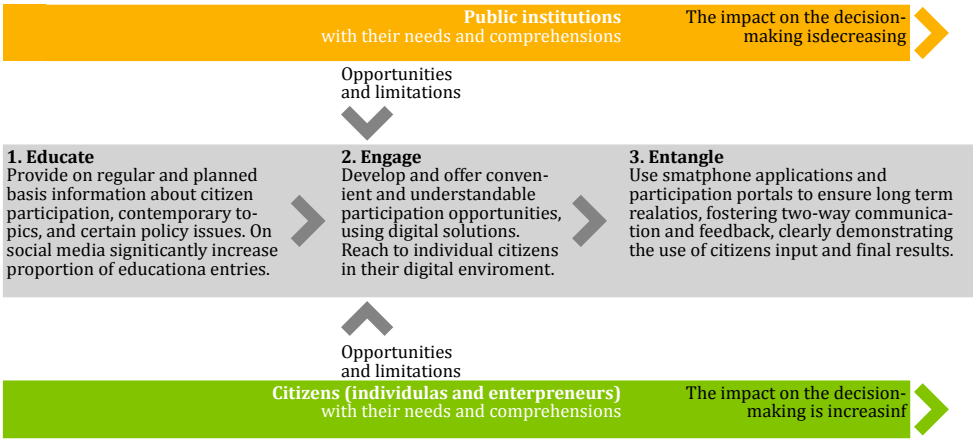
Source: Construction by Eduards Lielpeters based on the content analysis conducted by Eduards Lielpeters in 2020, n=3181

Figure 5.23. Distribution of entries in the Facebook pages of Latvian ministries, July-December 2019

Results demonstrated that from all 3181 entries 49 percent have informative content, 62 percent have educational content and 41 percent have engaging content. When analysing each institution separately, it is noticeable that ministries have different purposes for the use of social media (see Figure 5.23.). Engaging posts are still a minority, hence, communication style still is top-down with the exception in some ministries, such as Ministry of Health, Ministry of Culture and Ministry of Environmental Protection and Regional Development (Lielpeters, 2021C). At the same time, survey to representatives of citizens (Lielpeters, 2021A) is demonstrating support towards necessity to harmonize digital communication style of public institutions in Latvia. The survey to representatives of citizens was implemented in September 2019 – May 2020, using research survey software *QuestionPro*. In total 314 surveys were received, representing citizens who are already participating in the decision-making process or are comparatively active in other forms of civic and political participation. In the survey respondents were asked to evaluate their attitude towards a unified style of communication for Latvian public institutions on social media. In the scale from 1 (not needed) to 10 (it definitely should be introduced) average evaluation was 6.91. Analysing the distribution of evaluations, it is noticeable that citizens are demonstrating comparatively larger support towards the suggestion that Latvian public administration should have a unified communication style - from all respondents` 63 percent are supporting this idea by evaluating it with 7, 8, 9 or 10 (Lielpeters, 2020B).

Development of a common digital communication style and consolidation of best digital communication practices would help public institutions to become more attractive to citizens, create a more unified public image of Latvian institutions and provide support to those institutions that for now are not implementing their digital presence as successfully as others.

However, considering opportunities provided by the digital environment and necessity to increase the number of citizens that are participating in the decision-making process in Latvia, a common digital presence of public administration should be designed and implemented with a purpose of not only providing information to citizens in a significantly more thoughtful manner, but also gaining feedback, opinions, and ideas back from citizens. This would allow to develop a complex digital participation methodology, thus supporting a long-term goal to foster democracy in Latvia, strengthening relations between public administration and citizens, and increasing citizen participation in the decision-making process in a modern and citizen-centric manner (Lielpeters, 2021A). The proposed methodology for fostering digital participation consists of three levels – educate, engage, and entangle – that must be implemented sequentially (see Figure 5.24.).



Source: Construction by Eduards Lielpeters based on the results of the research (Lielpeters, 2021A).

Figure 5.24. Model for fostering digital participation.

The purpose and activities of each level are as follows:

- Educate – In the first level, citizens are educated about participation and certain policy issues to ensure that they are competent and motivated to participate in the decision-making process. This first level is crucial as it is strengthening citizen ability and motivation to participate in the decision-making process. To implement activities of the first level, public institutions must provide information on a regular and planned basis, not only on their home page but also using other communication channels. In the case of social media, that means significantly increase the proportion of educational entries. In the first level, public institutions should also use non-digital communication channels, for example, disseminating printed information in the public libraries, thus reaching also those citizens who are not using digital tools but can use face-to-face participation opportunities or acquire digital skills in the future.
- Engage – The first level is followed by the participation part where digital solutions are used to gain citizen opinions and engage them in the decision-making process. Nevertheless, the use of digital tools should not be seen as an end in itself – rather a modern method that helps to significantly wider citizens opportunities to participate in the decision-making process. The purpose of the second level is to ensure public policies, regulations and

implementation of industrial projects that are more successfully meeting citizen needs and expectations, therefore also lowering the necessity to spend extra finances or time in fixing policies where decisions made solely by institutions later are faced by protests from citizens.

- Entangle – The third level is encouraging citizens to trust in public institutions and the decision-making process. While citizen participation in the second level can still be one-time and irregular, well-considered implementation of the third level activities is ensuring that participation in the decision-making process can become a habit for citizens and an obvious form of cooperation both for citizens and public administration. This purpose is reached by providing feedback on citizens input and demonstrating final results that are gained with the help of citizen participation. To implement activities of the third level and ensure direct cooperation and personal feedback, digital participation portals or smartphone applications should be used. The opportunity to use digital solutions for such purposes is the biggest strength of digital participation – traditional participation methods cannot offer similar activities which would ensure the same quality and extend of direct feedback that digital solutions are providing.

Implementation of digital participation methodology could improve the current situation for citizen participation in the decision-making process in Latvia. The proposed methodology does not replace the usual model of cooperation but suggests improvements that are modern and citizen-centric, helping to develop a digital environment where individual citizens are motivated and able to participate in the decision-making process. If the methodology is implemented successfully, one of the long-term results could be fostered relations between institutions and citizens, thus helping to eradicate current comprehension in Latvia that public administration and decision-makers are separate group of society than other citizens. This would bring public institutions and citizens closer and make equal partners of the decision-making process, hence, equally responsible for the direction and future development of country's economy and wellbeing.

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5.10. Accelerating the benefits of social entrepreneurship in Latvia: Towards improved marketing competencies and greater public awareness

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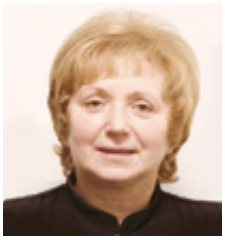


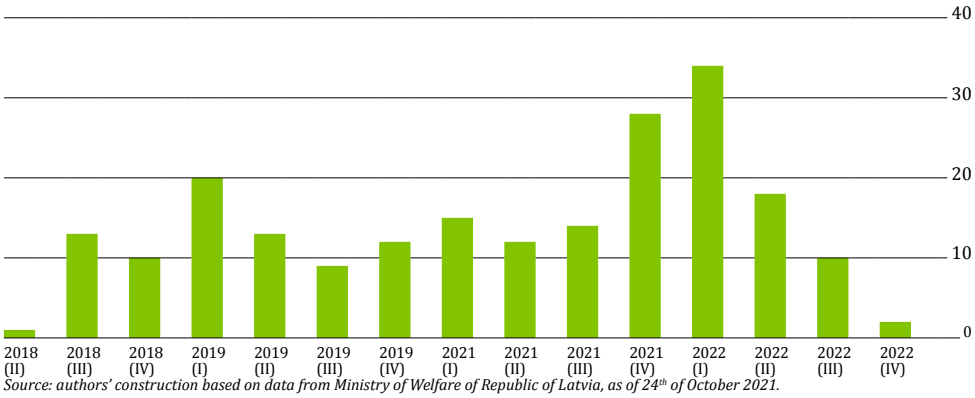
Biruta Sloka, Dr. oec., LU professor, leading researcher

Social enterprises today are well-recognized on a global scale for their capability to address various social and economic problems (Bandyopadhyay, Ray, 2019 b; Nicholls, 2006), to promote sustainable development (Bartha, Bereczk, 2019; Blagoycheva, 2019, Dobele, 2013), and drive innovations (Monroe-White, Zook 2018; Tkazc, 2016). Having originated as a public response to the failures of government and public organizations to provide the required level of social services (Satar, *et. al.* 2016; Mitra, *et. al.* 2019; Bandyopadhyay, Ray, 2019 b), social enterprises achieve a double or even triple (people, planet and profit) bottom line (Bandyopadhyay, Ray, 2018). Social enterprises are also referred to as one of the approaches to "socializing capitalism" which, as Brdulak, *et. al.* (2019) note, "... sensitize the economy to the needs of citizens, shaping their quality of life and bring more balance to the economic processes by highlighting and solving social issues which capitalism in its pure form has left behind" (Brdulak *et. al.* 2019, p.72). Due to their dual mission of both social and economic goals, social enterprises are inherently less competitive compared to their commercial counterparts, therefore, in order to face the competition, they not only need to deliver quality products and services but also need to promote their products and services exceptionally well.

Marketing plays a significant role in securing long term sustainability for social enterprises (Bandyopadhyay, Ray, 2018; 2019 a; Satar, *et. al*. 2016;). Despite the invaluable contributions of marketing in the social entrepreneurship context, respective research studies have only recently started to proliferate both in the international context (Bandyopadhyay, Ray, 2019- b) and also in Latvia (Casno, Šķiltere, Sloka, 2019 a,b; Casno, Šķiltere, Sloka, 2020, a,b,c,d; Casno, Sloka, Šķiltere 2021; Casno, Sloka, 2021 a). Social enterprises are deemed to be pioneers of responsible marketing who have significant potential to bring about not only increased economic and social value but also sustainable social change, provided they apply a more strategic and professional approach to their marketing efforts (Bandyopadhyay, Ray, 2018). The significant role of digital technologies in the context of social enterprise marketing is well-summarized by

Prodanov (2018), "Digital technologies give us the ability for much easier exchange of data and information between entrepreneurs and customers, they allow us to reach many more people, to identify target groups and to popularize any initiative at a much lower price" (Prodanov, 2018, p.131). As indicated by Bandyopadhyay, Ray (2019, a), marketing efforts in social enterprises are generally characterized by lack of skills, focus on mere promotion of products without a deeper strategy beyond, low-cost marketing approach relying on personal networks and social platforms, inherent battle between social and economic aspects, legacy mindset of inferior role of marketing, lack of financing, importance of awareness building and need to simultaneously cater their marketing efforts to different stakeholders (Bandyopadhyay, Ray, 2019, b). Overall, product and service marketing is a serious challenge for many social enterprises including those operating in Latvia (Līcīte, 2018 a, b; Lis, *et. al*. 2017; Casno, Sloka, 2020).

The field of social entrepreneurship in Latvia is young but highly potential. It took close to 10 years, since the introduction of the concept of social entrepreneurship in Latvia in 2009 (Līcīte, 2018, a), for the Law of Social Enterprise to come into force on the 1st of April, 2018 (Saeima, 2017). The long-term effectiveness of the Social Enterprise Law has been a source of debates, resulting in several challenges and considerations being highlighted that will require further elaboration (Ūlande, Līcīte, 2018). The total number of social enterprises is difficult to establish, as not all of them have decided to pursue the official status of a social enterprise (Līcīte, 2018, a). Despite the overall low competitiveness of the sector (Dobele, Pietere, 2015; Casno, Sloka, 2020), weak public recognition within society, widespread disbelief and skepticism among government and municipality institutions regarding the potential of social enterprises in providing effective solutions to social and economic problems, low financial viability of social enterprises in Latvia, an underdeveloped social impact investment sector (Ūlande, Līcīte, 2018) and the challenges of the recent Covid-19 pandemic which left a negative mark on the sector (Casno, Sloka, 2021b), the number of social enterprises with the official status has been growing, as reflected in Figure 5.25. below, reaching a total of 193 social enterprises as of 30th of September, 2021 (Register, 2021).



Source: authors' construction based on data from Ministry of Welfare of Republic of Latvia, as of 24th of October 2021.

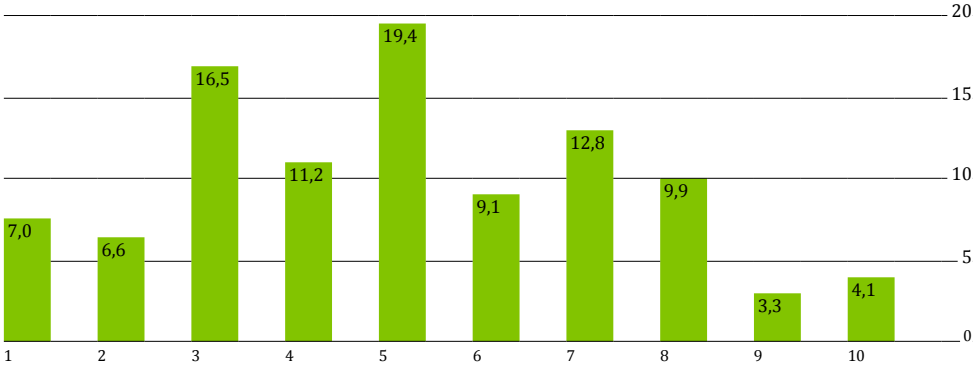
Fig. 5.25. New social enterprises with acquired official status, per quarter.

Considering the characteristics of development of social entrepreneurship in Latvia, the role of stronger, more professional marketing and greater public awareness of the sector within society is invaluable for further enhanced competitiveness and growth of social economy.

Research conducted in the form of a survey in 2019 (realized with survey tool *QuestionPro* for purposes of more effective and in-depth data analysis) in order to establish the awareness levels within society about social entrepreneurship, obtain a consumer based perspective on social enterprise marketing activities and identify the profile of the socially responsible consumer and their behavior, yielded a total of 329 responses (224 of which were fully completed) and revealed many interesting insights providing valuable implications for social enterprises as well as public authorities seeking to promote the sector. Respondents were mainly of female gender, of age group 16-45 with a higher education degree and majority of them had made a purchase from a social enterprise at least once in 2018. An overview of main research results and implications will follow in subsequent subsections highlighting various aspects within the marketing context of social enterprises in Latvia.

The current public awareness of social entrepreneurship sector and its importance

Research results indicate a mean value of 5.06 with regards the informational level of respondents about social enterprises in Latvia. Distribution of respondents by their indicated level of information about social enterprises is reflected in Figure 5.26. below.



Evalation scale: 1 - not informed at all, 1o - very vell informed..
Source: Authors' construction based on and survey conducted in 2019, N=329.

Fig. 5.26. Distribution of respondents by evaluations on level of information about social enterprises in Latvia in 2019.

While the results can be evaluated as satisfactory given the relatively young age of the social entrepreneurship sector in Latvia, taking into consideration that majority of respondents had previously purchased products or services from social enterprises, it is possible that the overall level of information within society is significantly lower, which is also consistent with previous publications. Research results also indicated a statistically significant correlational relationship, between the informational level indicated by respondents and their respective purchasing habits, as reflected in Table 1 below.

Table 5.15. 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 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 public awareness and marketing in ensuring sustainable operations of social enterprises. While it is important to communicate with and inform potential and existing consumers, research also 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 indicates that women are better informed about social enterprises, which corresponds with their caring nature. 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.

The factors that drive purchases from social enterprises

Overall, respondents indicated all of the provided factors as rather motivating, as reflected in Table 5.16. below.

Table 5.16. Main statistic indicators of respondents' evaluations on various factors motivating to make purchases from social enterprises

	Friendly service	Convenient shopping online	Convenient location of the social enterprise	Opportunity to support social causes	Information in the social networks and website	Pleasant atmosphere	Price of the product / service	Quality of the product / service	Uniqueness of the product/ service
Mean	8.03	7.12	8.44	8.49	8.13	8.33	8.24	8.53	8.09
Mode	10	10	10	10	10	10	10	10	10
N	164	157	160	163	160	162	160	160	161
Range	9	9	9	9	9	9	9	9	9
Standard Error of Mean	0.171	0.220	0.138	0.144	0.157	0.147	0.158	0.151	0.161
Median	9	8	9	9	8	9	9	9	9
Standard deviation	2.189	2.760	1.744	1.837	1.985	1.874	1.999	1.916	2.043

Source: authors' construction based on survey conducted in 2019, evaluation scale 1-10, where 1- not motivating; 10 – very motivating, N=329.

Taking into account that social enterprises operate under circumstances of limited human and financial resources, which makes it difficult for them to focus on all factors at once, factor analysis was applied to see if it was possible to find a smaller number of more general components that would make it easier for social enterprises to set priorities to achieve optimal performance. The results of factor analysis indicated presence of 2 general factors. The first factor combines aspects associated with the feelings and emotions generated during the in-store shopping experience. This indicates that social enterprises should strive to create a personal shopping experience aiming to make a positive emotional connection with consumers through the marketing aspects of price, product and service. The second factor combines aspects associated with convenience available to consumers in the digital environment. This indicates that social enterprises must be also actively present, communicating their social value and, if possible, also selling their products online to be able to address the needs of the digitally-oriented consumers who value their time and demand fast feedback to the questions or comments they post on social networks and other digital communication channels. Research also confirmed a statistically significant positive correlational relationship between indicated purchasing frequency of respondents and such factors as pleasant atmosphere and friendly services and a statistically negative correlational relationship between purchasing frequency and online shopping opportunities. Therefore, in order to generate more repeat purchases, social enterprises should focus their marketing efforts at enhancing the shopping experience for consumers, focusing on pleasant atmosphere and friendly service in particular. If possible, social enterprises should also consider selling their products online as it may result in more frequent purchases.

The quality of social enterprise marketing communications

Research results indicate that a significant proportion of respondents were interested in the marketing content provided by Latvian social enterprises (41.6%) (i.e. followed them on social media and other information channels)and had previously recommended social enterprises' products and services to others (42.6%), thus indicating a general positive attitude and support towards social economy. However, there are significant relationship-building and sales opportunities that are not fully exploited and indicate a need to create a stronger bond with consumers as well as to increasingly pay attention to quality aspects of products and services which are significant for the success of word-of-mouth marketing. While social enterprises are best-skilled at providing aesthetic and interesting marketing content, some of the biggest challenges are to ensure its regularity and visibility, as reflected in Table 5.17. below.

Table 5.17. Main indicators of descriptive statistics for survey question, "To what extent the marketing communications content of Latvian social enterprises you are familiar with corresponds with these characteristics?"

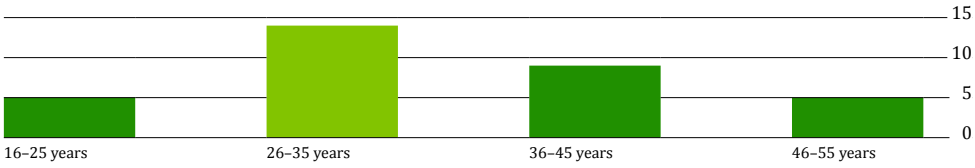
Statistical indicators		Aesthetic	Interesting	Noticeable	Convincing	Regular	Captivating
N	Valid	125	124	126	126	123	123
	Missing	204	205	203	203	206	206
Mean		7.45	7.42	6.83	6.94	6.39	7.17
Standard Error of Mean		0.158	0.144	0.172	0.176	0.201	0.177
Median		8	8	7	7	7	8
Mode		7	8	7	7	7	8
Standard Deviation		1.762	1.608	1.931	1.979	2.235	1.962
Variance		3.104	2.587	3.729	3.916	4.994	3.848
Range		9	8	9	9	9	9
Minimum		1	2	1	1	1	1
Maximum		10	10	10	10	10	10

Source: Authors' construction based on survey conducted in 2019, N=329, evaluation scale 1-10, where 1 – do not agree at all, 10 – fully agree.

Since the lower evaluations for aforementioned characteristics may be directly associated with lack of financial resources and skills, greater support from public authorities for development of support programs with the aim of increasing the marketing skills of social enterprises as well as promoting close win-win cooperation between commercial outdoor, print and online media holders and social enterprises (e.g. subsidized advertisement spaces while they are not used by commercial clients in return for lower taxes). Overall, marketing communications content provided by Latvian social enterprises is higher evaluated by women than by men. With regards age groups, respondents of age 16-25 find the content of social enterprise marketing particularly interesting, respondents of age 46-55 and 26-25 have provided the highest evaluations for aesthetics, however, respondents of age group 46-55 have provided the lowest scores for the ability of content to convince thus social enterprises who are targeting the aforementioned audience may benefit from improving this aspect. The evaluations indicated by respondents residing in the territories surrounding Riga may suggest that social enterprises operating in this area may significantly enhance the effectiveness of their marketing content by improving its regularity.

The profile of the socially responsible consumer in Latvia

In order to obtain a sample of consumers who shop with social responsibility in mind, respondents who indicated they had made purchases from Latvian social enterprises' at least 9 times or more in 2018 were selected, yielding a unique sample of 37 respondents, majority of whom (23) had made socially responsible purchases even 13 times or more in 2018. While socially responsible respondents were present across several age groups, majority of socially responsible respondents belonged to the *Millenium* generation, as reflected in Figure 5.26. below.



Respondent age groups. *Source: authors' construction based on survey conducted in 2019, N=329.*

Fig. 5.26. Age groups of the socially responsible consumers in Latvia.

Overall, the socially responsible respondent can be characterized as a *Milenium* generation female belonging to age group of 26-35 with Bachelor level education and residing in Riga. The most recognized Latvian social enterprises within this consumer group are "Otrā Elpa" (Second Breath), "Kalnciema kvartāls" (Kalnciema Quarter) and "Kaņepes kultūras centrs" (Kaņepe Culture Centre) which reflect importance of such values as sustainable development, culture and community. Although the aforementioned consumers regularly purchase social enterprise products and services, their information level about Latvian social enterprises is only slightly above average, indicating significant room for improvement in terms of loyalty and deeper relationship building. Latvian socially responsible consumers are not primarily driven by the opportunity to support social causes. Instead, they find pleasant atmosphere, quality and price of the products and services to be most stimulating. Therefore, social enterprises and public authorities aiming to promote awareness of social enterprises in Latvia should to take into consideration the aforementioned factors in their decision making processes and build their communication strategies accordingly.

The preferred information channels by consumers of social enterprise products /services

Overall, respondents who have previously purchased from social enterprises prefer to receive information about social enterprises and their offerings over social networks the most, followed by television and radio, as reflected in Table 5.18. below.

Table 5.18. Main statistic indicators of respondents,' who had made purchases from social enterprises in 2018, preference for receiving information about social enterprises across information channels

	Printed media	E-mail	Radio	Social networks	Direct mail	Television
Mean	4.22	5.21	6.46	8.25	2.28	6.52
Mode	1	1	8	10	1	10
N	143	157	148	166	144	155
Standard Deviation	2.929	3.229	2.651	2.076	2.218	3.059
Median	4	5	7	9	1	8
Standard Error of Mean	0.245	0.258	0.218	0.161	0.185	0.246
Range	9	9	9	9	9	9

Source: authors' construction based on survey conducted in 2019, evaluation scale 1-10, where 1 – would not like to receive; 10 – would like to receive, N=329.

The same holds true for potential consumers of social enterprise products and services and customers, who have made purchases more often than once a month. However, customers who made purchases more often than once a month also regard e-mail communication highly, confirmed by a statistically significant correlational relationship. This suggests that e-mail communication may have potential to increase Latvian social enterprise sales.

There exist statistically significant differences in preferences among age groups for various information channels except for direct mail. There are also statistically significant differences in preferences by gender for such information channels as social networks and radio. However, consumers do not statistically significantly differ in their preferences for information channels depending on their place of residence. E-mail communication is most appreciated by consumers of age groups 16-25 and 46-55, radio is most preferred by consumers of age groups 16-25 and 26-35. Social networks are most preferred by consumers of age group 46-55, followed by age group of 36-45, 16-25 and 26-35. Direct mail overall is the least preferred information channel in all age groups, however, as consumer age increases the preference for direct mail tends to increase on average, which is confirmed by a statistically significant correlational relationship. Television is most favored by consumers of age group 46-55 and 26-35.

Printed media received scores below average and is generally most preferred by the younger consumers of age 16-25, followed by age group of 46-55. While both men and women prefer to receive information via social networks the most, the second and third most preferred options for women are radio and television, but for men – e-mail and television. With regards such information channels as social networks and radio, there are statistically significant differences in preferences of information channel use between genders for consumption of goods and services offered by social enterprises. Social networks, while being the most preferred choice of communication medium for both men and women, received statistically significantly higher scores from women. With regards radio, women also expressed statistically significantly more positive attitude than men. Men expressed a more pronounced dislike for this information channel providing a greater proportion of low scores (1-3) than women. Women also indicated higher scores for television, however, men showed a higher preference for

e-email communication. Overall, for highest efficiency and most optimal results, there should be, if possible, a focus on integrated marketing communications, combining various information channels in order to reinforce the message both social enterprises and public authorities are conveying with regards social economy sector.

Main conclusions and recommendations for development of social entrepreneurship. Social enterprises have the capacity to provide significant contributions to the well-being on Latvian society. Social enterprises promote social inclusion and reduce poverty within society since a significant part of them also employ people from social risk groups and provide an opportunity for those people to feel needed. Within Latvian society there is considerable support for social enterprises, however the overall recognition and public awareness, despite its crucial role in achieving sustainable and growing social economy, is insufficient. Social enterprise marketing communications lack regularity and visibility the most. Social enterprises need support for education and training of employees to strengthen their knowledge and skills in marketing, digital technologies and public relations. Social enterprises and public authorities seeking to promote social economy and its public awareness, must engage in creation of effective, strategically sophisticated integrated marketing campaigns in accordance with the selected target audiences.

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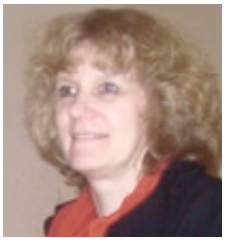
5.11. The Contribution Of Professional Education To Reducing Inequalities, Entrepreneurial Innovation And Competitiveness



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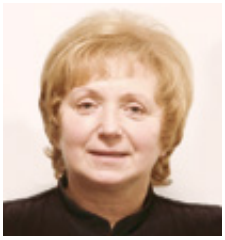

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Changes in society and the economy in a globalized world, rapid technological progress, the transition to a knowledge and digital society, extensive information exchange, demographic etc. processes give increasing importance to professional education and qualifications. Highly qualified specialists are a prerequisite for national competitiveness. Therefore, beginning with the Copenhagen process in professional education and training from 2002 (Council of the European Union, 2002) and afterwards in Maastricht in 2004 (Global Education Congress, 2002), in Helsinki in 2006 (CEDEFOP, 2006), Bordeaux in 2008, Bruges in 2010 (European Commission, 2010) and Riga in 2015 (CEDEFOP, 2015), European Union education policy makers agree on common priorities for professional education and training in Europe. The Osnabrück Declaration 2021-2025 (MoES, 2020) identifies professional education as a driver of innovation and a basis for green, digital and sustainable growth with four key priorities.

1. **Resilience and excellence** – ensuring quality, inclusion and flexibility, which involves innovation policies, experience sharing, excellence in professional education, incl. centres of excellence and their alliances at European level, skills ecosystems, work-based learning, technological progress and social inclusion.
2. **Shaping a culture of lifelong learning** – the role of further education and digitization. In the digital age and because of green policies, the nature of work and qualifications change, new professions emerge, and this is also linked to national qualifications and sectoral frameworks. In the context of lifelong learning, a closer link needs to be established between initial professional training and further training, and a key role is played by teachers and the development of digital learning platforms.
3. **Sustainability** – the green link in professional education, which leads to the link between digital transformation and green approaches, cooperation and experience sharing; the link between education and the working environment to achieve sustainability goals. Skills

relevant to the labour market in relation to the green transition and the role of teachers and mentors in the processes.

4. **The European Educational Area and the international dimension of professional education** – transparency and comparability of qualifications, common programmes and qualifications, the opportunities provided by Erasmus+ and the CV single standard Europass, matching labour market supply and demand, increasing the competitiveness of European professional training, cooperation with countries outside the European Union.

Professional education provides significant advantages to everyone involved in professional education: the student, the entrepreneur and the professional education institution, such as cooperation, competitiveness, career development, visibility, publicity and prestige.

Source: authors' construction.

Fig. 5.27. Advantages of professional education.

5.11.1. Professional education competence centres

The purpose of professional education is to prepare qualified, competitive specialists for the labour market and focused on continuous professional development. To increase the quality of professional education and ensure the compliance of professional education with the requirements of the labour market, new solutions are sought and requirements for the quality of professional education are enhanced. In recent decades, all EU Member States, including Latvia, have paid special attention to professional education, as there are large opportunities to prepare a competitive and high-quality workforce.

Since 2011, the professional education institutions that perform the functions specified in the Cabinet regulations and meet certain quality criteria can obtain the status of a professional education competence centre (Cabinet of Ministers, 2013). A professional education institution needs to confirm the compliance with the status of a professional education competence centre every year, reporting on the fulfilment of the functions assigned to the professional education competence centre.

A professional education competence centre is a professional education institution that implements professional education programmes and at the same time performs the functions of a regional or sectoral methodological centre, a teacher training centre and a centre for assessment and examination of professional competences acquired outside the formal education system. In Latvia, 18 professional education competence centres operate under the Ministry of Education and Science (NIID, 2021).

Table 5.19. Professional education competence centres under the Ministry of Education and Science

No.	Name of the professional education competence centre
1.	Daugavpils Construction Technical School
2.	Daugavpils Technical School
3.	Jelgava Technical School
4.	Kandava Agricultural Technical School
5.	Kuldiga Technology and Tourism Technical School
6.	Ogre Technical School
7.	Professional education competence centre Liepaja State Technical School
8.	Professional education competence centre Riga State Technical School
9.	Professional education competence centre Riga Technical College
10.	Rezekne Technical School
11.	Riga Art and Media Technical School
12.	Riga Style and Fashion Technical School
13.	Saldus Technical School
14.	Smiltene Technical School
15.	Valmiera Technical School
16.	Vidzeme Technology and Design Technical School
17.	Ventspils Technical School
18.	State Ltd Riga Technical School of Tourism and Creative Industries

Source: NIID, 2021.

Compliance with the status of the professional education competence centre and the quality criteria set involves: meeting the requirements for the number of learners, retention of the learner contingent, quality of learner education, cooperation with employer organizations, preparation of learners from other professional education institutions for work with the latest technologies, as well as each professional education competence centre needs to prove itself as a professional education methodological centre, an adult further education centre, a career education centre and perform the functions of assessment of professional competences acquired outside the formal education system, implement cooperation with sectoral organizations and entrepreneurs, ensure the participation of learners in national and international competitions and participate in projects funded by the EU Structural Funds or other foreign financial instruments.

Accepting the challenges of the European Union policies on professional education and considering the National Development Plan of Latvia for 2021-2027 (NDP, 2020) and the Education Development Guidelines for 2021-2027 (MES, 2020), several professional education institutions have committed to join the single European Education Area and have set a strategic goal for 2021–2027 to become a centre of excellence and innovation for economic sectors. The purpose of a professional education institution as a centre of sectoral excellence and innovation is to summarize national and regional economic priorities, thereby creating the necessary preconditions for further development, investment attraction and the motivation of students to choose professions demanded by the rapidly changing labour market for achieving European and global education quality.

One of the European institutions implementing European policies on professional education and training is the European Training Foundation (ETF), which has set up the Network for Excellence (ENE). It is a network of professional education institutions that want to become a centre of excellence in the medium term. These are professional education institutions from around the world that want to learn from each other, support each other by innovating, collaborating, sharing good practices and adopting good practices from professional education institutions from other countries.

The professional education institutions (PEI) in the ENE network are committed to a number of initiatives.

1. PEI cooperation with employers from the respective sector.
2. PEI pedagogical and professional competence and systematic professional development of pedagogical personnel.
3. PEI institutional and resource development, development of a strategy, vision and mission of a professional education institution in cooperation with employers.
4. PEI are involved in lifelong learning and implement adult education programmes.
5. PEI analyse labour market requirements, respond quickly to labour market demand by delivering appropriate professional education programmes.
6. PEI learners and personnel are provided with continuous improvement in digital skills.
7. PEI deliver green education courses.

In Latvia, PEI participate in the implementation of European professional education policies and in the ENE network, provide their contribution to the professional education institutions of the ENE partner countries.

The following kinds of and priorities in the development of good practices in professional education in Latvia should be especially emphasized:

1. Involvement of educational institutions in work-based learning;
2. Provision of lifelong learning;
3. Transition to a green education policy;
4. Involvement of professional education students in business activities;
5. Activity of a professional education institution as an entrepreneur.

5.11.2. Student work-based learning

Work-based learning for students is a prerequisite for specialists trained in professional education institutions to meet the requirements of employers. Work-based learning represents progress in the development of professional education. The student goes through all stages of production in work-based learning process and is fully acquainted with the production process. After graduating from a professional education institution, it is possible to successfully start working, start up a business, as well as continue education at a higher education level.

The crucial prerequisite for successful work-based learning is a company – the entrepreneur needs to agree to participate in it. Therefore, when implementing work-based learning, professional education institutions adapt the learning process to the needs of companies, balance the time for theory and practice.

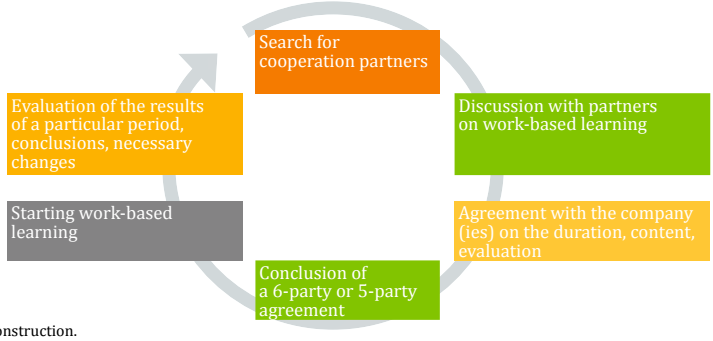
By implementing work-based learning:

- cooperation between the professional education institution and the company is increased;
- quality control of education is stricter;
- professional education meets the requirements of employers;
- employers become co-responsible for the implementation of the learning process;
- the prestige of professional education increases.

Company databases are created by professional education institutions. A company database is updated every year. As a result, professional education institutions have reliable cooperation partners. Excellent cooperation with companies ensures the employment of graduates after graduating from PEI.

To increase the number of companies participating in the implementation of work-based learning for students, as well as to arouse interest in professional education institutions to participate in the implementation of work-based learning for students, an extensive information campaign is needed to:

- inform entrepreneurs at national and international conferences and seminars, meetings of industry associations and share experience in the implementation of work-based learning for students;
- inform local governments;
- involve entrepreneurs in the development of professional education programmes, events held by PEI: career days, alumni days, entrepreneur days, open days, continuing education seminars in cooperation with sectoral associations and companies, graduation ceremonies, convention and council meetings.



Source: authors' construction.

Fig. 5.28. Introduction of work-based learning.

5.11.3. Adult education, green education and a PEI as an entrepreneur

In the field of adult continuing education and professional development education, professional education institutions aim to increase the importance of each individual's personal knowledge by modernizing the educational environment, thereby providing prospects for development so that the individual's education of all kinds and levels provides competencies needed for today's changing world to be ready for a variety of risks.

In non-formal adult education, PEI aim to improve access to professional training qualifications for all by providing a more flexible system, in particular by supplying effective and integrated career guidance services and recognizing non-formal and informal learning.

Professional education institutions create structures for the delivery of adult education. For example, in 2017 an organizational unit was established at Ogre Technical School to deliver adult education – the Adult Education Centre. Its aim is to participate in the development of the adult education system in the country and deliver high-quality adult education accessible to the population. The school's vision for the development of adult education is to become a centre of professional education of international significance for the sustainable development of individuals, companies and society.

The objectives of the Adult Education Centre of Ogre Technical School are to:

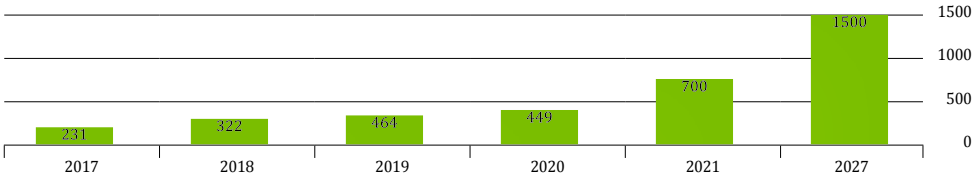
- develop and improve professional further education, professional development and non-formal education programmes, course and seminar curricula;
- implement the assessment of professional competence acquired outside the formal education system;

- establish cooperation with local governments, the State Employment Agency, employers and other institutions and organizations, share information and experience in the implementation of joint projects;
- provide information in the media about current events and opportunities in adult education at Ogre Technical School;

Ogre Technical School's Adult Education Centre carries out various activities to deliver adult education and promote the integration of the population into the labour market and thus reduce financial deprivation, incl.:

- implementing a project funded by the European Social Fund 7.2.1 Implementation of Initial Professional Education Programmes under the Youth Guarantee, enabling young people with a secondary education to obtain a professional qualification;
- participating in the activities of the State Employment Agency and retraining the unemployed and raising the qualification of job seekers;
- implementing a project funded by the European Social Fund 8.4.1. Improving the professional competence of employed persons, enabling employed persons to increase their existing competence or obtain a new professional qualification. The centre delivers both current and new professional continuing education, professional development and non-formal education programmes;
- organizing the assessment of professional competence acquired outside the formal education system;
- based on the needs of entrepreneurs and in cooperation with entrepreneurs, the centre implements in-service training programmes for those working in the sector, for example, in cooperation with the JSC "Latvian State Forests" – the professional development programme "Forest restoration, care and protection of restored forest areas" and the non-formal education programme "Mechanized logging", the non-formal education programme "Diagnostics and repair of electrical equipment and control systems" under the project "Training of employees in the field of mechanical engineering and metalworking";
- delivering paid educational programmes;
- holding continuing education seminars in cooperation with entrepreneurs and industry associations for students, teachers, employees working in the respective fields.

The strategic goal of the Adult Education Centre of Ogre Technical School is to achieve the same number of adult participants as students in the four-year programmes.



Source: authors' construction based on OVT data.

Fig. 5.29. Changes in the number of adult education participants at Ogre Technical School in 2017–2021 and the goal for 2027.

Based on an analysis of ratings of adult education programmes by their participants, it could be concluded that the adult education clients are the individuals who:

1) wish to improve the existing knowledge, skills and professional competencies in their own interests;

2) want to re-acquire knowledge, skills and professional competencies in their interests, for the improvement of their life and environment;

3) want to acquire new knowledge, skills and obtain a professional qualification in order to start their own business;

4) want to change their occupation, acquire new knowledge, skills and obtain a professional qualification in order to start working in a completely different field;

5) wish to acquire new knowledge, skills and obtain a professional qualification in order to receive financial support from the European Union Funds for their own businesses;

6) are forced to improve their professional knowledge and skills in the latest technologies every three/five years to retain their jobs, based on demand by employers in the sector;

7) want to improve their professional knowledge of and skills in the latest technologies for managing private property.

This motivation is the most important one to increase the competitiveness of the workforce and the level of its financial security.

The identification and development of adult education programmes is the result of cooperation involving partners.

1. Sectoral ministries and institutions under the ministries (MoES, 2021):

1.1. The Ministry of Education and Science and institutions under the Ministry: the National Centre for Education (coordination of the curricula of adult education programmes), the State Education Quality Service (licensing and accreditation of adult education programmes), the State Education Development Agency (financing of the adult education programmes with the financial support of the ESF);

1.2. The Ministry of Welfare and its subordinate institution – the State Employment Agency (responsible for retraining the unemployed and raising the qualification of job seekers);

1.3. The Ministry of Economics (responsible for forecasting labour supply and demand);

1.4. The Ministry of Culture and its subordinate institution – the Latvian National Cultural Centre (responsible for the curricula of adult education programmes).

2. Municipalities and business associations located in their territory (identify manufacturing enterprises located in the territory of the municipality and develop the needed adult education programmes).

3. Large companies operating in the territory of the whole country, identify the needs for improvement in knowledge, skills and competence for those working in the sector in accordance with progress in technology, for example, the JSC "Latvian State Forests".

4. The associations represented in the Convention of Professional Education Institutions, which coordinate the adult continuing education programmes needed for sectoral companies that are intended to be delivered by PEI.

5. Professional education institutions that deliver adult education programmes necessary for the development of the national economy.

Ogre Technical School's Adult Education Centre faces many challenges for the future. The economy of Latvia needs to recover from the Covid-19 crisis. Insufficient labour supply is expected in almost all thematic areas of professional education. The main gaps are expected in the following areas: engineering, manufacturing and construction, mostly in the fields of mechanical engineering, mechanics and metalworking, food and textile manufacturing technologies and products, as well as woodworking technologies and products. The Adult Education

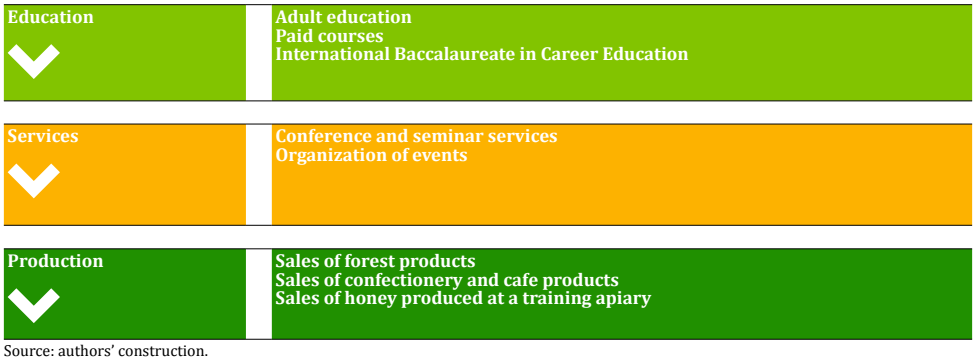
Centre is able to provide adult education and retraining for various industries, thus increasing the number of clients across all education programmes. Ogre Technical School has good teaching materials and sufficient technological resources as well as teachers with appropriate qualifications.

Motivation is also an important factor. Motivating people for further education, self-development and creating favourable conditions for development promotes sustainability and growth in the country. Ogre Technical School plans to expand its digital marketing efforts to contribute to a culture of lifelong learning in society.

In the future, the Adult Education Centre of Ogre Technical School wants to develop and become an educational centre of international significance, e.g. by implementing the training of forest machine operators, arborists/carpenters, and the training of chainsaw operators. It is planned to expand international cooperation in the future by attracting foreign teachers for delivering adult education programmes.

Green education is one of the key solutions to global environmental challenges such as climate change, consumption of natural resources, deforestation, biodiversity loss and environmental pollution. Recognizing the importance of teaching knowledgeable, persistent and critical leaders, Ogre Technical School aims to integrate environmental issues into student training and personnel qualifications, thereby providing an opportunity to explore and improve the green environment of the school, develop green thinking in students that is integrated in the curricula, modernize the environment in which students have an opportunity to learn to make sustainable decisions, set goals, learn to build and work in a team. Obtaining the status of an ambassador for the international Eco-School will help to achieve its goals.

Professional education institution as an entrepreneur. The activities of professional education institutions subordinate to the MoES are funded from the state budget. PEI implement projects funded by the EU Regional Development Fund, the European Social Fund and lifelong learning programmes. PEI supply various paid services during the learning process, thereby generating revenue and increasing their annual budgets. This means that a professional education institution works as an entrepreneur. For example, Ogre Technical School's core business involves delivering professional training programmes, yet it is also an entrepreneur who is constantly looking for creative, innovative solutions to increase its own revenue.



Source: authors' construction.

Fig. 5.30. Kinds of revenue earned by Ogre Technical School.

It could be concluded that professional education will become increasingly important for the preparation of qualified employees and their professional competence for the labour market, thereby ensuring the wellbeing of employees themselves and their families. PEI, especially professional education competence centres, act as a frequently used basis for professional development and lifelong learning, and individuals improve professional education according to the latest findings and technological solutions.

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5.12. Unused Opportunity – Growth Potential for Seafood Products and Related Employment in the Baltic Sea Region

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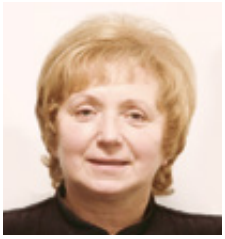

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Aquaculture has become important recently. Seafood includes not only fish but also products such as algae and mussels, is rich in nutrients necessary for the human organism, as well as contain protein. Over the last 10 years, the potential for the production and consumption of seafood has been increasingly researched, as fish resources are limited but other seafood is less well known, and its potential is not sufficiently identified. There has been an increase in market demand for seafood (FAO, 2019-b; World Bank, 2013; Ozolina 2017). At the same time, it provides opportunities for business expansion and employment in the Baltic Sea region.

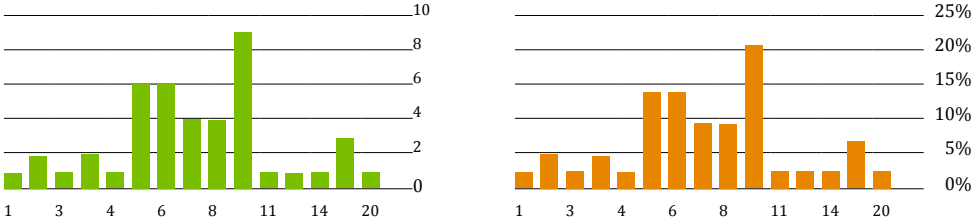
To increase the consumption of seafood and achieve environmental and economic objectives, the factors influencing it, namely supply and demand, could be analysed from a market perspective. The relevant literature focuses on how to further develop marine resources to influence consumer buying power for seafood (Magnier, Mugge, Schoormans, 2019; Eisenhardt, 1989; Albertos et al., 2019; Arvanitoyannis, Kassaveti, 2008; Ozolina, Sloka, 2020; Ozolina, Sloka, 2019a; Ozolina, Sloka, 2019b; Ozolina, Sloka, 2018). Research in this area continues and provides an impetus for business expansion and food security in many regions of the world. Fishing is an important occupation for the coastal population. "Fishing is the capture of aquatic organisms at sea, on the coast and inland" (FAO, 2019-a).

The scientific relevance of marine problems has increased the interest of companies (Qi, Zhao, Zhang, 2020), yet there is less research done on supporting companies that supply resources for the production of seafood. In this context, the public sector can encourage companies to produce sea-related products through appropriate public policies, yet the challenge is to develop this area through effective public measures (Morrissey, O'Donoghue, Hynes, 2011; Morrissey, O'Donoghue, 2012; Potts, 2010).

Many countries focus on scientific research into the processing of seafood, including the marketing of such products, as the seafood becomes increasingly popular in many countries, and special scientific analyses of the effects of seafood on gross domestic product have been

performed as well. Such an analysis has also been done by the Gulf Cooperation Council (GCC) (ALshubiri, 2018). The findings of academic research on the advantages of using seafood for animal feed are discussed (Nørgaard et al., 2015). Blue mussel farming is also considered to be a factor in improving water transparency and water quality (Schröder et al., 2014) in various regions of the world (Schröder et al., 2014), with a special focus on the specifics of mussel farming and mussel product marketing. It is rightly asked whether mussel farming is a large or small industry, and it occupies the minds of researchers (Gonzalez-Poblete et al., 2018).

A survey of international experts in the Baltic Sea region was conducted to identify opportunities for the consumption of seafood. The experts gave their opinions, including questions on product pricing and development aspects. Since the potential development of seafood is influenced by various factors, a correlation between pricing and aspects related to the development of seafood was identified. The invited experts were from Germany, Denmark, Sweden, Latvia, Estonia, Finland, represented national and municipal institutions, entrepreneurs and researchers. The survey allowed the authors to analyse expert ratings also by gender, age, field represented, level of education, country etc. After analysing the answers to a question of how much the experts were willing to pay for a kilogram of fresh mussels in a shop or other retail outlet, it could be concluded that most the experts were willing to pay 10 EUR/kg for fresh mussels, which made up 20.9% of the total expert answers.



Source: authors' construction based on the 2018 expert survey and 43 expert replies received.

Fig. 5.31. Expert expectations of the price on fresh mussels in a shop or other retail outlet, EUR/kg by number and as a percentage.

The experts were requested to answer the question of the extent to which the development of seafood processing in the Baltic Sea Region was influenced by factors such as:

- amendments to marine aquaculture legislation;
- changes in terminology;
- attitude to insects or larvae as a source of protein for human consumption;
- attitude to feeding pets insects or larvae.

The experts' answers were analysed to identify a correlation between various factors and the price, and analysing the changes in price and factors, it could be concluded that at a price of 5 or more EUR per kilogram of fresh mussels, there was a correlation with various variables.

Table 5.19. Analysis of correlations between various factors affecting expert willingness to pay EUR 5 and more per kilogram of fresh mussels

		Willingness to pay>=5 EUR/kg for fresh mussels	Attitude to insects or larvae as a source of protein for human consumption	Attitude to feeding pets insects or larvae	Need to review licensing for the development of marine aquaculture	Need to amend marine aquaculture legislation	Need to amend environmental legislation
Willingness to pay>=5 EUR/kg for fresh mussels	Pearson's correlation	1.000	0.061	-0.105	-0.092	-0.384*	-0.119
	Sig. (2-tailed)		0.714	0.526	0.579	0.016	0.470
	N	39	39	39	39	39	39
Attitude to insects or larvae as a source of protein for human consumption	Pearson's correlation	0.061	1.000	0.767**	0.483**	0.284	0.244
	Sig. (2-tailed)	0.714		0.000	0.002	0.080	0.134
	N	39	39	39	39	39	39
Attitude to feeding pets insects or larvae	Pearson's correlation	-0.105	0.767**	1.000	0.333*	0.252	0.214
	Sig. (2-tailed)	0.526	0.000		0.038	0.121	0.190
	N	39	39	39	39	39	39
Need to review licensing for the development of marine aquaculture	Pearson's correlation	-0.092	0.483**	0.333*	1.000	0.707**	0.535**
	Sig. (2-tailed)	0.579	0.002	0.038		0.000	0.000
	N	39	39	39	39	39	39
Need to amend marine aquaculture legislation	Pearson's correlation	-0.384*	0.284	0.252	0.707**	1.000	0.541**
	Sig. (2-tailed)	0.016	0.080	0.121	0.000		0.000
	N	39	39	39	39	39	39
Need to amend environmental legislation	Pearson's correlation	-0.119	0.244	0.214	0.535**	0.541**	1.000
	Sig. (2-tailed)	0.470	0.134	0.190	0.000	0.000	
	N	39	39	39	39	39	39

* Correlation is significant at the 0.05 level (two-tailed).

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

The correlation analysis revealed a statistically significant correlation between a number of factors affecting expert willingness to pay EUR 5 and more per kilogram of fresh mussels:

- between the price of mussels and the need to amend marine aquaculture legislation;
- between the consumption of insects or larvae as a source of protein and feeding pets insects or larvae; between the consumption and the need to review licensing;
- between feeding pets insects or larvae and the consumption of insects or larvae as a source of protein; and between feeding pets insects or larvae and the need to review licensing;
- between licensing and the need to amend environmental legislation and the need to amend marine aquaculture legislation;
- between the need to amend marine aquaculture legislation and the need to amend environmental legislation.

Table 5.20. Analysis of correlations between various factors affecting expert willingness to pay less than EUR 5 per kilogram of fresh mussels

		Willingness to pay <5 EUR/ kg for fresh mussels	Attitude to insects or larvae as a source of protein for human consumption	Attitude to feeding pets insects or larvae	Need to review licensing for the development of marine aquaculture	Need to amend marine aquaculture legislation	Need to amend environmental legislation
Willingness to pay<5 EUR/ kg for fresh mussels	Pearson's correlation	1	-0.075	0.662*	0.017	0.416	0.340
	Sig. (2-tailed)		0.827	0.026	0.961	0.204	0.307
	N	11	11	11	11	11	11
Attitude to insects or larvae as a source of protein for human consumption	Pearson's correlation	-0.075	1	-0.100	0.069	0.101	0.211
	Sig. (2-tailed)	0.827		0.770	0.840	0.768	0.534
	N	11	11	11	11	11	11
Attitude to feeding pets insects or larvae	Pearson's correlation	0.662*	-0.100	1	-0.131	0.121	0.023
	Sig. (2-tailed)	0.026	0.770		0.701	0.723	0.947
	N	11	11	11	11	11	11
Need to review licensing for the development of marine aquaculture	Pearson's correlation	0.017	0.069	-0.131	1	0.643*	0.676*
	Sig. (2-tailed)	0.961	0.840	0.701		0.033	0.022
	N	11	11	11	11	11	11
Need to amend marine aquaculture legislation	Pearson's correlation	0.416	0.101	0.121	0.643*	1	0.986**
	Sig. (2-tailed)	0.204	0.768	0.723	0.033		0.000
	N	11	11	11	11	11	11
Need to amend environmental legislation	Pearson's correlation	0.340	0.211	0.023	0.676*	0.986**	1
	Sig. (2-tailed)	0.307	0.534	0.947	0.022	0.000	
	N	11	11	11	11	11	11

* Correlation is significant at the 0.05 level (two-tailed).
** Correlation is significant at the 0.01 level (two-tailed).

The correlation analysis revealed a statistically significant correlation between a number of factors affecting expert willingness to pay less than EUR 5 per kilogram of fresh mussels:

- between the price of mussels and feeding pets insects or larvae;
- between the need to review licensing and the need to amend environmental legislation; and the need to review licensing and the need to amend marine aquaculture legislation.

Table 5.21. Results of the ANOVA test on expert expectations of the price on fresh mussels less than EUR 5 per kilogram

		Sum of squares	df	Mean square	F	Sig.
Need to review licensing for the development of marine aquaculture	Between groups	27.977	5	5.595	0.224	0.937
	Within groups	124.750	5	24.950		
	Total	152.727	10			
Need to amend marine aquaculture legislation	Between groups	40.750	5	8.150	0.428	0.814
	Within groups	95.250	5	19.050		
	Total	136.000	10			
Need to amend environmental legislation	Between groups	45.977	5	9.195	0.556	0.733
	Within groups	82.750	5	16.550		
	Total	128.727	10			
Attitude to insects or larvae as a source of protein for human consumption	Between groups	2.409	5	0.482	4.818	0.055
	Within groups	0.500	5	0.100		
	Total	2.909	10			
Attitude to feeding pets insects or larvae	Between groups	98.000	5	19.600	2.450	0.174
	Within groups	40.000	5	8.000		
	Total	138.000	10			

The results of an ANOVA test showed that a statistically significant influence was made by the price of fresh mussels less than EUR 5 per kilogram and the consumption of insects or larvae as a source of protein.

Table 5.22. Results of the ANOVA test on expert expectations of the price on fresh mussels more than EUR 5 per kilogram

		Sum of squares /	df	Mean square	F	Sig.
Need to review licensing for the development of marine aquaculture	Between groups	73.002	9	8.111	0.672	0.727
	Within groups	349.972	29	12.068		
	Total	422.974	38			
Need to amend marine aquaculture legislation	Between groups	110.034	9	12.226	1.748	0.123
	Within groups	202.889	29	6.996		
	Total	312.923	38			
Need to amend environmental legislation	Between groups	34.673	9	3.853	0.382	0.934
	Within groups	292.250	29	10.078		
	Total	326.923	38			
Attitude to insects or larvae as a source of protein for human consumption	Between groups	102.736	9	11.415	0.639	0.754
	Within groups	517.931	29	17.860		
	Total	620.667	38			
Attitude to feeding pets insects or larvae	Between groups	115.509	9	12.834	0.702	0.702
	Within groups	530.389	29	18.289		
	Total	645.897	38			

The results allowed us to find that the experts considered the price and the need to amend marine aquaculture legislation to be more important.

The selling prices of products is important for both consumers and sellers; therefore, the analysis of factors allows us to identify which factors can interact and promote the development of the market. The need for amendments to the legal framework at a certain price and the relationship between insects as one of the sources of protein for animals or humans and the price is recommended to be analysed not only from the point of view of experts but also from that of a wider potential target group. The price threshold identified by the correlation analysis indicates the potential price of fresh mussels, yet more research is needed.

In the Baltic Sea region, the consumption of various seafood products is more often analysed, assessed and researched. Since the species in the Baltic Sea are similar, if the environmental and salinity conditions are similar, the development, growth, harvesting conditions are similar as well.

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Chapter 5
Conclusions

- Although the concept of social sustainability is increasingly researched in theory, there is a lack of research on practical ways whereby social sustainability could be achieved through policy-making. The EU and Latvia, as a Member State, have made efforts since 2008 to implement policies that contribute to social sustainability, placing society at the forefront, while the environment and the economy are elements that contribute to the development of society. The efforts to continuously improve social policies in Latvia, based on available data and other evidence, are obvious.
- In 2021, the evidence-based approach was widely used at all stages of the social policy-making cycle, in particular at the stage of setting policy objectives and expected results and analysing the impacts of the policy-making cycle. However, the results of the analysis of secondary data point to the need to improve the use of the evidence-based approach to policy impact analysis, and other kinds of evidence should be used in addition to financial impact analysis.
- Along with decision-makers, educational and research institutions play an important role in policy-making in Latvia, which shows that objective advice and evidence are used in the development of social policies in Latvia.
- The expert survey has confirmed that the availability of data is a key factor in applying the evidence-based approach to social policy-making, as well as improving communication between researchers and policy makers and knowledge transfer between various industries at various stages of the policy-making cycle, and communication with stakeholders makes a positive impact on the implementation of social sustainability policies.
- According to the experts, the integration of sustainable development strategies into policies could be achieved through the use of evidence-based instruments and methods, such as regular review and updating of studies and data, systematic assessment and adaptation of impacts of policies, as well as cost-benefit analysis for decision-making.
- In Latvia, the proportion of the population at risk of poverty is relatively large, and the tax burden on low-wage earners and income inequality in Latvia is one of the highest in the EU. The situation is also exacerbated by a lack of quality housing, which is one of the most pronounced problems in the EU.
- Financial deprivation, the burden of housing costs and health affect the population's satisfaction with life, which is low in Latvia compared with most of the other EU Member States.
- The pace of economic growth in Latvia is slowed down by significant regional disparities, and one of the important reasons that deter people from moving to the regions is the large disparities in remuneration.
- When developing a social sustainability policy in Latvia, communication with the stakeholders makes a positive impact on the implementation of the policy.
- Pensions are an essential element of social protection for the population. The pension system needs to protect pensioners from poverty and the gender pension gap, as well as equalize consumption regionally.
- The pension system of Latvia is considered to be one of the most sustainable in the world; however, according to the findings, the pension system does not allow most pensioners to avoid the risk of poverty, moreover, the level of poverty risk is much higher among women.
- The pillar of European social rights, together with demographic and economic changes, will obviously create new challenges for the pension system of Latvia. At present, the

pension system does not meet the requirements of the European Pillar of Social Rights; besides, its financial stability and sustainability are at risk of negative social impacts.

- Although the pension system is well-designed, financially sound and fair, it is subject to severe criticism, hatred and dissatisfaction among the local population. The authors admit that without making parametric corrections and reassessing the funding model, the pension system of Latvia is unlikely to be able to provide a decent life and a decent income for all if stratification in terms of income and demographic and social risks continue to develop at the current pace.
- The research results have revealed that the population is stratified in terms of income, and half of taxpayers make contributions to pension capital savings from relatively small incomes. As a result, insufficient contributions do not result in adequate pensions.
- The analysis allows concluding that pensions are more important in Latvia than in the other Baltic States. In addition, only in Latvia there is a practice of dividing the pension period into sub-periods, which increases the risk of poverty among older pensioners, thereby negatively affecting income inequality as well.
- A relatively significant part of pensions is comprised of voluntary pension savings. The research results have revealed that an important factor in making voluntary pension savings is the level of financial literacy. In Latvia, private pension savings are relatively low, as well as there is a relatively low level of knowledge about private pension savings and their role in financial security in old age.
- The incomes of the poor population could be increased mainly through employment, including the involvement of the population in the silver economy who are already retired but still able to work effectively, rather than constantly demanding an increase in income from the government through income redistribution.
- Research studies show that there is significant regional stratification in Latvia. In addition, stratification between development centres, without a special support programme for improving the situation in the lagging centres, does not allow for a centre-oriented strategy to be implemented and does not ensure the development of NUTS level 3 regions.
- In relation to regional stratification, it is important to prevent regional economic stagnation and the outflow of social, economic, political and human capital from municipalities.
- Public administration institutions use digital opportunities less in Latvia than in other countries, as well as many digital technology solutions are mostly used by many public administration institutions incompletely. The insufficient use of digital solutions in municipal communication with the population shows the need to promote lifelong learning at the national level, which would reduce the gap between young people and the elderly.
- Social enterprises play an important role in contributing to the wellbeing of society in Latvia. They promote social inclusion and reduce poverty. The research results show that in Latvia social enterprises need support for educating their employees in the field of marketing, digital technologies and public relations.
- Education at different levels (also for the elderly), incl. professional education and lifelong learning is also an important aspect of being able and willing to enter the labour market and fostering entrepreneurship through new and innovative projects, e.g. the production of shellfish in the Baltic Sea and their processing for both food and feed.

Proposals

- It is necessary to ensure the effective integration of sustainable development strategies into policy-making through evidence-based instruments and methods: regular review and updating of studies and data, systematic assessment and adaptation of impacts of policies, as well as cost-benefit analysis for decision-making.
- Public administrations should make broader and better use of digital technologies and social media for informing and involving the public.
- The population should be encouraged to expand their knowledge, both practical and digital, as well as make more private pension savings in order to foster the expansion of entrepreneurship, including social entrepreneurship, and to qualify for better paid jobs already available on the labour market, thereby contributing to their financial situation at retirement age.
- Researchers need to inform politicians and journalists more about the findings of their research, and recommend that administrative institutions develop a regulatory framework that improves the situation. It is the political decisions that are the basis for change in policies, so that the population of Latvia do not have to be ashamed of the poor situation in many social and economic areas compared with other countries and feel its impact on their wellbeing.
- It is necessary to share positive experience and publicize success stories, which could inspire individuals and contribute to a more productive economy, including the silver economy, in all the regions of Latvia.
- The pension system needs to be enhanced. National policy makers should not rely only on raising the retirement age but should make parametric corrections to the pension system, as it is done in the other Baltic countries. It is required to improve the protection of the pension system itself against social risks through re-assessing the health care and social security system; raising the level of financial literacy and motivation to avoid economic activity in the shadow economy; achieving real growth in prosperity and reducing income stratification.
- The legal framework for pensions in Latvia should be reviewed in order to prevent inadequately low pensions at retirement age. It would also be worth considering the introduction of a fund pension system in Latvia, using the best practices of the Baltic neighbouring and other countries.
- Students should make better use of real data and be involved in analysing particular situations and searching for solutions to be recommended for political decision-making.

Expert opinion
With more political will and responsibility

Andris Rāviņš, chairman of the Council of Jelgava State city, deputy chairman of the Association of Local and Regional Governments of Latvia

Reducing regional disparities at four levels needs to be addressed

What are the most urgent problems with regional development of Latvia?

Regional development is a process of equalizing the achievements of various territories, developing the uniqueness of any territory as well as promoting the involvement of the population, the interest of businesspersons to do business and the desire of tourists to visit the territories. Latvia is a part of the European Union (EU), which has historically had macro-regions. Municipalities are autonomous economic and political entities, yet after the Administrative and Territorial Reform (ATR) of 2021, some of the municipalities consist of heterogeneous territories, the uniqueness and peculiarities of which should be maintained through regional development policies. The success of the Latvian state depends on regional policies at four levels. At each level, the goal is to implement a set of measures and solutions that reduce regional disparities and ensure the prosperity of residents, regardless of where they live.

In Latvia, regional development faces significant problems at each level.

1) Latvia as a region of the EU approaches the EU average; however, it still takes one of the last places in terms of GDP per capita and earnings. This hinders economic development in the country, and social backwardness still contributes to emigration. It is difficult to maintain or attract human capital in Latvia.
2) The internal macro-regions of Latvia (the level of planning regions or historical lands) lag behind the Riga metropolitan region even more than Latvia lags behind the EU average. At this level, regional development is particularly important, yet the results achieved over the last 30 years have been unsatisfactory, as disparities between the various regions of our country continued to increase. There is no political responsibility at this level, as the national government sees no problems with excessive concentration of resources and capital and centralization of local governance.
3) In Latvia, the ATR has significantly reduced the number of municipalities, contributing to disparities in incomes and opportunities between the municipalities. By reducing the proportion of tax revenues for local governments every year and assigning new mandatory

functions, the independence of local governments, which is necessary to attract high-quality human resources, is hampered.

4) In the country, the administrative units are subject to different conditions. This concerns the maintenance of roads, as well as the subsidization and provision of public transport. The peripheral effect caused by the concentration of supply of services in the new administrative centres encourages emigration if no effective regional policy is implemented in the municipalities.

At all the four levels, promoting regional development requires assessing current disparities and forecasting future changes, as well as improving regional governance mechanisms. National politicians, based on research findings on regional stratification, should encourage amendments to both policy documents and EU and national and local government legislation.

Citizens and their democratically elected representatives in local governments need to be given greater decision-making power. The involvement of the wider community – businesspersons, local community groups and everyone – is important in addressing spatial development problems.

The centralization of power in the amalgamated municipalities has so far had a positive effect on only a few fields, whereas social and economic stratification has increased. It is time to reduce these negative trends through decentralized decision-making, with particular emphasis on fiscal decentralization.

Returning to education as protection against the risk of non-compliance with qualifications

What aspects of the aging and stratification of the society make the largets impact on the economic development of the Latvian state?

The problem of an aging population is a challenge for many European countries. An analysis of the age composition of the population of Latvia and Eurostat forecasts show that the population will continue to age. The aging rate, i.e. the proportion of population aged 65 or over in total population in Europe, is projected at 25.3% in 2030 and 31.5% in 20501. The economic and fiscal nuances of the change are considerable. Unless many old people work longer, a proportionately smaller share of the workforce will need to support the retired population. The potential for economic development in the country will be negatively affected by the decrease in the working age population (15–64 years) both as a percentage of the total population at 58.5% in 2030 and 53.1% in 20502, as well as in absolute terms.

Demographic change impacts society and the quality of life on a very wide scale. It impacts the public, private and social spheres, growth in the entire economy and the economy of each region and municipality, the composition of budgetary expenditures, governance, competitiveness and the supply of services. The population aging makes a direct impact on the size and composition of the workforce, hampering economic development and an increase in prosperity, thereby leading to social stratification. The aging population creates disparities in the labour market between current and demanded skills in the age of rapid technological progress. The number of medium-skilled jobs decreases as a result of automation and the introduction of robots, and this is a trend in the global economy. Older people face a higher risk of skills

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mismatch and are more difficult to adapt to today's labour market needs. One way out is education and the acquisition of new skills.

A repeated return to education, even several times and at different ages, is a modern need with a growing trend. This, in turn, requires rapid and extensive development of lifelong learning, both the acquisition of a range of new basic professional skills and the build-up of digital competences, especially for older people. The practice of various countries shows that seniors are increasingly involved in the labour market, which requires dealing with the mismatch of education acquired many years ago through lifelong learning, incl. building up digital skills. Improving the knowledge, skills and competences of the workforce, as well as their digital literacy not only supports the economy but also reduces social exclusion, promotes resident involvement and enables seniors to improve their quality of life. It is also possible for older people to start a business if new skills have been acquired, especially digital ones.

In order for the aging of the population and the declining population to make a smaller negative impact on the state budget and the economy that generates incomes for a large number of pensions and benefits for various social groups, people's desire to learn and retrain as well as be economically active during retirement years needs to be supported significantly. Therefore, excessive bureaucracy needs to be eliminated, and respective resources need to be made available. This, of course, poses significant challenges for economic and social policy-makers at the local, regional and national levels in terms of decisions and practical solutions, yet it is a necessity in an aging society.

6. Values and risk management

Business, income and risk management

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An analysis of data from a nationally representative survey indicated that the self-esteem of the respondents was statistically significantly raised by their engagement in business. They were more satisfied with their quality of life and more likely to demonstrate their normative and functional solidarity (see Annex 1). Small companies develop their management and business skills that are important for the growth of the whole economy (Edoho, 2015). Business fosters economic growth through serving as a means of increasing competition and therefore the diversity of companies. However, the population of Latvia prefers employee status. The chapter explains whether the business environment in Latvia is favourable and government measures taken contribute to or limit the entrepreneurial spirit of individuals. The attitude of the public administration towards small, medium and family businesses was clearly revealed by the crisis caused by the Covid-19 pandemic; therefore, we focus on analysing public policies implemented in 2020-2021. The authors analysed the business environment and the economic behaviour of individuals by employing various statistical indicators, as well as data from the nationally representative surveys of 2019, 2020 and 2021 (for the survey methodology, see Annex 1).

6.1. The business environment in Latvia

The National Development Plan (NDP) 2014-2020 states that economic prosperity could be achieved through mutual cooperation between the state and the population, where both take care of maintaining a favourable business environment, effective policy measures to stimulate employment, the build-up of the population's competencies and a competitive working environment. The document states that the national tax system is competitive and predictable in the medium term. The NDP aims to reduce the shadow economy two-fold. To motivate

individuals to engage in economic activity, the NDP envisages improving national and municipal electronic services and informing individuals about their availability. The modernization of services has been successfully implemented: businesspersons can receive the most essential services remotely; however, individuals' awareness of particular services is still low, as evidenced by data on the provision of public services and the monitoring of end-user needs.

Does the government have been able to achieve the goals set regarding improving the business environment by increasing the motivation of individuals to engage in economic activity? Let us compare the strategic goals set by the NDP and the results achieved in reality. The NDP states that the national tax policy is internationally competitive, although it emphasizes that the labour tax policy might be ineffective. By an "excellent business environment", the authors of the NDP mean public administration services that meet the needs of businesspersons and provide a clear and predictable national support and supervision system, a well-functioning legal framework, as well as competitive and clear basic preconditions for the business environment. Policy makers want every individual in Latvia to be able to start up and develop their own businesses. This would encourage the establishment of new businesses, investments and the creation of new jobs. Two goals were set to create an excellent business environment: 1) to optimize and reduce the administrative burden, reduce the proportion of the shadow economy and corruption, implement a predictable tax policy, improve the judicial system and public administration; 2) to ensure an international reach of Latvia. The indicators of the first goal are summarized in Table 6.1.

Table 6.1. Targets of Goal 1 set by the National Development Plan

	2014	2017	2020	2030	Achieved in 2019	Achieved in 2020
Number of economic operators	67 000	75 000	80 000	90 000	96330	
Latvia's ranking in the Doing Business index	20	17	13	11	19	19
Latvia's ranking in the n the Global Competitiveness Index	60	53	45	<40	41	
Effectiveness of the public administration of Latvia according to the GRICS index (%)	75	80	85	>95	83.6	
Latvia's ranking in the Corruption Perceptions Index	46	52	58	62	56	57

Source: National Development Plan 2014-2020

As regards an increase in the number of economic operators, the target has already been reached in 2013, as there were 85 288 economically active commercial companies in Latvia. In 2019, the number of economic operators increased to 96330, while in 2020 it decreased to 94963[1].

In Latvia, the effectiveness of public administration tends to improve from year to year. In 2019, according to the GRICS index methodology, it was estimated at 83.6%[2]. The NDP target for 2020 could be expected to be met. In 2019, the score of the Corruption Perceptions Index for Latvia was 56 out of 100. Compared with 2018, the score slightly decreased. Among the 180 countries, Latvia ranked 44th[3]. Latvia has not managed to achieve the desired score in 2019.

[1] "Economically active enterprises in regions, cities and municipalities" https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START__ENT__UZ__UZS/UZS010/table/tableViewLayout1/.
[2] "Latvia. Worldwide Governance Indicators." https://info.worldbank.org/governance/wgi/Home/Reports/.
[3] "KNAB Analyses the Scores of the Corruption Perceptions Index for 2019." https://www.knab.gov.lv/lv/press/548649-knab_analize_korupcijas_uztveres_indeksa_2019_gada_rezultatus.html/.

Table 6.2. "Starting a business" indicator set for Latvia

Indicator	Time / cost
Completion and official certification of the authorized signature rights card, creation of the company's incorporation documents	1 day / EUR 45
Opening of a bank account and receipt of the confirmation of the account	1 day / EUR 10
Registration of a company with the Register of Enterprises and the State Revenue Service (SRS)	3 days / EUR 181.03
Registration of company employees with the SRS	Less than one day (online) / free of charge
Total	5.5 days / EUR 236.03

Source: Doing Business 2020.

The minimum equity capital requirement also theoretically relates to the costs of starting a business by an individual. In Latvia, the minimum equity capital requirement for registering a limited liability company is only EUR 1.

Table 6.3. "Paying taxes" indicator set for Latvia

Indicator	Score
Payments (number per year)	7
Time spent (hours per year)	169
Total tax and contribution rate (% of profit)	38.1
Report (document) submission index	98.1

Source: Doing Business 2020.

The International Tax Competitiveness Index (ITCI) was developed by the U.S. think-tank Tax Foundation, which shows the competitiveness of national tax systems. The structure of national tax systems generally affects several economic performance indicators. A well-structured tax system makes it easy for taxpayers to comply with it, which in turn can contribute to economic growth. In contrast, poorly structured tax systems could be costly, distort decision-making in the economy, and harm local economies overall (Bunn & Asen, 2021).

A competitive tax code is one that keeps marginal tax rates low. It should be remembered that in today's globalized world, capital is highly mobile. Businesses have a number of options to choose to invest in any country throughout the world to earn the highest rate of return. This means that businesses will look for countries with lower tax rates on investment to maximize their after-tax rate of return. If a country's tax rate is too high, it diverts investments away from the country, leading to slower economic growth. In addition, high marginal tax rates can impede domestic investment and lead to tax avoidance. According to studies by the OECD, corporate taxes are the most harmful for economic growth. In contrast, personal income taxes and consumption taxes are less harmful (Bunn & Asen, 2021).

The 2020 report on the competitiveness of tax systems ranked Estonia the highest among the countries of the Organization for Economic Cooperation and Development (OECD) with an excellent score of 100 out of 100. However, Latvia was right behind Estonia in second place with a score of 84.4, maintaining its place over the past three years. Latvia ranked 9th in the international tax system category, while in the corporate income tax category, Latvia ranked the highest among all the countries (Johansson et al., 2008). The following factors were considered when assessing corporate income taxes: income tax rates, cost recovery, tax relief and complexity.

In relation to income tax rates, Latvia shared 8th-12th place with Estonia, Finland and Iceland with a score of 61 out of 100 points (Bunn & Asen, 2021). In Latvia, the corporate income tax rate was 20% of the taxable base. It is important to mention that the taxable amount is the profit distributed in the tax year (costs comparable to dividends) and the dividends

received. This means that the tax is payable only if dividends are paid or the company's profits are distributed, thereby allowing companies to make reinvestments in their expansion.

The cost recovery category consists of two components: loss compensation rules for companies (transfer and refund) and cost capitalization rules. Latvia shared first place with Estonia in this category. This could be explained by similar legal frameworks governing cost recovery in accounting. There is no time limit for the transfer and refund of business losses in respect of tax reductions, and the tax is levied only at the time of the distribution of profits. There is also no limit to the capitalization of costs, and it is allowed to capitalize 100% of the costs associated with the use/operation of a particular long-term asset.

In relation to tax relief and complexity, Latvia ranked 2nd with a score of 95.1 points, lagging only behind Finland. The complexity was assessed as follows: in Latvia, on average, a company needed 22 hours a year to ensure compliance with the Corporate Income Tax Law. An advantage of Latvia was the average number of payments per year: six payments in total (Bunn & Asen, 2020: 53). The Doing Business Index indicated that Latvia had a smaller number of payments, as well as a lower total tax rate, while a higher administrative burden – it was what created unfavourable conditions for business, thereby reducing an individual's motivation to engage in economic activity.

As regards consumption taxes, the VAT rate in Latvia was one of the highest among OECD countries. The reduced rates were 12% and 5% for certain categories of goods. In 2020, the issue of reducing VAT on additional food was raised because of the Covid-19 pandemic. However, the government rejected the proposal, saying it would decrease budget revenues and would not solve the main problem: the buying power of the population.

According to the 2021 report on the tax competitiveness index, Latvia had the second most competitive tax system among OECD countries. Latvia overall ranked second in the index, lagging only behind Estonia. In relation to tax categories, Latvia ranked 2nd in the category of corporate tax, the competitiveness of consumption taxes in our country was the 27th highest among OECD countries, while Latvia ranked 5th in the categories of property taxes and also individual taxes. Latvia ranked 9th in the international tax index in terms of cross-border tax rules (Bunn & Asen, 2021). For the eighth year in a row, Estonia has been recognized as the OECD country with the most competitive tax system. It ranked 1st in the categories of property taxes and individual taxes, 3rd in the category of business taxes, and 9th in the category of consumption taxes. Estonia had the worst performance in the category of cross-border tax rules – 15th place.

Global Competitiveness Index (GCI). Experts from the World Economic Forum emphasize that the Global Competitiveness Index could be a very useful tool for policy-makers in their efforts to raise the economy's competitiveness. However, the GCI has shortcomings that policy makers should take into account when assessing their policy initiatives.

Table 6.4. Global Competitiveness Index (GCI) indicators for Latvia

GCI pillars	Indicator	Latvia's place in the GCI
Institutions	Public sector performance; Government adaptability	79th 50th
Infrastructure	Transport infrastructure	52nd
Goods market efficiency	Domestic market competition	42nd
Labour market efficiency	Flexibility; In the meritocracy and incentive indicator – the labour tax rate component	24th; 114th
Financial market development	Financial system soundness	80th
Business sophistication	Administrative requirements/Business culture	45th 50th

Source: GCI report (2019).

The National Development Plan for 2021-2027 has set a goal to increase productivity through innovation. The previous National Development Plan specified aspects of business environment development and relevant indicators, while the new plan emphasizes qualitative business development indicators: innovation, export capacity etc. (Table 6.5). However, it does not fully focus on the aspects of competitiveness, ignoring several indicators. The plan refers to sources of funds such as state budget funding, the EU Funds and Horizon Europe. The indicative amount of funds available for the implementation of the measures of the line of action is EUR 797.78 mln.

Table 6.5. Targets for the action line "Competitiveness of enterprises and material wellbeing"

Progress indicator	Measurement unit	Base year	Base year target	Target for 2024	Target for 2027
Knowledge and technology output	Ranking	2019	45	42	39
Market sophistication - one of the pillars of the global competitiveness index	Ranking	2019	40	22	21
Business sophistication - one of the pillars of the global competitiveness index	Ranking	2019	41	32	30
Unit value of exports (SITC 5-8), 5-year moving average growth rate	%	2018	1,8	>2	>2
Exports of computer services and information services as a % of total exports of services	%	2018	9.2	>13	>15

Source: National Development Plan for 2021-2027, p.45

The NDP-2027 states that it is necessary to reduce the tax burden on labour or the tax wedge paid by the employer for the employee. It is calculated as the amount of taxes paid by employees: personal income tax and the ratio of mandatory state social security contributions (MSSIC) paid by both the employer and the employee to employer labour cost (sum of gross wages or salaries and employer MSSIC). This ratio is intended to be reduced from 39.5% in 2018 to 38.4% in 2024 and 34.8% in 2027. Reducing the tax burden on labour has been a problem for many years, which has not been solved.

The purpose of the action line "Capital and business environment" is to create a legal, administrative and financial environment that fosters the development of competitive businesses throughout Latvia. By effectively using the potential of national resources and opportunities, the NDP-2027 hopes to ensure the inflow of foreign capital and its investment into the economy of Latvia, as well as encourage greater attraction of domestic capital for business expansion. Latvia is characterized by a relatively low level of investment, which is mainly due to weak lending, a low level of capital market development, and a relatively high level of private sector debt. The low level of investment might also be due to economic uncertainty in global markets affected by the Covid-19 pandemic. Economic activity is negatively affected by increasing regulatory and administrative barriers. The NDP-2027 envisages preventing business overregulation, thereby guaranteeing the stability of decisions made, especially with regard to the tax system. However, in practice, the government changes tax rules every year. The indicative amount of funds available for the implementation of the measures of the action line is set at EUR 2586.90 mln.

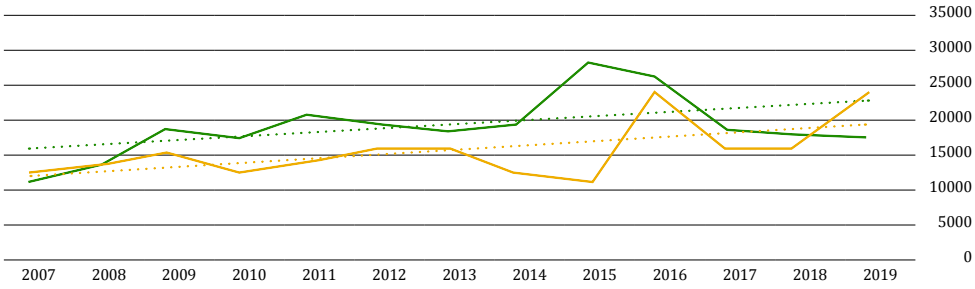
Table 6.6. Targets for the action line "Capital and business environment"

Progress indicator	Measurement unit	Base year	Base year target	Target for 2024	Target for 2027
Institutional indicator (Global Competitiveness Index)	Factor rating on a scale of 0–100	2018	57,89	68	72
Gross fixed capital formation, % of GDP	%	2018	22,8	24	25
Bank loans to domestic non-financial corporations (industries A-K), % of GDP	%	2018	14	20	23
Stock market capitalization, % of GDP	%	2018	3	5	7
Integration of digital technology, the weighted average of 4a – digitalization of business – (60%) and 4b – e-commerce (40 %); DESI (Digital Economy and Society Index)	%	2019	11	14	18
Open data indicator (index)	Ranking	2018	12	10	8
Number of new national issuers in Nasdaq Baltic share lists	Number	2017	1	5	7

Source: National Development Plan for 2021-2027, p.52

Basically, the line of action determines the indicators of raising capital, emphasizing the development of the securities market, while the policy document does not define business indicators. The NDP-2027 has neglected measures to promote small, medium and family businesses, ignored the objectives set in the previous planning document, but not achieved and still relevant. The new policy document has excluded the Doing Business Index and the Global Competitiveness Index, which, however, could broadly specify various aspects of the business environment.

Business demographics show that the number of start-ups decreases from year to year, while the number of closures tends to increase. This indicates the weak ability of companies to survive and develop. Some qualitative indicators of the performance of companies are summarized in Table 6.7. Only a very small proportion are fast-growing companies in terms of turnover and number of employees, while 94% are micro-enterprises with nine or fewer employees. In 2019, there were only 250 large companies with 250 and more employees.



Avots: Lursoft, Centrālā statistikas pārvalde.Source: Lursoft. Central Statistical Bureau

Fig.6.1. Business demography in Latvia in the period 2007-2018

Table 6.7. Business demography by kind of economic activity

	2015	2016	2017	2018	2019
Business openings	28 910	26 866	19 255	18 529	18 318
Business closures	11 627	24 209	16 027	16 515	24 000*
Fast-growing businesses in terms of turnover growth	2 108	1 967	709	902	1 122
Fast-growing start-ups (gazelles) in terms of employment growth	92	88	80	78	92
Fast-growing start-ups (gazelles) in terms of turnover growth	224	217	119	114	143
Fast-growing businesses in terms of employment growth	387	390	409	394	399
Economically active employer businesses	59 992	77 990	80 358	80 702	89 489
Market sector economically active enterprises	172 567	181 424	175716	174 792	172 792

Source: Lursoft. Central Statistical Bureau

6.2. Respondent intentions to start up a business

Giriraj Kiradoo (2020) maintains that governmental support determines the extent of success of enterprises. The fundamental government policies, such as taxation and labour market legislation form the core foundation for starting a business (Acs, Scerb & Lloyd, 2017). These policies are significant during business planning, and they are crucial for the improvement of entrepreneurship. This indicates the responsibility of governments to create a positively motivating business environment. De Mooij and Gaetan (2007) suggest that high corporate income tax rates may affect the individual's choice of starting entrepreneurship. Baliamoune-Lutz and Garello (2011) also support this finding: higher taxation reduces the profitability margins, thus reducing the entrepreneurial incentive. In this section we assess the economic activities of Latvian population revealed in the 2019 and 2021 surveys.

In 2019, four percent of the respondents reported they ran an enterprise, another 9% planned to launch a business (Table 6.8).

Table 6.8. Intention to start a business, percent

	2019	2021	Δ
I already have a business	4.0	3.8	-0.3
There is a very high probability that I will start a company - I am currently in the process of founding it	0.9	1.1	0.3
I am considering such an option	7.8	10.4	2.6
I don't think I'll start my own business	77.8	79.4	1.6
DK / NO	9.5	5.2	-4.3
Total	100	100	

Source: SKDS, October 2019, N=1014. SKDS, September 2021, N=1017.

The 2021 survey data show that there is a slight increase of respondents considering starting their own business (+2.6%), the difference of other categories lays within the statistical sampling error. A Pearson's χ^2 test reveals that statistically significant factors contributing to willingness to launch a private business relate to personality. These are factors such as appropriate character traits (35.6%) and experience, skills, and education (24.1%). On the other hand, 23.1% poll respondents do not plan to create their own company and 54.8% have a strictly negative attitude towards starting a business in Latvia. From another perspective, 52.3% of them mention so called pull (internal) factors as obstacles, and 47.7% mention push (external) factors. For 37.6%, the main reason for not having a personal business related to governmental issues. 28.1% consider tax policy as unfavourable for business; 27.2% think that Latvia lacks a business-promoting environment; and 20% admit that there is overwhelming bureaucracy and too much control by state authorities. Most of the respondents admit that the main obstacles relate to an unfavourable business environment and tax policy. This highlights

the need for an in-depth assessment of the business environment and a focus not only on the ease of starting a business but also on its long-term relevance to contemporary business world peculiarities.

The main reasons for not having a private business relate to personality factors such as character traits (14.8%), experience, knowledge, skills (14.5%), and the level of savings (15.0%). Nevertheless, these factors also at least partly depend on long-term national policies regarding education, culture, personal development, and financial literacy.

Table 6.9. Reasons to start a business, 2019 and 2021, %

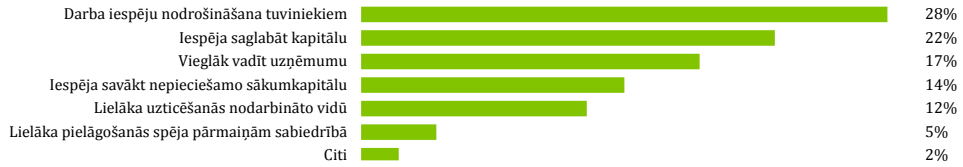
Reason	2019*	2021*
Internal factors		
Experience, knowledge, skills	14.5	37.9
Appropriate character traits	18.2	40.6
Dissatisfaction with the current income level or employment situation	28.9	n.a.
Desire to provide work for family members	12.8	n.a.
Willingness to make the world better, more honest	n.a.	41.2
External factors		
Availability of capital	12.2	31.3
State policy promoting entrepreneurship, work of civil servants	8.7	28.6
Other reason	4.7	n.a.

Note: * Respondents in the process of private business establishment or considering starting a business.
Source: SKDS, October 2019, N=1014; SKDS, September 2021, N=1017.
Sig. two-tailed $p < .05$ for Pearson's χ^2 test.

Both surveys show a similar trend: the reasons for starting private business more relate to personal (internal) factors such as appropriate character traits, experience, knowledge and skills.

6.3. Family-owned business

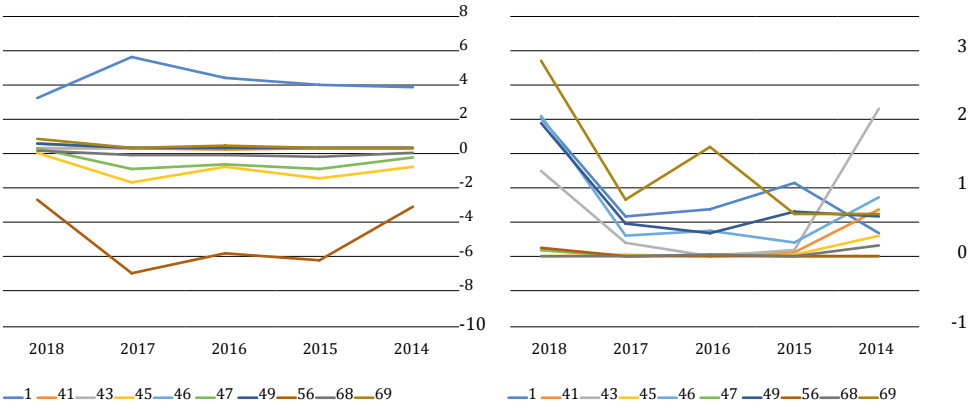
The in-depth context of our 2019-year study was to compare the activities of family businesses with other companies in Latvia. The data reveal that 5.8% of the population were interested in founding a family-owned business. Most of them (93%) had secondary, vocational or higher education; their average age was 36 years; a third of them (36%) had a medium to high income level, 25% lived in Riga, 40% resided in Vidzeme and Kurzeme; and 47% of them were males and 53% females. The main reason to start a family business was family care: providing job opportunities to relatives, keeping and mobilizing the capital, ensuring higher trust and easier business management.



Source: SKDS, October 2019, n =1014.

Fig. 6.2. Motivation to create a family business.

For detailed financial analysis, we have chosen 10 industries with the highest number of family-owned companies, comprising 58% (N = 2881) of the total number of the enterprises.

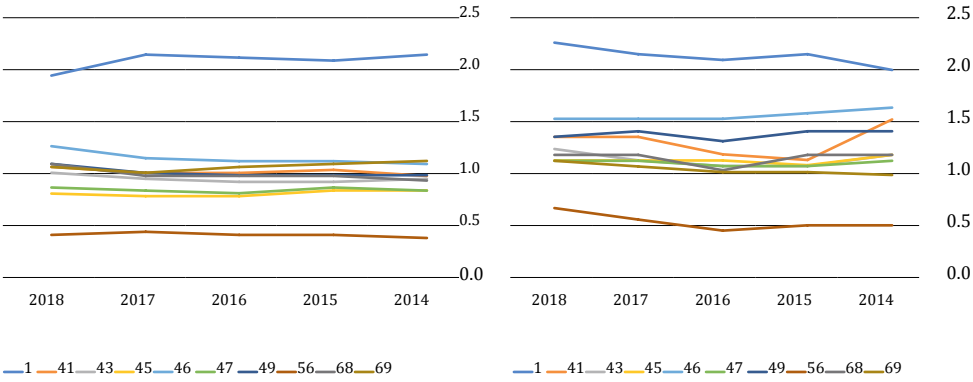


ROA all companies, %, median
Source: Lursoft, 2019.

ROA family bussines, %, median

Fig. 6.3. ROA comparison: all versus family-owned companies

For the majority of family businesses, the profitability in 2014-2018 (net profit, return on assets (ROA)) was positive and on average higher than the overall business by 0.83%. The most profitable family business industries were legal and accounting services (69; median ROA = 1.28%; all companies: median ROA = 0.14%), land transport and pipeline transport (49; 0.79%; 0.06%), and wholesale trade, except for motor vehicles and motorcycles (46; 0.75%; 0.05%). Family-owned companies (FOC) mostly operated with higher EBIT margins, especially in such industries as legal and accounting services (69; median EBIT margin = 4.88%; all companies: median EBIT margin = 0.76%), and land transport and transport via pipelines (49; 1.7%; 0.06%), and wholesale trade, except for motor vehicles and motorcycles (46; 1.46%; 0.00%).

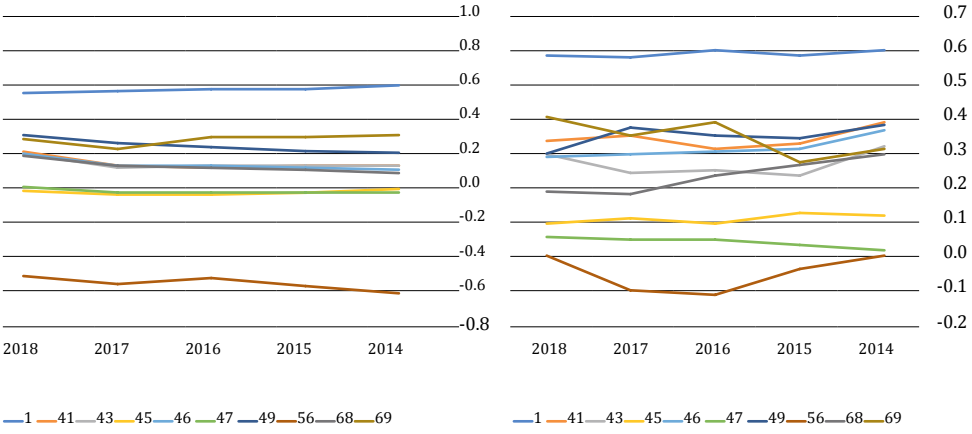


Current ratio, all companies, %, median
Source: Lursoft, 2019

Current ratio, FOC, %, median

Fig.6.4. Liquidity comparison: all versus family-owned companies

Most of the FOC had better liquidity in terms of current ratio. In the crop, animal production, hunting and related service activities industry (1), FOC were at the "all companies" level, but in other industries FOC had a significantly higher current ratio, on average by 0.3.



Equiti-to-Assets, all companies, mediāna
Source: Lursoft, 2019.

Equiti-to-Assets, FOC, mediāna

Fig.6.5. Capital structure comparison: all versus family-owned companies

Overall, a family-owned business had a better capital structure in terms of debt and equity proportion on the balance sheet. Here too, in the crop, animal production, hunting and related service activities industry (1) FOC were at the overall level. In other industries, FOC had on average a 17% higher proportion of equity, and in catering services (56) a family business had 52% higher equity versus this industry as a whole. However, the catering services industry had on average negative equity (average -57%) due to accumulated losses in the retained earnings. The data indicate that overall the majority of the companies operated in a "grey zone", and the family-owned companies had higher operational standards.

6.4. Entrepreneur behaviour in times of crisis and governmental support for business

During the Covid-19 pandemic, the government implemented a very extensive support programme for residents as well as businesspersons and entrepreneurs, which was aimed at maintaining employment, compensating for lost income and solving the most pressing business problems. The support was in the forms of subsidies, grants, loans, tax deferrals, guaranties, training, and other. The breakdown of business support programmes is shown in Table 10.

Table 6.10. Government support programmes to reduce the negative effects of the Covid-19 pandemic

Programme	Implementation time	Source of funding	Financing (Million euro)	Funding used (million euro) *
Downtime support	14/03/2020 –30/06/2020 09/11/2020 -30/06/2021	State budget	206.2	107.8
Wage subsidies	09/11/2020 –30/06/2021 01/10/2021 - 30/11/2021 (Application by 15/12/2021)	State budget	75.6 64.0	11
Grant for working capital	01/11/2020 – 30/06/2021 01/10/2021 –30/11/2021 (Application by 15/12/2021)	State budget	70.8 240.0	62

Extension of the deadline for the payment of taxes or a division of the taxes into several payment periods for a period of up to three years	Up to 30/06/2021	Total amount of extensions	398.3	
Working capital loan	25/03/2020 – 31/12/2021	State budget	60	103.4
		ALTUM*	150	
Loan holidays guarantee	25/03/2020 – 31/12/2021	State budget	47.5	42.13
Export loan guaranties	15/04/2020 – 30/06/2021	EU funds	3,5	64.8
Guaranties to large companies	24/08/2020 – 31/12/2021	State budget	20.0	Programme cancelled
Investment fund for large companies	31/07/2020 – 31/12/2021	State budget	48.91	32.85
Loans for large and medium-sized businesses	10/11/2020 – 31/12/2021	State budget	50	Programme cancelled
Support for hotels	04/12/2020 – 18/12/2020	State budget	4.7	2,17
Support for Covid-19 crisis-affected sports centres	Up to 30/06/2021	State budget	8.0	6. 23
Support for Covid-19 crisis-affected shopping centres	Up to 30/06/2021	State budget	20.0	7.41
Promoting international competitiveness and exports	05/08/2020 – 31/07/2023	European Regional Development Fund (ERDF)/ State budget	90.4	43.09
Support for export companies	05/08/2020 – 30/10/2020	State budget	51	30,39
Support for tourism companies	29/07/2020 – 30/09/2020	State budget	19.36	18.29
Support for the certification of personal protective equipment	08/06/2020 – 31/07/2023	State budget		0.053
Training to improve the skills of employees	2021-2023	ERDF	19.9	
Other forms of support	2020 -2021	State budget	0.64	0.40

Note: * ALTUM is a state-owned development finance institution, which offers government support for various target groups with the help of financial tools (loans, credit guarantees, investments in venture capital funds. ALTUM develops and implements government support programmes to compensate for the market's shortcomings that cannot be solved by private financial institutions.
Source: Ministry of Economics of the Republic of Latvia (2021)

A research study on the impacts of the 2008-2009 crisis on business and the behaviour of businesspersons showed that the factors in business survival in that period were careful planning and cost-effectiveness calculations, specialization and emphasis on higher quality, as well as diversification. The mistakes made by businesspersons, however, were excessive borrowing and squandering; redundancies (rather than flexible working hours), no diversification, an inability to predict the course of developments (Kruk 2016: 226). The response of businesses to the negative impacts of the pandemic were identified in an Internet survey conducted in October 2020 (CAWI-CATI). The electronic questionnaire could be filled in by anyone who had registered on the web-panel of the survey company SKDS. The general part of the questionnaire was filled in by 1823 individuals; afterwards 1006 employed individuals were selected by means of a filter question, who received a full version of the survey, and their answers were used for analysis. The survey data were collected and processed by employing the electronic data collection and compilation tool REDCap (Research Electronic Data Capture).

The data of the enterprise survey were weighted according to the Central Statistical Bureau's 2017 statistics on the distribution of enterprises by characteristics: industry, enterprise size and location. The statistical data on the distribution of enterprises were used to determine the weights by:

- field of activity (production, trade, construction, services) and industry;
- number of employees of the company (1-9 employees, 10-49 employees, 50-249 employees, 250 and more employees), so that the obtained data can be compared with statistics on the contribution of companies to Latvia's gross domestic product (GDP) depending on the number of employees;
- company location (Riga, outside Riga).

In the multi-level quota sample, 750 respondents were selected from the enterprise database, broken down by industries according to NACE code. The size of the target group of the survey was proportional to the industry's (according to NACE code) contribution to Latvia's gross domestic product. To reach the target group, the internet survey method was used first and then the telephone interview method was used to collect the missing responses. The interviews were conducted in the Latvian and Russian languages.

Because of the Covid-19 pandemic, businesses in many parts of the world made far-reaching changes with the ultimate goal of increasing the pace of **strategic adaptation** and resource utilization. Such changes result in higher profitability, sustainability and growth. The changes could be achieved in three ways: creating a faster decision-making mechanism, improving internal communication and cooperation, and increasing the use of technology (De Smet et al., 2020). The main barriers to the improvements are weak internal cooperation within the company, a slow decision-making process and uncertainty about strategic development.

International experience shows that building **employee skills** during and after the pandemic is crucial to strengthening the long-term viability of companies. Skills development ensures that the employees have the information and skills they need to adapt to change and do things differently. To contribute to the development of employee skills, businesspersons are encouraged to train their employees and promote the sharing of experience in various fields (Craven et al., 2020). It should be taken into consideration that the Covid-19 pandemic has made digital transformation a priority at the individual, corporate and government levels.

To be able to focus on the development of the most important skills, it is first necessary to determine which skills are expected to make the most significant impact on a company's growth and development. It is important to focus on four kinds of skills development (Agrawal et al., 2020):

(1) digital (ability to operate in the digital environment),

(2) cognitive (to ensure the ability of critical employees to respond to change, reorient themselves and implement innovations),

(3) social and emotional skills (to ensure effective collaboration),

(4) adaptability and resilience (to be able to evolve in a changing business environment).

Recommendations based on international practice might initially seem difficult to implement in the economic conditions in Latvia, yet research studies show that it is small companies that are able to get larger returns from employee skills development (Agrawal et al., 2020). Less internal bureaucracy allows them to reorient themselves and change more quickly.

During the pandemic, many businesspersons faced very serious problems. However, international practice shows that financially sound companies provide support to their employees. One kind of support is loans to employees to cover urgent financial needs. Such a loan cannot be considered to be employee income and is not subject to income tax[4]. Such a practice would not only help workers to deal with acute financial problems but would also motivate them to work more productively. Another kind of financial support could be business charities. Such a practice is not widespread in Latvia; however, since the business culture develops, it should be used to provide financial assistance to employees in a crisis.

With changes in shopping habits, the crisis caused by the Covid-19 pandemic has led to a gradual **restructuring of supply chains** on a global scale, moving production closer to sales outlets. Since companies become more local, the location of the required skills changes as well. If a company's economic activity is relocated geographically, it is also possible to relocate talent (skills) geographically, including using local talent and skills.

[4] "Strategies for Employers to Offer Financial Assistance to Employees in Need Due to COVID-19." https://www.ajg.com/us/news-and-insights/2020/apr/strategies-for-employers-to-offer-financial-assistance-to-employees-in-need-due-to-covid-19/.

In the long term, companies need to adapt to the risk of global trade and supply chain disruptions, making their supply chains more resilient. This is possible, for example, by reducing the number of unique units, eliminating redundant supply links, and bringing supply partners closer and regionalising them (Assi et al., 2020).

During the Covid-19 pandemic, governments around the world took unprecedented economic measures, allocating more than USD 16 trillion by the end of September 2020 (Assi et al., 2020). The governments used both fast-track and innovative mechanisms to support the well-being of households and help businesses to survive the crisis. Potential future government practices include applying incentives in specific areas that pursue wider goals of promoting a more resilient society, e.g. using green energy and increasing energy efficiency; accelerating the digitalization of government, as well as stimuli for companies to adopt new technologies and build a future workforce in order to increase their viability and competitiveness. The present research used the data from a survey of businesspersons to identify their problems and analyse their responses.

The **results** of the 2020 enterprise survey were grouped into two categories. First, the consequences of the crises on business financial results were described. They were captured by revenue and profit change, pricing policy, debt and receivables management. Second, the approaches to business economic survival and development were analysed by various types of changes implemented and/or planned.

Table 6.11. Frequency data on financial variable changes due to the Covid-19 pandemic, %

Change	Revenue	Profit	Demand	Prices	Inven- tory	Recei- vables	Loans	Export
Decreased	52.6	54.5	47.3	20.3	26.8	1.8	3.6	7.3
No change	33.2	35.0	38.6	72.6	54.8	58.0	46.5	35.5
Increased	12.9	9.2	12.1	4.4	6.4	20.4	4.5	2.2
DK / NO	1.3	1.4	2.0	2.7	12.0	1.8	1.6	2.4
Not relevant						18.0	43.7	52.7

Source: SKDS, Enterprise Survey, September 2020. N = 750.

Table 6.11 presents the frequency data on the main financial variables that changed during the pandemics. In total, 73% of the companies participating in the survey reported at least one negative overall effect from the pandemic in Latvia. On average, 3-4 variables worsened due to the crises. The data show that due to the government restrictions and decrease in consumption, 47% of the companies experienced a decrease in demand for their goods and/or services and 20% lowered the price level of their production. This significantly worsened their profitability. In 20% cases, the level of receivables increased, which might indicate lower solvency of companies' clients that, as a domino effect, worsened their own liquidity as well. Across the sample, 13% reported they had to close at least one business activity because of Covid-19 restrictions and consequences of the pandemic.

An analysis of the financial situation of the surveyed businesspersons in 2020 revealed a correlation between a financial indicator and the factors influencing it due to the pandemic. Changes in demand have affected the turnovers of companies (0.750) and profits (0.731), as well as inventories (0.335) and prices (0.308). The creditworthiness of companies also changed, depending on the possibility of exports (0.441). In addition, changes in turnover (0.438) and profit (0.413) affected the amount of inventories. A correlation between receivables and liabilities (0.308), which indicated the transfer of liquidity problems from one company to another, was also identified for the period of the crisis.

The sectors of administrative and support service activities (N), accommodation and food service activities (I), arts, entertainment and recreation (R) were the most affected by the pandemic. On average, 16% companies reduced their prices, mainly in the following sectors: transport and storage (H; 34%); real estate activities (L; 34%); administrative and support service activities (33.3%). In contrast, the most significant price increase was reported in the health and social care sector (Q) by one third of companies.

Turnover decreased for more than 80% companies, including accommodation and food service activities (86%), arts, entertainment and recreation (90%) and other services (S; 89%). Turnover increased on average by 8.3% for companies, mainly in construction (F; 29%); wholesale and retail trade, repair of motor vehicles and motorcycles (G; 20%) and manufacturing (C; 16%). The trend in change in the profit margin was similar.

Customer debt decreased most significantly in the following sectors: electricity, gas, steam and air conditioning supply (D; 18%) and manufacturing (3%). Accounts receivable increased the most in the sectors of arts, entertainment and recreation (55%), accommodation and food service activities (43%) and real estate activities (L; 32%). Credit liabilities decreased for companies in the sectors of education (P; 9%), real estate operations (8%) and manufacturing (6%); in contrast, it increased mostly in the sectors of administrative and support service activities (25%), construction (17%) and manufacturing (6%).

A decrease in exports was reported for companies engaged in accommodation and food service activities (57%), administrative and support service activities (54%) and transport and storage (23%). Exports increased by 10% for companies engaged in arts, entertainment and recreation and by 8% for manufacturing companies.

Any crisis is both a test and a new opportunity for business. Therefore, experienced and knowledgeable companies made significant changes and improvements during the crisis in order not only to survive the crisis but also to emerge stronger and more competitive after the crisis.

Table 12 shows frequency values for the main changes and improvements companies implemented or planned as a response to the COVID-19 crisis. Of the companies, 82% reported at least one implemented or planned change. On average, 3 changes were mentioned.

The most significant improvements were made or planned by companies in the arts, entertainment and recreation sector; wholesale and retail trade, repair of motor vehicles and motorcycles; and administrative and support service activities. Most companies – 53% – optimized work arrangements; the most in: administrative and support service activities (83%); arts, entertainment and recreation (67%) and construction (71%).

Of the survey participants, 27% introduced a new management approach. Of the surveyed companies, 21% planned to expand their operations in Latvia, most significantly in wholesale and retail trade, repair of motor vehicles and motorcycles (33%); construction (26); arts, entertainment and recreation (27%). In contrast, 13% companies planned to expand their operations outside Latvia.

Table 6.12. Frequency of the implemented or planned responses to the Covid-19 pandemic, %

Response	Optimised number of employees	work arrangement	New management approaches	Digitalized	Restructured business	Cooperated	Expand (LV)	Expand (abroad)	Attract EU funds
Yes	16.1	52.5	26.9	45.9	12.7	17.0	20.8	12.9	6.9
No	80.9	44.3	69.1	50.4	78.0	74.1	73.6	84.1	89.1
Do not know	3.0	3.2	4.0	3.7	9.3	8.9	5.6	2.9	4.0

Source: SKDS, Enterprise Survey, September 2020. N = 750.

Most companies, both those having decreasing and increasing turnovers, have optimized their work arrangements (53%), and the use of IT and digital solutions in their business has increased (46%). However, only 7% companies planned to use EU funding for development. Given the availability of EU funding and the EU's readiness to provide support, this figure indicates that the reasons and barriers that prevent businesspersons from using this kind of funding need to be examined in more detail. Imperfections in the funding procedure, the signs of corruption, the non-transparency of the support provision process, excessive administrative burdens, other bureaucratic obstacles and insufficient co-financing on the part of the companies themselves – more support for the co-financing would be needed during the crisis – should be considered as possible barriers to the use of such funding.

Overall, 21% surveyed enterprises had received or been eligible to receive some kind of support from government institutions in the forms of downtime benefit for employees (14%); tax payment extension (16%); possibility to submit the 2019 financial report later (18%); and other. On average, these companies received 2 kinds of support.

There was a statistically significant correlation of company profit change with tax payment extension and later report submitting; 16% and 16% enterprises with lower profit, respectively, used these opportunities.

In total, 35% companies were very critical of the support measures developed and proposed by the government: 28% rated it as average, but 25% as good and 3% as excellent. The most critical attitude towards the support came from the companies whose financial situation worsened owing to the pandemic restrictions (44%).

6.5. Population incomes and the composition thereof

The restrictions imposed during the Covid-19 pandemic made negative impacts on almost any company. Consequently, it once again revealed a number of problems in terms of employment and income.

Government support instruments for employment and income resilience. During the pandemic, several countries implemented policies that provided income support to employees or companies to maintain employment, as well as to the self-employed (OECD, 2020; Ionescu-Somers et al., 2020). In Latvia, too, the government granted several kinds of social benefits to various groups of the population. The financial support was aimed at maintaining employment as well as compensating for the lost income. The support solutions were diverse, e.g. downtime benefit, wage subsidies, support for the self-employed, patent payee support, downtime support benefit, municipal benefit in a crisis situation, a one-time supplement to family state benefit for a child with disability etc.

By declaring an emergency situation on 9 November 2020, the government changed the eligibility criteria for granting financial support and the amount thereof. The following kinds of financial support were available to employed individuals.

A **downtime benefit** was set at 70% of the average gross monthly wage or salary, yet it could not be less than EUR 330 (before it was EUR 180 per month) and more than EUR 1000 (before it was EUR 700 per month). The benefit for an employee of a micro-enterprise was set at 50%, yet it could not be less than EUR 330 and more than EUR 1000.

A **wage subsidy** was intended for part-time employees to provide their previous level of remuneration. The subsidy might be granted in the amount of 50% of the average gross monthly wage or salary, but not more than EUR 500 per month.

The amount of **support for the self-employed** was set at 70%, but not less than EUR 330 and not more than EUR 1000 per month. For a self-employed person who was a micro-enterprise taxpayer, the support was set at 50% of the average monthly income, but not less than EUR 330 and not more than EUR 1000.

Patent fee recipients could be granted downtime support in the amount of EUR 400 (before it was EUR 330).

A **downtime support benefit** in the amount of EUR 180 per month might be received by employees who had been refused downtime benefits by the SRS after assessing their employer's compliance with the eligibility criteria for granting the downtime benefit. This benefit was paid by the State Social Insurance Agency (SSIA).

A **municipality benefit in a crisis situation** was set for the duration of the emergency situation and one calendar month after the end of the emergency situation. The benefit was intended for a family or a person who, due to the emergency situation, was unable to provide for his or her basic needs. Half of the expenditure was reimbursed to the municipality by the national government, but not more than EUR 40 per month for the benefit granted to one person for a period of three months. It was possible to receive an additional EUR 50 for each child under the age of 18. The additional benefits were reimbursed by the national government.

The amount of benefit in a crisis situation varied between municipalities. In most municipalities, the benefit was set at EUR 80, but it could also be larger. A **one-time supplement** to family state benefit for a child with disability in the amount of EUR 150 was granted to families who received a state benefit for a child with disability.

The SSIA granted a **supplement** of EUR 50 **for each dependent child**, which could be received by recipients of downtime benefits and support for the self-employed.

The **wage subsidy measure** was intended to foster employment, but it was aimed only at reducing the number of the existing unemployed.

Unemployment support benefits: 4 months after the end of the benefit period, the unemployed could be granted an unemployment benefit of EUR 180. A benefit was also introduced for young individuals who had completed higher education and were granted unemployment status by the State Employment Agency. The new benefit was paid for a maximum of four months and no longer than until 31 December 2020: EUR 500 for the first two months and EUR 375 for the third and fourth months.

From 30 November 2020, individuals could apply for a one-time childcare benefit if, due to circumstances related to Covid-19 infection, the child was not allowed to attend a preschool educational institution or if the general education curriculum was delivered through distance learning. The benefit could be received within 14 days in the amount of 60 percent of the average wage or salary.

Financial support in the form of downtime benefit allowed businesspersons to retain their employees, not increasing unemployment, and stay in business. According to SRS data for the period from 12 March to 30 June 2020, or during the first wave of Covid-19, 3398 companies applied for downtime benefits. During this period, the SRS had paid 133462 downtime benefits in the total amount of EUR 53.6 million. A total of 55179 natural persons, including 2388 self-employed persons, had received one or more benefits each. A breakdown of downtime benefit recipients by sector was as follows: accommodation and food service activities 24.8%, manufacturing 19.4%, wholesale and retail trade 15.9%, arts, entertainment and recreation 8.8%. The average benefit paid in March 2020 was EUR 245 for employees and EUR 233 for the self-employed, EUR 439 and 387 in April and EUR 446 and 386 in May, respectively. In June, the

average benefit was EUR 420 and EUR 390[5]. The average downtime benefit was very small and did not even reach the level of the minimum monthly wage or salary or EUR 430. Until 1 June 2020, 23404 persons received a one-time supplement to family state benefit for a child with disability, and 1197 persons received a one-time supplement to downtime support benefit. Downtime support benefits were received by 13389 persons, while 1156 persons were granted unemployment support benefits.

According to State Employment Agency data, the registered unemployment rate increased by 1.5 percentage points at the end of December 2020 compared with the corresponding period a year ago. The registered unemployment rate in the country at the end of December 2020 was 7.7%, which was 0.3 percentage points higher than a month earlier. In December 2020, the lowest unemployment rate was registered in Riga region at 5.8%, the highest unemployment rate was reported in Latgale region – 15.4%; the unemployment rate in Zemgale region was 7.3%, 7.6% in Vidzeme region and 8.2% in Kurzeme region. In the 12 months of 2020, unemployment status was granted to a total of 103218 individuals, which was 15311 more than in the corresponding period a year ago.

Table 6.13. Registered unemployment rate and the number of the unemployed at the end of the month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Registered unemployment rate at the end of the month, %												
2019	6.7	6.7	6.6	6.3	6.1	6.0	6.0	5.9	5.7	5.7	5.8	6.2
2020	6.4	6.3	6.8	8.0	8.4	8.6	8.6	8.2	7.7	7.4	7.4	7.7
Number of the unemployed at the end of the month												
2019	61 951	62 477	61 244	58 188	56 105	55 750	55 373	54 390	52 595	52 651	53 783	57 808
2020	58 832	58 247	61 926	72 917	76 440	78 266	77 998	75 013	70 306	67 124	67 518	69 605

Source: State Employment Agency, a report on the unemployment situation in the country (December)

Compared with the previous quarter, the number of individuals who were granted unemployment status in the 4th quarter of 2020 increased in Latgale, Kurzeme, Zemgale, Vidzeme regions, whereas Riga region reported a decrease. Of the total number of the registered unemployed (69605) at the end of December 2020, 54.9% were women and 45.1% were men.

At the end of December 2020, half of the registered unemployed – 34846 or 50.1% of the total – had an unemployment duration of up to 6 months, and during the next month the number of the unemployed in this group increased by 1341 persons or 4%. It should be noted that due to the impacts of Covid-19, the average duration of unemployment at the end of December 2020 was 183 days, or about 6 months, which was 44 days more than in the corresponding period a year ago.

At the end of December 2020, the largest proportion of the registered unemployed in the total was represented by the unemployed with professional education – 35.3% of the total registered unemployed, half of whom (51.8%) were aged 50 and over. At the end of December 2020, 25.9% of the total unemployed were those with general secondary education, 21.6% with higher education and 15.3% with primary education. At the end of December 2020 compared with the corresponding period of 2019, the proportion of the unemployed with higher education increased by 0.3% points, with general secondary education by 1.2% points, while the number of those with professional and primary education decreased. At the end of 2020, a percentage breakdown of the registered unemployed by age group was as follows: the unemployed aged 50 and over 38.6%, the unemployed aged 25 to 49 years – 54.4% and the unemployed aged from 15 to 24 years – 7%. The unemployed were dominated by the labour force aged 25-49 years.

[5] State Revenue Service. "Summary of data on downtime benefits paid". https://www.vid.gov.lv/lv/statistika-3/.

At the end of 2020, 17271 long-term unemployed individuals were registered, which accounted for 24.8% of the total. Compared with 2019, the number of the long-term unemployed increased by 3.8%.

It should be noted that in 2020, the State Employment Agency (SEA) implemented several measures aimed at assisting the unemployed to return to the labour market. In 2020, 58180 individuals began participating in the SEA measures (74606 persons participated in 98982 activities in 2019 (a total of 176825 activities were planned for 2019)). The decrease in the number of activities could be explained by the various kinds of restrictions that were set during the pandemic.

The statistical data show that the number of recipients of benefits differs from the number of recipients of unemployment benefits, as some of those who lost their jobs could not qualify for the benefit.

During the emergency situation, more flexible eligibility criteria for qualifying for unemployment status and support were adopted. According to the Law on Unemployment Insurance, the amount of unemployment benefit depends on the length of service and the income earned when being employed.

Insurance period (length of service):	Benefit granted:
from 1 to 9 years inclusive	50% of the average contribution earnings
from 10 to 19 years inclusive	55 % the average contribution earnings
from 20 to 29 years inclusive	60 % the average contribution earnings
30 years and more	65% the average contribution earnings

The duration of receiving unemployment benefits is 8 months, regardless of the length of service. The amount of the benefit depends on the duration of unemployment, and the benefit is paid in full amount for the first 2 months, in the amount of 75% for the next 2 months, 50% for the next 2 months and 45% for the last 2 months.

It should be noted that until the end of 2019, unemployment benefits could be received for a maximum of nine months. The amount of the benefit was reduced depending on the duration of the benefit as follows: for the first three months, the benefit was paid in the amount granted; for the next three months - 75% of the amount of the granted benefit; for the last three months, 50% of the amount of the benefit granted.

It should be noted that until the end of 2019, unemployment benefits could be received for a maximum of nine months. The amount of the benefit was reduced depending on the duration of the benefit period as follows: the benefit was paid in full amount for the first three months; in the amount of 75% for the next three months and 50% for the last three months.

Basically, the current regulations reduce the financial security of the unemployed. Another shortcoming of the unemployment benefit system is no limit set on the minimum amount of benefit, which means that the system provides less protection for low-income earners. Reducing the duration and amount of unemployment benefit would make a negative impact on the groups of the unemployed who need more time to find jobs and enter the labour market. Unemployment benefits should be linked to the minimum income level or the subsistence level, which should be set urgently.

In accordance with the Law on Unemployment Insurance, a person whose unemployment benefit period ended on or after 12 March 2020 and who continued to be unemployed due to the emergency situation declared because of Covid-19 might request an unemployment support benefit that was granted from the day following the end of the unemployment benefit period for a period not exceeding four months. The amount of unemployment support benefit was

set at EUR 180 per month. No mandatory state social insurance contributions need to be paid for such persons.

The decision to provide support to the unemployed during the pandemic stipulated that unemployment support benefits should be granted and paid between 12 March and 31 December 2020. When the second wave of the pandemic began, the deadline was extended to 30 June 2021. Granting an unemployment support benefit was terminated if the person lost unemployment status or had been granted insurance compensation in accordance with the Law on Mandatory Social Insurance in Respect of Accidents at Work and Occupational Diseases, a state pension in accordance with the Law on State Pensions, a retirement pension or monthly remuneration for doing paid temporary public works. Until 31 December 2021, granting unemployment benefits was suspended if the unemployed person acquired employee status or self-employment status in accordance with the Law on State Social Insurance for a period of up to 120 days. However, the period for granting unemployment benefits was extended until 30 June 2021 (initially until 31 December 2020) if the person had terminated the employment relationship of his or her own free will. The benefit was granted from the day the person submitted an application for unemployment benefit.

Amendments to the Support for Unemployed Persons and Persons Seeking Employment Law adopted on 16 April 2020 extended the right of an unemployed person to be temporarily employed for up to 120 days (previously up to 60 days) until 31 December 2021 without losing unemployment status if employee status or self-employment status was granted twice in a 12-month period. Until 31 December 2020, the owners of micro-enterprises having no turnover and who, in parallel with their activity in their micro-enterprises, lost their employee status were entitled to unemployment status and support. The same applied to self-employed persons (other than those who paid a patent fee) who did not earn anything from economic activity and had lost their employee status. In addition, if mandatory state social insurance contributions for unemployment insurance had previously been paid, the persons were also entitled to unemployment benefits. However, persons who had acquired unemployment status in 2020 and preferred to pay the micro-enterprise tax also in 2021 lost their unemployment status as of 1 January 2021.

To contribute to involving the unemployed in economic activity, the unemployed could be involved in paid temporary public works for a period until 31 December 2020, regardless of the duration of their unemployment. The measure was implemented by the State Employment Agency in cooperation with local governments, based on the new amendments to the Cabinet Regulation Regarding the Procedures for the Organising and Financing of Active Employment Measures and Preventative Measures for Unemployment Reduction and Principles for the Selection of Implementers of Measures. Paid temporary public works represent an active employment measure implemented in many countries. The purpose of paid public works is to contribute to the involvement of the registered unemployed in economic activity and provide them with additional income during the period of unemployment so that they can meet their basic needs. In addition, the measure also helps to retain the unemployed in the labour market, which is important from the social perspective.

Paid temporary public works may be organized by municipal institutions (except municipal companies), as well as associations or foundations. The amount of monthly remuneration is set at EUR 200, and mandatory state social insurance contributions for pension insurance are made for the unemployed involved.

Table 6.14. Number of recipients of unemployment benefits and the average size of benefit

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020												
Average size, EUR	368	383	357	341	346	367	339	337	317	298	315	304
Number	35906	37330	36558	40105	47739	49718	49632	48506	46622	42684	38495	37995
2019												
Average size, EUR	332	333	309	334	316	328	326	354	356	330	355	352
Number	32172	34541	33919	33802	32077	31087	31695	31925	32146	32566	31640	32088

Source: SSIA, http://www.statistika-vsaa.lv/2020/10/pakalpojumu-skaits-un-videjais-apmers.html/

The number of recipients of unemployment benefits was significantly higher in 2020 than in 2019 (Table 6.14). From January to June 2020, the number of recipients of unemployment benefits has increased from 35906 to 49718 or by 38.5%. From July 2020, the number of recipients of unemployment benefits decreased. In December compared with June, the number of benefit recipients decreased by 23.6%. However, in all the months of 2020, the number of benefit recipients was higher than in the corresponding months of 2019.

In March 2020, the average size of unemployment benefit began decreasing, reaching the lowest level in October at EUR 298. Since August 2020, the average monthly benefit has been lower than in the corresponding months of 2019. Consequently, the financial security of the unemployed deteriorated. Overall, the unemployment benefits were low and did not even reach the minimum wage or salary.

In 2020, 32259 unemployed individuals were granted unemployment support benefits. They were dominated by women (67%). The proportion of women in the total registered unemployed was 54.9%. It could be explained by the fact that women were less active in searching for jobs because they needed to devote more time to household duties, helping their children with distance learning. The data show a consistent increase in the number of unemployment support benefit recipients. In May 2020, 901 unemployed individuals received unemployment support benefits, while in December the figure increased 6.6-fold. This shows that many unemployed individuals (especially women) were unable to find jobs and return to work.

Table 6.15. Number of recipients of unemployment support benefits and the average size of benefit

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Number of benefit recipients *									
Total	901	2018	3 140	4 247	4 840	5 552	5 627	5 934	32 259
women	603	1346	2 121	2 879	3 279	3 712	3 708	3 854	21 502
men	298	672	1 019	1 368	1 561	1 840	1 919	2 080	10 757
Average size of benefit (EUR)									
Total	113.58	143.42	150.87	152.74	142.73	134.80	144.45	142.14	140.59
women	1 13.87	1 43.01	1 51.17	1 54.40	1 42.97	1 33.98	1 44.48	142.13	140.75
men	1 13.01	1 44.19	1 50.26	1 49.32	1 42.26	1 36.40	1 44.39	142.16	140.25
Total expenditure (EUR)									
Total	129709	344076	536645	737147	766344	805139	887354	909 838	5116253
women	85860	222528	361597	502722	515534	530834	578932	589 123	3387131
men	43849	121548	175048	234425	250810	274305	308422	320 715	1729122

Note: * the number of benefit recipients includes persons who received the benefit for the current as well as for the previous months in accordance with the eligibility criteria for granting the benefit, as the duration of the benefit period was up to 4 months.
Source: Ministry of Welfare, unpublished data

The unemployment support benefits ranged from EUR 113.58 in May 2020 to EUR 152.74 in August, and the average benefit was approximately EUR 140. There was no difference in the size of benefit between women and men. It could be concluded that the unemployment support benefit was too low and could not meet even the minimum needs of the social groups who had lost their jobs. In total, EUR 511253 were spent to support the unemployed who could not find jobs.

Income composition. The negative impacts of Covid-19 on business ultimately result in lower employment and incomes. The impacts of the pandemic on employment and household incomes are considered to be very significant across the EU Member States. This is evidenced by both the rising unemployment rate and the demand for various kinds of financial support. The Member States introduced measures to support businesspersons and employees: wage subsidies or tax rebates, automatic stabilizers (unemployment benefits and less taxes paid due to declining employment and economic activity). Some estimates suggest that government financial support has reduced the negative impacts of the pandemic on household incomes, poverty and inequality (European Commission, 2020). However, the financial support failed to prevent declining incomes and savings, as well as declining consumer spending (Martin et al., 2020). Many governments have helped to retain employment and viable jobs by subsidizing non-worked hours, increasing employee incomes if they work part-time. In OECD countries, about one in four employees was involved in employment support programmes, while in Latvia the figure was only 5.6% (33% in France, 19% in Germany)[6].

The number of employees in the economy of Latvia in 2020 totalled 890.7 thou., which was 22.5 thou. less than in 2018[7]. The decrease was observed in practically all industries, except for construction, financial and real estate market services, health and social care, and public administration. In the 4th quarter of 2020, 18% employees worked remotely, mostly in the industries of financial and insurance activities (65.5%) and information and communication services (60.2%)[8].

The increase in unemployment in the country was mainly due to a decrease in output, especially transit transport. However, the increase in unemployment was not large, which could be explained by the relatively large number of job vacancies in the country that were available to those who lost their jobs. As a result, the number of vacancies at the end of 2020 decreased by 10.83 thou.[9] The State Employment Agency received several collective redundancy notices from employers.

The situation in the labour market affected the incomes of individuals and households. The income composition of an individual consists of income from paid work, employee income in kind expressed in monetary terms, income from self-employment, pensions and benefits received, regular cash assistance from other households, deposit interest, dividends, income from sales of shares, income from renting out property and other kinds of income. In Latvia, household incomes are poorly diversified, income from paid work dominates in total disposable income with the proportion varying from 58.4% in Latgale to 76% in Riga. The highest income from paid employment was reported in Riga (EUR 508.5 per household member), while in the other regions the figure was significantly lower. Social transfers accounted for almost a third of total disposable income. The lowest amount of social transfers was reported in Riga

[6] OECD (2020) "Employment Outlook 2020". http://www.oecd.org/employment-outlook/2020/.
[7] Employed by actual place of work in regions, cities, municipalities, towns and rural territories by Territorial unit, Sector, Indicator and Time period in 2009 – 2020. https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START__EMP__DV__DVA/DVA050/.
[8] Proportion of teleworkers (employees) in the total employees in the respective kinds of economic activity (NACE Rev. 2). https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START__EMP__NB__NBLA/NBL280c/table/tableViewLayout1/.
[9] Number of job vacancies by kind of activity at the end of the quarter, 2008Q1-2021Q2. https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START__EMP__DV__DVB/DVB010c/.

(18.8%), whereas the highest in Latgale (34.9%)[10]. The proportion of income from self-employment was low, although it should be noted that in the other regions the figure was higher than in Riga and Pieriga. In the other regions, relatively more self-employed individuals were registered, possibly because they were less likely to find paid employment in the private or public sectors. The highest amounts of social transfers and income from self-employment were reported in Latgale, thus compensating for the low amount of earned income. The other kinds of income had a very insignificant proportion in total income.

According to the data published in January 2021, the average disposable income per household member increased by 6.8% in 2019 compared with 2018 and reached an average of EUR 583 per household member per month. The incomes of the population grew much slower than in previous years.

In 2019, the average income per household member reported for the poorest households (first quintile) was EUR 203 per month, whereas for the richest households (fifth quintile) it was EUR 1290 per month. For middle-income households, it ranged from EUR 353 per month (second quintile) to EUR 680 per month (fourth quintile). With income growth accelerating for the poorest (first and second quintiles), income inequality has slightly decreased. In 2019, the average income of the poorest individuals was 6.3-fold higher than that of the poorest individuals. It is positive that the Gini index was 34.5% in 2019, which was 0.7 percentage points less than in 2018 when it reached 35. However, compared with other European Union Member States, income inequality in Latvia remained high. According to the latest available data, Latvia had the fourth highest Gini index in the EU. Only Bulgaria (40.8%), Lithuania (35.4%) and Romania (34.8%) had higher Gini indexes, compared with an EU average of 30.7%[11].

There are available few research papers on income composition in various parts of the world. For example, in Italy, the distribution of household incomes (third quintile) was as follows (Barbieri Goes 2020):

- in 2014, income from paid work represented 35.55% of the total; pensions and benefits 30.74%; incomes from self-employment and economic activity 5.19%; capital income 28.53%.
- in 1989, income from paid employment 46.24%; pensions and benefits 19.81%; incomes from self-employment and economic activity 13.76%; capital income 20.20%.

In Italy, the proportion of income from paid work decreased, while that from transfers and invested capital increased considerably. The situation in Latvia was examined by a nationally representative survey conducted in September 2021, which included questions about the income composition before the pandemic and at the time of the survey. The survey results were analysed by occupation of the respondents.

Table 6.16. Income composition before and after the pandemic in Latvia, %

Income composition before the pandemic, %	Paid work	Self-employme-nt	Businessperson	Family business	Unemployed
Income from paid work	92.5*	40.8*	65.7*	54.0*	30.9*
Self-employment income	1.2*	54.3*	11.4*	28.7*	0.4*
Property income, dividends and interest income	0.1	0.5*	15.0*	1.0*	0.1
Income from the home farm	1.1	1.8	0.0	9.4*	2.1
Social transfers (social benefits)	3.0*	1.0	3.6	2.9	52.2*
Private transfers (financial assistance from relatives, incl. those living abroad)	0.5*	0.6	2.9	0.3	4.7*
Other income	1.7*	0.9	1.4*	3.7	10.1*

[10] Composition and structure of households disposable income average per household member per month. https://data1.csb.gov.lv/pxweb/lv/sociala/sociala__mb__ienakumi/IIG070.px/table/tableViewLayout1/.
[11] In 2019, household disposable income increased by 6.8 %. https://www.csb.gov.lv/lv/statistika/statistikas-temas/socialie-procesi/nabadziba/meklet-tema/2782-majsaimniecibu-riciba-esosie-ienakumi-2019/.

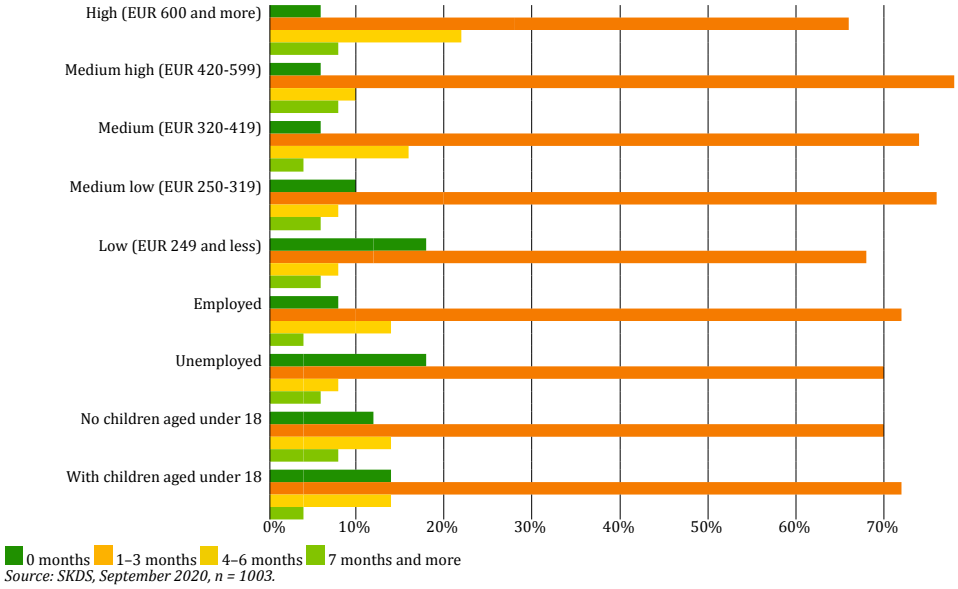
Income composition after the pandemic, %	Paid work	Self-employment	Businessperson	Family business	Unemployed
Income from paid work	92.2*	40.6*	61.4*	52.7*	22.5*
Self-employment income	0.9*	53.8*	16.4*	28.7*	0.4
Property income, dividends and interest income	0.0	0.5*	13.6*	1.0*	0.1
Income from the home farm	1.0*	2.2	0.0	9.8*	2.5
Social transfers (social benefits)	3.4*	1.4	7.9*	2.9	58.8*
Private transfers (financial assistance from relatives, incl. those living abroad)	0.6*	0.7	0.0	0.6	5.5*
Other income	1.6*	0.7	0.7	2.7	10.7*

Note: * Sig. two-tailed p < .05.
Source: SKDS, September 2021, N=1017.

Businesspersons who owned family businesses had the most diversified incomes. Income from paid work made up 92.2% of the total income of employees, and the incomes of this social group were the least diversified. However, social transfers made up 58.8% of the total income of the unemployed. The pandemic made the largest impact on the unemployed: income from paid employment decreased by 8.3 percentage points, while social transfers rose by 6.6 percentage points. Businesspersons also faced changes concerning the same kind of income: income from paid employment decreased by 4.3 pp, while social transfers increased by the same amount, as well as self-employment income increased by 5.0 pp for this social group. Property income (dividends and interest income) accounted for the smallest proportion for almost all segments of the population, thereby indicating a low level of savings and investment.

Because of the Covid-19 crisis in almost all European countries, private consumption decreased, while household **savings** rose, as household disposable income decreased at a slower pace than private consumption. The reason for this, in the authors' opinion, was the population's fear that the pandemic would lead to a further decrease in income. Individuals began building up reserves to secure future consumption in case all or part of their incomes are lost. Therefore, despite a smaller decrease in GDP than the EU average, Latvia reported a much larger decrease in private consumption than the EU average. This was a direct result of the government's income policy, and the incomes of a significant part of the population basically reached the subsistence level. This decrease was also partly due to the low level of population savings, mistrust in the state social insurance system and the overall social policy implemented nationally.

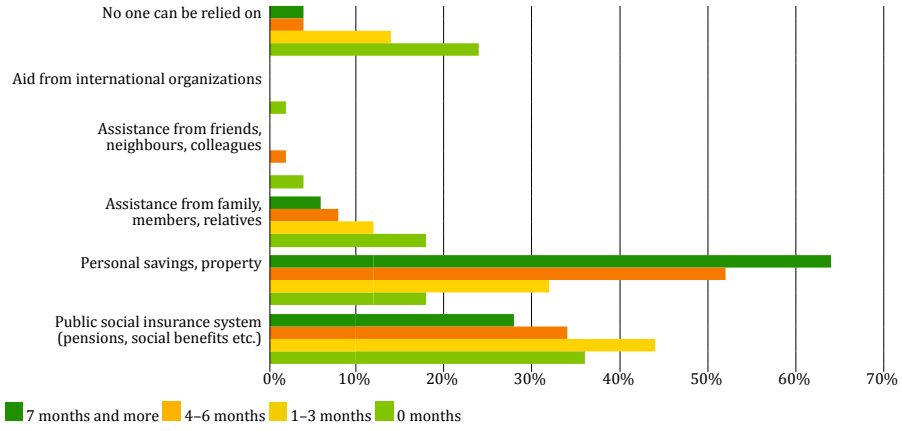
As regards savings, the 2020 survey data showed that 70% of the population could save for less than 3 months, 11.4% had no savings. The lowest level of savings or no savings was reported for the working-age population aged 35-54 at 22.5%.



Source: SKDS, September 2020, n = 1003.

Fig.6.6. Breakdown of emergency savings by period and by income per household member, employment and number of children, %

Of the total families with children, 12.5% had no savings, 71.5% had savings for a period of up to 3 months. Of the total, 16.9% of the non-unemployed and 30.9% of the unemployed had no savings; 67.8% of the non-unemployed and 54.5% of the unemployed had enough savings for up to 3 months. Low- and middle-income groups were most at risk because the level of their savings was dangerously low: 18.2% had no savings, while 45.5% had enough savings for up to one month.



Source: SKDS, September 2020, n = 1003.

Fig.6.7. Breakdown of emergency savings by period and by primary source, %

Three in four respondents (77.2%) with the lowest savings believed that in case of financial difficulties, they could first rely on the state social insurance system. In contrast, those with a higher level of savings could rely more on personal property and savings. The most important source of income for employees was income from paid employment. In the 4th quarter of 2020, the average monthly earnings totalled EUR 1143, which was 6.2% more than in the corresponding period of 2019. Compared with the 4th quarter of 2018, the average earnings increased by 13.8%[12]. Overall, there has been a steady increase in the average gross and net earnings. It should be noted that because of Covid-19, there were differences in change in earnings across industries. The earnings decreased in the industries of transport and storage, as well as accommodation and food services.

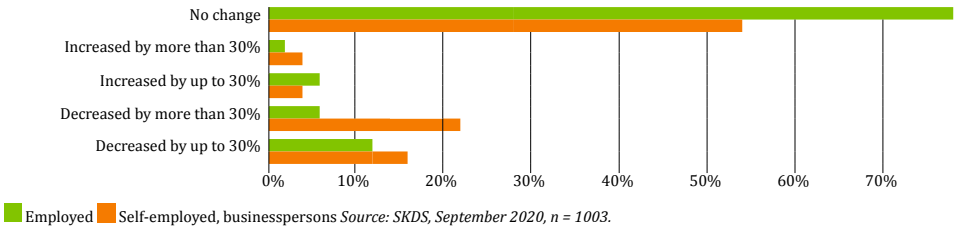
In 2020, the average gross earnings in the private sector reached EUR 1138, EUR 1156 in the public sector, while in the general government sector, which includes national and local government institutions, as well as capital companies controlled and financed by the national and local governments, EUR 1121. During 2020, the earnings grew faster in the private sector at 6.7% a year, in the public sector – 4.9%, while in the general government sector – 6.3%. In 2020, the average monthly earnings before taxes reached EUR 1143[13].

Changes in average earnings were affected not only by increases or decreases in wages and salaries and changes in taxes on earnings but also by structural changes in the labour market: start-ups and closures, as well as changes in the numbers and workloads of employees in various industries.

In 2020, the proportion of employees with net earnings ranging from EUR 450 to 700 was 34.5%, from EUR 700 to 1400 – 30.8%, while the proportion of employees with net earnings above EUR 1400 per month was 6.5%. The minimum wage/salary or less was received by 99.9 thou. employees or 12.8% of the total. Regionally, the highest proportion of low wage earners was reported in Latgale: 22.0% employees received the minimum wage/salary or less. In 2020, remuneration was not accrued or paid to 3.2% employees[14]. EU-SILC survey data showed that among all the EU Member States, Latvia had the fifth highest proportion of the population at risk of poverty or social exclusion (27.3% in 2018 and 26.0% in 2019). In 2018, 22.9% or 434 thou. individuals were at risk of poverty. Although the at-risk-of-poverty threshold increased in 2019 (from EUR 409 per month in 2018 to EUR 441 in 2019), the at-risk-of-poverty rate decreased to 21.6% in 2019. The average figure in the EU-28 in 2019 was 21.4%[15].

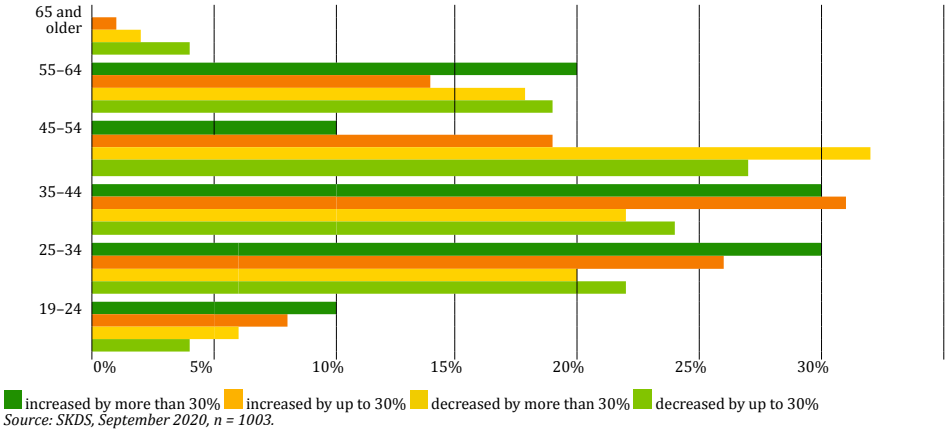
The data from the 2020 population survey were also used for the analysis of earnings. The figures showed that 6.9% employees earned less, and 2/3 of them lost more than 30% of what they earned before the emergency situation. The earnings of 6% respondents increased by up to 30% of what they earned before (Figure 8). Because of the pandemic, earnings for the self-employed decreased the most: by up to 30% for 16.5%, by even more for 21.2%, while for 12.9% the earnings decreased by more than 50%. In relation to age, the largest decrease in earnings was reported for the group aged 45-54 years (59.5% respondents). In contrast, employees in the age group 25-44 years experienced growth in earnings (56.9%) (Figure 9). This could be explained by a higher ability of this population group to shift to teleworking, as well as their willingness to take on more workload. The earnings of employees in Latgale and Vidzeme decreased considerably. In Latgale, the earnings decreased for 31.7% employees, whereas increased for only 6.5%, for Vidzeme, the figures were 35.8% and 19.7%, respectively (Figure 10).

[12] Average monthly wages and salaries of employees. https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START__EMP__DS__DSV/DSV020c/table/tableViewLayout1/.
[13] In 2020, the average earnings before taxes was EUR 1143 a month. https://www.csb.gov.lv/lv/statistika/statistikas-temas/socialie-procesi/darba-samaksa/meklet-tema/2944-darba-samaksa-2020-gada/.
[14] In 2020, 64.2% of the population in Latvia were employed. https://www.csb.gov.lv/lv/statistika/statistikas-temas/socialie-procesi/nodarbinatiba/meklet-tema/2940-nodarbinatiba-2020-gada/.
[15] "Risk of poverty and social exclusion in Latvia." Results of the 2019 EU-SILC survey.



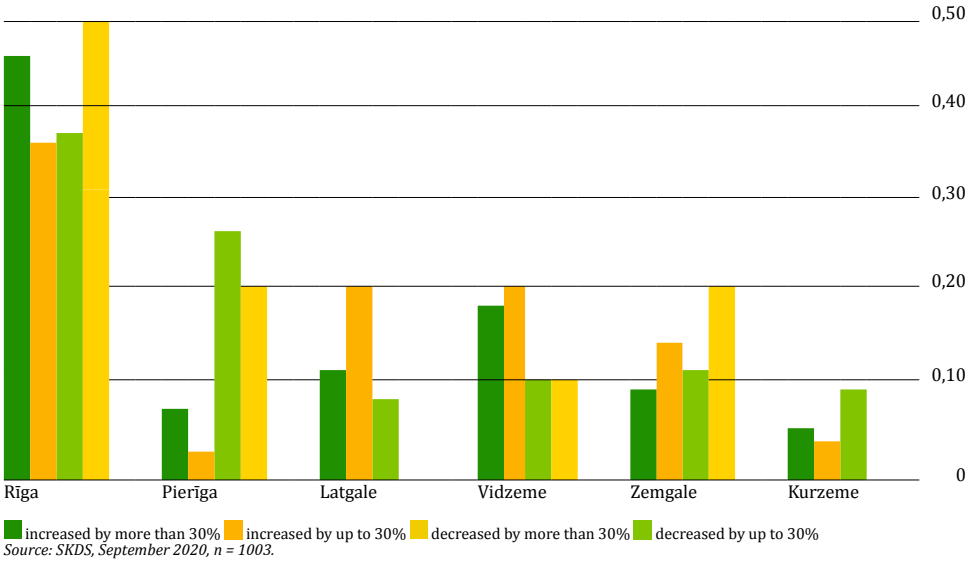
Source: SKDS, September 2020, n = 1003.

Fig.6.8. Breakdown of changes in earnings due to the Covid-19 pandemic by employment status, %



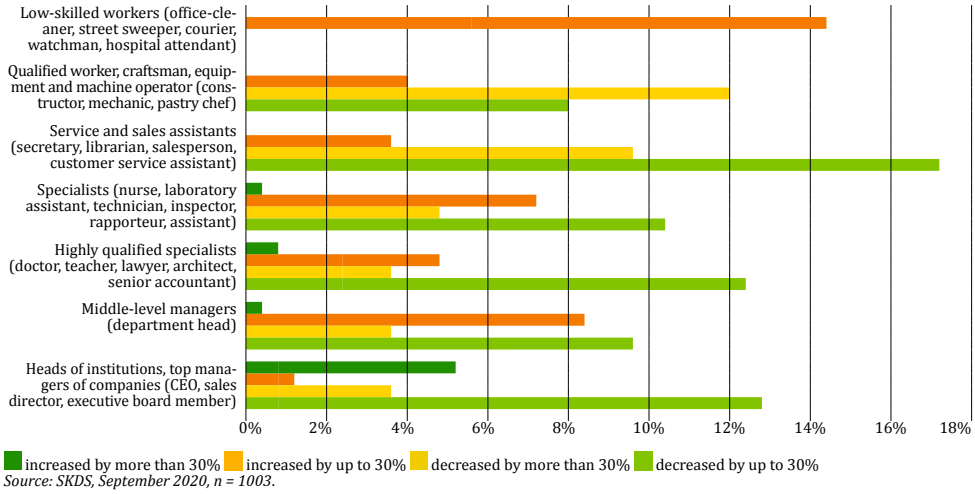
Source: SKDS, September 2020, n = 1003.

Fig.6.9. **Breakdown of changes in earnings due to the Covid-19 pandemic by age, %**



Source: SKDS, September 2020, n = 1003.

Fig.6.10. Breakdown of changes in earnings due to the Covid-19 pandemic by region, %



Source: SKDS, September 2020, n = 1003.

Fig. 6.11. Breakdown of changes in earnings due to the Covid-19 pandemic by occupation, %

The breakdown by occupation revealed that the largest decrease in earnings was reported for service and sales assistants (27.2%), top managers (16.9%) and highly qualified specialists (16%), while the largest increase was reported for unskilled workers (14.3%), middle-level managers (8.6%) and specialists (7.4%) (Figure 6.11).

According to the 2020 SKDS population survey, 26% respondents indicated that their household incomes decreased during the pandemic, increased for 2%, while for 72% households the incomes did not change significantly. The residents of Kurzeme (34.7%) as well as Latgale (27.5%) and Riga (26%) were the most negatively affected by the pandemic. The incomes decreased the most for households with three or more people: a third (33.5%) of households, including those with children aged under 18 (33.1%). A quarter (27%) of the respondents whose total income decreased had secondary, vocational or higher education.

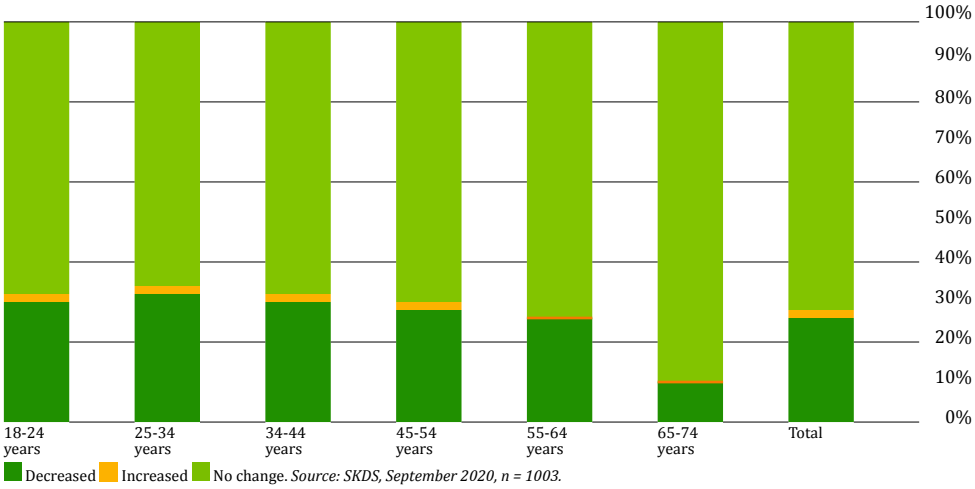
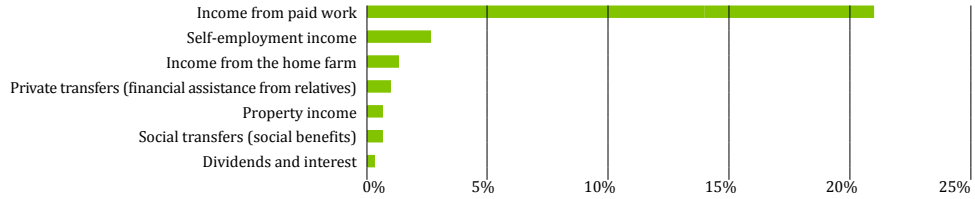


Fig.6.12. Breakdown of changes in total family income by age group, %

The working-age population experienced the largest decrease in their incomes. This was mainly due to a decrease in incomes from paid work: 21.4% respondents indicated a decrease.



Source: SKDS, September 2020, n = 1003.

Fig.6.13. Breakdown of changes in income by source, %

The decrease in income mostly affected families with children (31.3%) and those working in the private sector (28.9%), the low- and middle-income population (33.5%). Regionally, incomes from paid work decreased in Kurzeme (34.5%), Latgale (30.8%) and Pieriga (30.6%). Incomes from property (7.6%), home farms (7.6%), dividends (4.9%), social transfers (2.8%) and private transfers (8.7%) were affected to a lesser extent. Social transfers increased for 5.2% respondents, while private transfers for 11.8%. Property incomes were not significantly affected. Only 0.9% respondents indicated a decrease in this kind of income.

An analysis of **correlations between changes by source of income** revealed that the changes in property income and dividend and interest income correlated the most (.576); dividend and interest income and private transfers (.550); property income and income from the home farm (.514); income from the home farm and dividend and interest income (.486); property income and private transfers (.480); income from the home farm and private transfers (.430); self-employment income and property income (.382); dividend and interest income and social transfers (.344) and social and private transfers (.341).

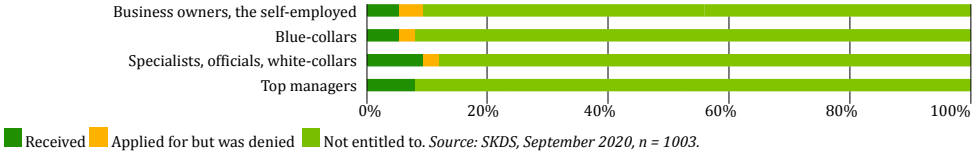
Table 6.17. Average monthly personal incomes, quintiles, %

Average monthly personal incomes (quintiles)	Paid work	Self-employment	Business-person	Family business	Unemployed
Low (EUR 304 and less)	2.6%	3.6%	0.0%	3.2%	44.3%
Medium low (EUR 305–492)	10.9%	10.7%	0.0%	16.1%	27.4%
Medium (EUR 493–669)	23.2%	19.6%	0.0%	6.5%	6.0%
Medium high (EUR 670–849)	21.5%	19.6%	14.3%	16.1%	3.3%
High (EUR 850 and more)	24.1%	21.4%	28.6%	19.4%	1.5%
No answer	17.7%	25.0%	57.1%	38.7%	17.5%
Sig. two-tailed	< .001	.066	.080	.027	< .001

Source: SKDS, September 2021, n = 1017.

Table 6.17 shows data from the autumn 2021 survey on the income level of respondents by their status in the labour market. A Kruskal-Wallis test and a Post hoc multiple comparisons LSD test showed that non-working respondents had the lowest personal (p < .001) and household income per capita (p < 001). There was no statistically significant difference in personal income between employment groups, yet there was a difference in household income (p < .001). Employees in the private sector earned less than those employed in the public sector (p = .019), would-be businesspersons (p = .008), the self-employed (p = .004), and business owners (p = .023).

Now let us analyse benefit-granting policies and practices during the pandemic. As mentioned above, the SRS granted downtime benefits to company employees and the self-employed. However, during the first wave of the pandemic, downtime support benefits in the amount of up to 180 EUR per month were granted to employees who had been denied downtime benefits by the SRS. Data from the September 2020 survey showed that 6% received downtime and downtime support benefits, 2.7% respondents were entitled to them but did not receive them, while 91.2% were not entitled to the benefits.



Source: SKDS, September 2020, n = 1003.

Fig.6.14. Breakdown of downtime benefit recipients by occupation in 2020, %

In 2020, mostly middle- (8%) and high-income (11%) population groups received downtime and downtime support benefits. Downtime benefits were granted to 10% of the self-employed; another 5.8% of the self-employed who were entitled to the benefits did not receive them. The population in Latgale were granted the relatively smallest number of downtime benefits (0.7%).

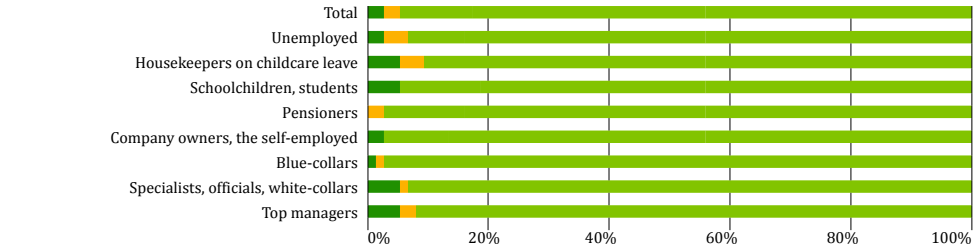
Table 6.18. Breakdown of recipients of downtime and downtime support benefits in 2021, %

Did your family receive downtime and downtime support benefits during the pandemic?	Paid work	Self-employment	Business-person	Family business	Unemployed
No	88.1%	72.7%	42.9%	87.1%	93.7%
Yes	11.9%	27.3%	57.1%	12.9%	6.3%
Sig. two-tailed	.101	< .001	< .001	.690	.002

Source: SKDS, September 2021, n = 1017.

The data from the 2021 survey showed that businesspersons and the self-employed received the most downtime and downtime support benefits (Table 6.16). The proportion of recipients of these categories of benefits has increased significantly compared with the 2020 survey data.

Individuals who were unable to meet their basic needs on their own and needed psychosocial or financial assistance were entitled to municipal benefits in a crisis situation. In most cases, it was a one-time benefit, yet each municipality could set the amount of benefit and the eligibility criteria. The benefit was paid from the municipal budget. In addition, during the emergency situation, half of the benefits were co-funded by the national government, reimbursing the municipality for up to EUR 40 per person. In addition, the national government provided the recipient of this kind of benefit with EUR 50 for each dependent child under the age of 18.



Source: SKDS, September 2020, n = 1003.

Fig.6.15. Breakdown of recipients of municipal benefits in a crisis situation by occupation in 2020, %

The data from the 2020 survey showed that 3% respondents received municipal benefits, while 2% who were entitled to the benefit did not receive it. The proportion of individuals living in rural areas who received the benefits was the smallest at 1.3% (1.6% were entitled to but not received the benefit). In cities other than Riga, there were slightly more recipients - 2.1% (2.4%), while in Riga this benefit was received by 5.7% (1.8%). In Riga, this benefit was set at EUR 128 per person, in other cities, for example, in Daugavpils a one-time benefit for a family or a person was up to EUR 200; in Liepaja up to EUR 3000; in Cesis EUR 80; in Jelgava EUR 65; in Saldus up to EUR 720; in Salacgriva and Kraslava EUR 80 (up to 3 months); in Priekule EUR 80. In rural municipalities, for example, in Burtnieki municipality, it was set at EUR 120 per family member per month; in Krimulda municipality EUR 80 per month; in Babite municipality EUR 80 per person; in Stopini municipality EUR 80 per able-bodied person per month and EUR 50 for dependents; in Baltinava municipality up to EUR 75; in Marupe municipality up to EUR 4500 per person.

Table 6.19. Breakdown of recipients of municipal benefits in a crisis situation by employment status in 2020, %

Did your family receive municipal benefit during the pandemic?	Paid work	Self-employment	Businessperson	Family business	Unemployed
No	79.8%	80.0%	71.4%	93.5%	58.1%
Yes	20.2%	20.0%	28.6%	6.5%	41.9%

Source: SKDS, September 2021, n = 1017.

In 2021 compared with 2020, the proportion of employees who received municipal benefits in a crisis situation increased. The proportion of recipients of this kind of benefit among the unemployed increased as well.

Respondent opinions on the national government's response to the pandemic

In a Eurobarometer (2020) survey conducted in the summer of 2020 in 34 European countries, respondents rated their attitudes towards government measures aimed at mitigating the impacts of the pandemic. Two in three respondents in the 27-EU (63%) were satisfied with their governments' measures, in Latvia it was 77%. The respondents from the countries most affected by the pandemic expressed the greatest dissatisfaction: Italy, France, Belgium and Spain. In the EU-27, 46% respondents expected the pandemic (its first wave) to cause serious economic consequences, and 49% did not agree. In addition, the self-employed, the unemployed and blue-collar workers expressed the greatest concerns. Among the economic problems, Latvian respondents mentioned high tax rates (24%; EU-27 average 5%), low pensions (18%; EU-27 average 10%), high inflation (24%; EU-27 average 18%).

A Eurobarometer (2021) survey conducted in the spring of 2021 revealed more critical ratings of government action. In the EU-27, 53% respondents positively rated their governments, and only 35% in Latvia. In the EU-27, 46% respondents expected the pandemic (its first wave) to cause serious economic consequences. The biggest concerns were the self-employed, the unemployed and blue-collar workers. Among the economic problems in Latvia, the respondents mentioned high inflation (36%, EU-27 average 23%), the deteriorating economic situation (34%, EU27 average 26%) and high tax rates (26%, EU-27 average 6%).

The data indicate the course of action for the government to take stability measures to minimize income losses for the population: reduce taxes, increase pensions and prevent the rising inflation. Tax stability or even tax cuts during the crisis are an important factor in supporting both businesses and individuals. However, in the middle of 2021, the government of Latvia increased the tax burden on labour, which contradicted not only the principles of economic theory but also the common policy of the European Union in overcoming the consequences of the crisis. In the September 2021 survey, only 17.5% respondents appreciated the measures taken by the government of Latvia to mitigate the economic consequences of the pandemic. A Pearson's $\chi 2$ test showed that the respondents who said that their living standard had deteriorated since the beginning of the pandemic were the least likely to agree that the government had taken the right measures to mitigate the economic consequences of the crisis (12%), while those whose living standard had increased were more likely to give a positive rating of the government (26%, $p = .029$). However, the Pearson's χ^2 test did not confirm the dependence of the ratings of the government's actions on the respondents' personal incomes ($p = .593$). The explanation could be as follows: to overcome the pandemic crisis, the EU Member States, incl. Latvia, injected large financial resources into the economy through various kinds of support for individuals and businesses. In contrast, to deal with the economic and financial crisis of 2008-2009, Latvia implemented the so-called "austerity policy", as a result of which the low-income population suffered the most. A one-way ANOVA test showed that among the employment groups, the self-employed rated the government's actions most critically on a five-point scale (M = 2.2), whereas the respondents who expressed the wish to start their own businesses were the most positive (M = 2.8, $p = .010$).

In the spring of 2021, a Standard Eurobarometer 95 survey identified the population's

forecasts on various aspects of economic development and life. On average, 35% EU residents believed that the economic situation in their countries would improve over the next 12 months, 29% thought it would get worse and 33% said it would not change. For Latvia, the figures were 21%, 39% and 36%, respectively, indicating a more pessimistic outlook for the future. In the SKDS September 2021 survey, 17.6% respondents agreed that the situation would improve in the next six months, while 52.9% disagreed. The unemployed and private sector employees were the least likely to expect improvements (M = 2.4 on a five-point scale), while the respondents who planned to start their own businesses were the most optimistic (M = 2.8, p = .012). The greatest pessimism was observed among the group of households representing the lowest income quintile, as well as among those who did not indicate their incomes (p = .003).

The SKDS survey conducted in 2020 also identified low economic sentiment: more than 60% of the population expected the economic situation to deteriorate, most of them (67%) represented low- and middle-income groups. The majority of working (60%) and non-working (59%) respondents, rural people (63%) and the residents of Riga (57%) had a similar opinion.

At the end of 2020, business confidence indicators also showed a pessimistic attitude of businesspersons towards development and growth. The business confidence was negative across the industries of retail trade, services, construction and manufacturing. In November 2020, the economic sentiment indicator was 90.4, which was 1.9 points lower than in October. The business confidence indicators decreased slightly in December 2020 in manufacturing and construction, but decreased more considerably in retail trade and services. In December 2020, the economic sentiment indicator was 88.1, which was 2.3 points lower than in November (CSB, 2021a).

In February 2021, the business confidence indicators improved for the services sector, worsened slightly for construction and manufacturing and deteriorated for retail trade. In February 2021, the economic sentiment indicator was 88.5, which was 1.3 points higher than in January (CSB, 2021b).

The indicators showed a negative rating of the economic situation in Latvia in 2021. The European Commission monitors and assesses the impacts of the pandemic on business in the Member States. In response to the situation, measures are taken to maintain the liquidity of companies with the aim of preventing their bankruptcies and supporting their employees[16]. In June 2021, EC announced that EUR 183 million of additional resources were planned to be allocated to Latvia. These funds are supposed to be mainly invested in the renovation of multi-apartment buildings to increase their energy efficiency, in the resilience of the healthcare system to epidemics and in small and medium enterprises (SMEs) via financial instruments.[17] However, the respondents in Latvia were sceptical about the efficiency of the use of EU financial support. In the SKDS survey conducted in September 2021, half of the surveyed (50.2%) disagreed with a statement that EU financial support to mitigate the impacts of the pandemic was used effectively and fairly. Three times fewer respondents agreed with this statement (16.8%). The average rating on a five-point scale was M = 2.4. A one-way ANOVA and a Post hoc multiple comparisons Bonferroni test showed that the self-employed were still the most critical (M = 1.9, p = .009).

It could be concluded that the government of Latvia did not make a consistent and crisis-oriented employment and income management policy. Very often the government changed the kinds of support and the eligibility criteria for granting it, the criteria for the threshold of

16 European Commission. "Jobs and economy during the coronavirus pandemic". https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/jobs-and-economy-during-coronavirus-pandemic_lv/.

17 European Commission (2021) "REACT-EU: €311 million to Germany, France and Latvia to invest in the green and digital transitions". https://ec.europa.eu/regional_policy/en/newsroom/news/2021/07/07-02-2021-react-eu-eur311-million-to-germany-france-and-latvia-to-invest-in-the-green-and-digital-transitions/.

financial support and the principles of the support system were not clear. Information on the objectives and principles of the support system based on different scenarios was not published, the government did not define its plans and action regarding the support system and the sources of finance for it to prevent a significant decrease in the incomes of the population and households.

At the end of 2021, no action scenarios had been designed for the coming years to envisage various lines of action. Social dialogue aimed at informing individuals and businesses was not part of making the support policy. Public communication very rarely included the opinions of the social partners – trade unions, the Employers Confederation of Latvia, professional associations – on the strengths and weaknesses of the support policy.

6.6. Risk management

The National Development Plan calls on the population of Latvia to take greater personal risks and engage in producing exportable and high value-added products. At the same time, the recent assessment of the public administration's action aimed at shaping the business environment and managing the Covid-19 crisis did not indicate that the government was prepared to share the risks with businesses and employees. In theory, the relations between the state and civil society is viewed through the welfare state paradigm. The concept is translated into Latvian as the "welfare state", yet its contextual use in political discourse does not reveal the substance of the phenomenon (Skulte, Kozlovs, 2018). The next section analyses the concepts of the welfare state suggested by authors writing in English, French and German.

The welfare state is perceived as a redistributive instrument (Heath, 2011). Its role would mostly be to realize equality by transferring resources from privileged individuals to less privileged. It would be the modern continuation of traditional poor relief. This view has received various formulations ranging from liberal (e.g. John Rawls, Ronald Dworkin) to socialist ones. At one extreme, a corrupt state working for the advantage of a few represents a perversion of the redistributive system.

Then, public pensions, unemployment benefits and national health care are often presented as embodying this redistributive/egalitarian ideal: the healthy, employed and rather young citizens will transfer resources to the unhealthy, unemployed and seniors. This interpretation also fuels the opposition to universal health care, where public health insurance is identified to socialism, as in the United States with the controversies surrounding Bernie Sanders's 'Medicare for All' proposal during the Democrat primaries.

Despite some truth, the redistributive view is misleading for two reasons. First, welfare states also perform non-redistributive tasks. For instance, they engage in *nation building by* promoting state symbols, official language(s), shared history, etc. (Norman, 2006). Second, one of their key activities, public insurance, is about risk management (Moss, 2002). Premiums are collected through taxes for compensating victims of adverse events such as illness, unemployment, and so forth. The fundamental goal is not to render individuals more equal, but to lessen the impact of bad luck (i.e. adverse life events such as accidents, illnesses) and protect them against *social risks* (e.g. risks of being unemployed due to economic slowdowns) (Heath, 2011).

Redistribution and *risk management* pursue distinct objectives. On the one hand, redistribution aims at lessening inequalities through transfers from the well-offs to the worse offs. In liberal economies, the intention is to partly correct the outcomes of market interactions. On the other hand, risk management attempts at neutralizing the effects of *bad luck*. Although the role of individual choice for some risks can be debated (e.g. tobacco and alcohol consumption in

relation to cancers), the rationale remains: bad luck should be cushioned. The end goal is not to level the playground (except in the face of risks), but to reduce uncertainty.

Many early social insurance mechanisms emerged during the industrialization. Originally, they were privately run by unions, fraternal societies and guilds. Progressively, states took over for various reasons (Beito, 2000; Cordery, 2003), many having to do with the higher efficiency of states for managing risks in comparison with private actors. States have deeper resources for ensuring substantial populations. They are less prone to default on their financial obligations than private organizations. They have access to more extensive data for calculating risk exposure through national statistics agencies. They have the capacity as well as the legitimacy to constrain the residents using regulation or police. Finally, broader populations show better stability of the risk distribution (i.e. the risk probabilities calculated *ex-ante* are more likely to match the actual adverse events) due to the law of large numbers. In sum, the larger the population, the easier it is to calculate risks and, therefore, individual premiums.

In addition to their relative advantage in terms of efficiency, states understood pretty quickly the strategic interest in shielding their population against uncertainty. It was perceived as a tremendous tool for social cohesion, enhanced mutual and institutional trust. That explains why conservative regimes and leaders initiated some of the most important public insurance mechanisms, such as Napoleon III for *l'assurance sociale* in France (Ewald, 2020) or Bismarck for pensions in Prussia. More generally, the Nordic countries illustrate a successful use of social insurance for stabilizing and strengthening civil societies, with the consequence of higher subjective well-being (Martela *et al.,* 2020).

Thus, social insurance has played a prominent role in the development of modern welfare states by giving flesh to the national project. In addition, it could be argued that states did not simply 'take over' social insurance, they were transformed from within by it. In early social insurance mechanisms, mutual help was essential. By paying premiums, workers became entitled to reciprocal relief. They were joining a community based on *solidarity* in front of uncertainty. When adopting public health, accident, unemployment insurance or pensions, states created *de facto* material mutual support in the face of risks. Put differently, they established *a national risk community*, i.e. a political entity bound by the promises of reciprocal relief in the case of bad luck.

Therefore, perhaps before redistributing resources and wealth, functional states are expected by their population to protect them against various risks, including health, job security and old age. This dimension is present in the SKDS survey (see Annex 1, Table 10) in which 'social insurance' and 'health care for all' are rated among the top four 'most important issues the parliament and the government should solve to increase your feeling secure'. Such responsibility echoes the rise of public insurance since the 19th century in developed nations. It is also a powerful normative principle as well as a formidable tool for nation building by *creating material solidarity within the population for social cohesion purpose.*

The public insurance rationale sheds light on another item of the survey: *taxation*, which is the second most important issue. In modern welfare states, taxes are not only, or even primarily, devoted to redistribution. They finance a variety of activities usually qualified as 'public goods' (Samuelson, 1954), such as police, justice, national defence, public infrastructure (roads, bridges, etc.), education, and so on. More importantly, they represent premiums paid for being entitled to be covered by collective solidarity against risks under the form, among others, of unemployment benefits, health care and pensions.

Nonetheless, in a world of growing populism, governments, parliaments and state administrations are increasingly facing a deficit of legitimacy and resentment (Cramer, 2016). As a

result, tax acceptance and compliance are under threat, which underscores the necessity of designing public policies that gather popular support and to find ways for strengthening institutional legitimacy. Actually, taxation could constitute an effective response to widespread worries about 'social security' and 'health care for all'.

On top of all that, Latvians are preoccupied with certainty of their daily lives: the indicators of feeling secure among various socio-demographic groups is rather low, but security is the dominant values orientation (see Annex 1). Through a fair tax structure, a robust public insurance can be built, which addresses individuals' concerns about uncertainty. This does not mean forcibly more taxes, but at least a system that is rather transparent, perceived as just and clear apropos its aim: *collective risk management*. Erecting such a system requires to reflect on the justifications and purposes of taxation, the reasons why a state taxes its citizens and how it undertakes this function, a growing field of normative research over the last decade, which is labelled as *ethics of taxation* (Gaisbauer *et al.,* 2015: 101-117).

Conclusions

- The business environment is an important indicator of the "health" of the national economy. The history of the world economy has shown that **long-term stability** is a driver of business growth. Setting strategic goals and pursuing them can ensure long-term stability and promote business growth. In the context of national-level development planning, incl. the National Development Plan – currently the NDP-2027–, it is important to ensure the succession and long-term stability of strategic goals. The NDP-2027 should also envisage achieving the goals and objectives set by the NDP-2020 that were not achieved but are still relevant. It would also be important to use the Doing Business and Global Competitiveness Indexes as evaluation criteria, as the areas covered by the indexes include a wide range of aspects of the business environment.
- During the Covid-19 pandemic, **public support programmes** targeted individuals and businesses to retain employment, compensate for lost incomes and address the most pressing business challenges. The support was provided in the form of subsidies, grants, loans, tax deferrals, guarantees and training. Several mechanisms were put in place to support companies and employees in the industries affected by Covid-19. However, short-term support was mainly provided without a longer-term vision. The government's response to the negative economic impacts of the pandemic on business and the economy was reactive. No proactive steps were taken to predict the developments and design a medium-term strategy for crisis management. Both the support mechanisms themselves and the criteria for the participation of businesspersons in support programmes were not always well considered, and the implementation of the programmes was criticized by business associations.
- During the crisis and the recovery, **innovation** needs be the focus of any business strategy. It is necessary to create a business-friendly ecosystem being able to adapt to shocks and new challenges. Policy makers need not only to respond to the challenges of Covid-19 but also to come up with long-term development prospects and ideas for support. Long-term recovery planning and proactive crisis management are necessary. The impact of the crisis on business manifested itself in the form of decreasing revenues and profits because of a significant decrease in consumption due to government restrictions and more cautious spending by the population. The industries of accommodation and food services as well as arts, entertainment and recreation suffered the most.

- The proportion of individuals considering starting a business has increased during the crisis. The most important factors that contribute to their desire relate to personality traits, e.g. appropriate character traits, experience, skills and education. However, the most significant obstacles for those having a negative attitude towards starting a business in Latvia relate to both personality and exogenous factors: policies implemented by the government, taxes, a business-friendly environment, bureaucracy and excessive control of public authorities.
- Any **crisis is a period of both serious challenges and new opportunities**. The crisis caused by Covid-19 affected the existence of companies that were set up shortly before the pandemic. Most of the companies invested in their business expansion, making no savings for the crisis. Some of them were not eligible for government support due to their short life because they did not meet the eligibility criteria. However, the crisis also gave a stimulus for business expansion: some start-ups continued operating successfully, while many changed their business patterns through cost-cutting measures, and new businesses and new ways of delivering goods and supplying services emerged. Accordingly, it is necessary to create an attractive business environment not only for current companies but also those to be established in the future.
- The **incomes of the population** are little diversified, especially among those whose main source of income is wages and salaries. However, a higher degree of income diversification is observed for entrepreneurs who own family businesses. For the unemployed, the largest part of their incomes is made up of social transfers. Because of the pandemic, incomes from paid employment decreased, while incomes from social transfers increased. Investment income represented the smallest proportion, which indicated a low level of savings and investments.
- The extremely low level of **social transfers** is the reason for the population's distrust in the state social insurance system. The state social insurance system does not fully perform its functions, as economically justified criteria and standards are not employed to shape the social transfer system. Consequently, the level of poverty and inequality is high in Latvia. A reform of the social security system is needed to ensure that any person is protected in a dignified manner against the risks of health loss due to old age and other objective reasons.
- The empirical data indicate that businesspersons are more prosperous than employees and have much more positive self-esteem and prospects for economic growth. However, the goals set by the National Development Plan to achieve more economic cooperation in producing science-intensive exportable products are hampered by insufficient functional solidarity. Businesspersons are more focused on relationships with a narrow circle of individuals, use individual tactics to solve their problems and do not take advantage of increasing their resources by using the opportunities provided by open social structures. Overall, the population's outlook for the future is more pessimistic in Latvia than on average in the European Union. The respondents were quite critical of the government's actions to mitigate the economic consequences of the pandemic, and business confidence indicators confirmed the negative rating of the economic situation. The social security system could allow both current and would-be businesspersons to free up part of their personal and capital resources for business expansion, which they currently use to manage future risks.

Suggestions

- To contribute to the stability of achieving strategic goals, incl. maintaining a favourable business environment in the long term, the main national strategic policy document (National Development Plan (NDP)), needs to transfer the objectives and results unachieved in the previous programming period, which are still relevant, to the next NDP. The NDP should also maintain the Doing Business and Global Competitiveness Indexes as evaluation criteria, as the areas covered by the indexes include a wide range of aspects of the business environment.
- Strategic documentation and decision-making practices need to be improved: document developers and decision-makers should rely not on assumptions about the needs of people, but on scientifically based regularities and empirical data.
- The size of unemployment benefit needs to be linked to the minimum income level or the subsistence level that needs to be set urgently, as well as to the Relative Household Expenditure Budget established within a project funded by the Ministry of Welfare in 2021, which includes food basket and non-food expenditure categories.
- Income resilience would require an increase in the proportion of diverse income sources, in particular personal investment. This would be possible through providing favourable conditions and support for self-employment and involvement in business. Family businesses that provide employment and incomes for family members could be an effective way of securing the incomes.
- Given that most of the respondents mentioned the unfavourable business environment and tax policy as the main barrier to starting and developing businesses, it is necessary to assess the business environment in Latvia in depth and focus not only on how easy it is to start a business but also on its consistency with the specifics of modern global business and sustainable operation.
- To foster business development and adaptability to new conditions, the companies that have already begun to do it, and for those who are yet to do it, should adhere to four principles or lines of action: (1) strategic: development of a telework policy; strategic workforce planning in relation to the company's business plans and the skills needed to implement them; diversification of business activities; rationalization; flexibility and ability to adapt to changes and new circumstances; movement towards digital transformation; (2) development of additional skills and skills development programmes for personnel training to build up, e.g. digital skills, cognitive skills (critical thinking, creativity, problem solving etc.), socio-emotional skills (for maintaining professional ties also when engaged in teleworking), adaptability and resilience skills; as well as training on personal data protection, confidentiality in the context of teleworking; (3) introduction of new forms of work arrangements in addition to teleworking, e.g. rolling schedules, piecework, a shortened working week, flexible work schedules, multiple jobs etc.; (4) experience-sharing activities, e.g. within the professional association.

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Expert opinion
"Critical friend" of a policy maker

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"The situation with trust gets worse, self-isolation and disintegration increases, solidarity mainly takes the form of donation and ad hoc, this time and in this case, and only some help, not support for another," – so in a few words I can describe my feeling by reading the materials prepared by the researchers –, particularly the paper "Business, income and risk management" presented in this chapter and content of the nationally representative survey presented in Annex 1. "Socio-economic prerequisites for agency". After reflecting on it, I add: "Entrepreneurial people who are ready for political activism and a respectful dialogue with the state administration are also likely to avoid this opportunity based on the idea that their ability to influence, for example, the economic environment is not real, and "ordinary" people support each other in their families and communities. Will the two sides meet in the 2022 parliamentary election?"

What is valuable is that the research studies raise new questions

The opportunity offered to me by Professor Sergei Kruk to be one of the first readers of the research results and to get to know significant personal and professional findings is exclusive. Being involved not only in academic work but also in policy making, I perceive what I read as support from a "critical friend" and reflection on what realistic things to include in policy documents and how to fulfil the commitments made therein. My opinion has limitations based on my personal interpretation of what I have read as well as on my experience and values.

The research questions relate to the goals and lines of action set by three policy documents: the previous National Development Plan 2014-2020 (NDP-2020) and the National Development Plan 2021-2027 (NDP-2027), as well as the Cohesive and Active Civil Society Development Guidelines for 2021-2027 (hereinafter the Guidelines). What factors affect the agency of the population of Latvia to act? Who hinder it and who promote it? Is it possible to achieve the economic growth targets set by both NDPs without real, not formal, solidarity of the population? How should public authorities improve their services to residents in order to achieve the goals set? Could social capital be increased by "developing civic education and public awareness of democratic processes in the country, including decision-making and the role of civil society in a democracy", as prescribed by the Guidelines? How do the population of Latvia perceive themselves in society, how do they understand relations with other people and public administration institutions? I am also particularly interested in research on the identity of and security factors for the population at risk of social exclusion. The fact that the research findings raise such questions is already valuable. Of course, without losing hope, both policymakers and researchers will look for more in-depth answers in the next step.

There could be implemented policies which are accepted and in which residents engage

Next, my thoughts group around several keywords and key questions. However, one of the common conclusions is that policy-makers could have the best of intentions, but if residents do not accept them and participate in their implementation, the intentions remain unfulfilled. There is even a more important question – why part of the population does not get involved at all?

Methodology. I perceive trust and solidarity as a link between the practical values that shape social capital. In my opinion, it has been very productive and purposeful to interpret solidarity through its multifacetedness and practical social action manifestations (Bayertz 1999; Hechter 1987; Scholz 2012; Smith & Sorrell 2014; Thome 1999), including normative solidarity based on moral criteria and volunteering and helping others; functional solidarity based on efficiency goals and economic cooperation; political solidarity based on balancing interests and on trade-off decisions; and social solidarity based on the interdependence of individuals or groups and being manifested in trust and mutual respect.

Given that the NDP-2027 refers to normative, functional and social solidarity, but does not provide for political solidarity, the search for a trade-off between needs and interests as well as the acceptance of pluralism, the researchers conclude that the NDP-2027 is based on an assumption (not based on data) that all residents have the same understanding of public goods.

Conceptually in the empirical part, the researchers base social morphogenesis on theories of social capital and open and closed social structures (Archer, Colman, Putnam), as well as on S.Schwartz's theory explaining the influence of basic human values on behaviour in relationships with internal and external groups. The researchers associate agency with high self-esteem and personal safety, dignity, tolerance, concern for the protection of all people and nature. It is implemented in an open social structure, forming relationships with people outside the realm of personal collectivity and personal connections with others.

Does such an attitude characterize social relations in Latvia? The research findings show that very rarely. Latvia is characterized by the self-sufficient existence of "small valuable communities". In view of the previous research carried out by the research team in 2013 on the economic crisis of 2009-2011, the research aim also requires a comparison of how the dominant social relations in the society of Latvia have changed over 10 years: from the stabilization of the post-crisis economy to the period of the Covid-19 pandemic. To examine social relations, the researchers used Archer's concept of the Self, which incorporates health, a meaningful life, security, confidence in the future and satisfaction with living standards. Primary agency indicates the respondent's freedom of action. Corporate agency is associated with open social structures: the respondent's participation in voluntary associations and participation in political activities, institutional and general trust, and the recognition of social inequality.

The Self, security and the future. The research revealed that only a fifth of the respondents felt safe and satisfied with their lives: they had a sense of security about the future, internal and external resources, a strong sense of belonging to the community and an awareness of goals, as well as demonstrated obedience to law and the recognition of authority.

The most respondents (40%) acknowledged insecurity of various degrees. A fifth expressed distrust of the law, relied on social benefits, did not feel as belonging to the community and was afraid of external threats. Most often they were lonely people.

The correlations identified by the research indicated that low self-esteem was associated with socio-economic disadvantages, basic education, low-paid work or benefits, rural life and the age group of 55-75 years. Lonely people had few resources to support others, thereby

expressing their solidarity, while ethnic minorities justifiably felt excluded from society for political reasons: their interests and voices were not sufficiently recognized and appreciated by either political party or parliamentary politics. Among the respondents, ethnic Latvians dominated as employees, there were few employers among them, while ethnic minorities were little employed in the public sector. The high self-esteem of Riga residents was characterized by the highest incomes and faith in the future.

What constraints primary (individual) agency? The research found that the freedom of action was negatively influenced by old biological age, poor health and a lack of finances. The respondents who acknowledged the existence of bureaucratic constraints also gave lower ratings of their opportunities. Family responsibilities represented a less significant barrier to self-determination and choice than other constraints. A significant number of respondents believed that cooperation with others was needed in a situation of constraints, while those who were younger and less affected by some constraints were convinced that they needed to change and improve their level of education themselves.

Security dominates freedom. We are a society of security, not freedom, if we use these traditional opposites. The research found that in Latvia, 88% of the population aged 18 to 75 rated this value as moderately or largely important. The need for security, harmony, society and personal stability (national security, mutual assistance, family security, a sense of belonginess, social order, health, cleanliness) was more pronounced for pensioners, non-citizens and the unemployed, as well as middle- and low-income earners than for the others. The older the age of the respondents, the higher the proportion of those who had a strong need for security. In contrast, the higher the level of education and/or autonomy, the lower the need for external security. Besides, the need for external security was less pronounced for socially active respondents than for socially inactive ones. There were no statistically significant differences in this parameter between various groups of respondents, depending on the level of urbanization, the nationality, the region or the place of residence.

In relation to potential support for change, 64% of the surveyed ethnic Latvians chose conservative values. Does this mean that the programmes offered by the political parties of stagnation will win in the parliamentary election in 2022? It is not the case, as most of the respondents, rating the work of politicians, admitted that party programmes did not seem to them to be the most important: the personality, image, moral authority of the candidate was the most important.

Me and others? The state and me? Open to cooperation? The NDP-2027 states that the future of the national economy depends on the output of high value-added, science-based products. The culture of start-ups could contribute to this, and the NDP envisages this. Will there be enough active people, start-up creators who are open to risk and cooperation? The research found that, overall, the population of Latvia were not open to change, demonstrated prudent economic behaviour, rated security the highest, spent prudently, and avoided the risks posed by cooperation in open social structures. The culture of start-ups was represented by only 9% respondents who planned to start up a business and had a relatively high level of general and institutional trust, were optimistic about the prospects for economic growth and support from civil servants. The average age of this group was 33 years. The practitioners, however, were much more sceptical: the average age of business owners and the self-employed was 42 and 44, respectively, and their responses revealed that practical business experience reduced their optimism.

The research results revealed greater subjective security among employees in the public (national and local government) sector than those working in the private sector. Public sector employees showed a slightly higher but statistically significant level of social solidarity. They

were more likely than those in the private sector to work in voluntary associations and highly rated a sense of belonginess. However, institutional trust did not differ between public and private sector employees.

The research found that the correlation of institutional trust with activities in educational, cultural, sports organizations and amateur art groups was strong, which suggested that social capital, which formed within open social structures, promoted reliance on public administration institutions. However, the experience of members of professional associations and aid organizations did not confirm a direct link: in this case, social capital did not increase institutional trust. The data allowed researchers to put forward a hypothesis that the achievement of practical goals of professional associations and aid organizations depended on interactions with public administrations, which were more likely to hamper civic society activities. It was difficult to fully agree with the hypothesis, as experience in the work of civic society organizations was very different, it could be completely opposite – support and understanding or rejection and unworkable bureaucratic requirements on the part of the administration. It would be interesting to compare the data with the findings of research studies commissioned by the Latvian Civic Alliance (see https://nvo.lv/lv/portfelis/petijumi/).

In view of the position of the researchers as opposed to the educational measures prescribed by the Guidelines, which are intended to promote trust and solidarity in both formal and non-formal education, it is difficult for me to accept them fully. If education in any of its forms is understood as the transfer of knowledge, one can agree with the researchers – the transfer of knowledge cannot replace a lack of resources that the research data clearly indicate. However, implementing education as the acquisition of professional and higher education competencies through learning by doing and also in the working environment, there occurs the development of individual and social resources, including both economic (entrepreneurial, teamwork skills) and political (leadership, analytical, decision-making, rhetorical skills etc.), not to mention essential social, including communication, skills.

However, the resources that I have mentioned create opportunities for corporate agency, but they do not yet provide it in practice, and it needs to be acknowledged. I support the researchers' criticism about the approach, prescribed by the Guidelines, to solidarity aimed at increasing homogeneity, which is really not necessary in a pluralistic democracy. Empirical evidence does not reveal a link between the socialization of culture (e.g. a sense of belonging to the community, membership of art and cultural NGOs) and political and functional solidarity.

The empirical data confirm that a positive rating of the Self, agency and solidarity is related to the respondent's position in the resource distribution system. The lowest ratings were given by the respondents who did not work or worked in the private sector (especially those from ethnic minorities). Having a business and intent to start up a business was associated with higher levels of normative, functional and social solidarity.

Scientific evidence suggests a correlation between solidarity and the ratings of public administrations. They set the rules of the game that limit or strengthen agency as well as can suggest general criteria for relational trust (Hardin 2002, 2006; Luhmann 1979). Closed social structures maintain person-centred trust based on emotions and beliefs about familiar people. System-based trust provides some general criteria for maintaining relationships in open social structures, as institutions can guarantee the procedures required for relational trust, including through significantly reducing bureaucratic burdens and avoiding conflicts of interest. Institutionalized procedures provide support for fair relationships with fellow individuals that foster relationships with lesser-known people.

The respondents in Latvia were not satisfied with public administration in practice.

Interactions in open social structures increase risks that individuals cannot take due to a lack of adequate resources. As a result, individuals rely on closed social structures. To feel safe, the most respondents demanded a clear business environment and an efficient social security and health care system. A predictable and prudent legal framework and an effective social security system could help individuals to manage their future risks. The respondents acknowledged that their legitimate interests were not on the political agenda, yet they did not use the instruments of democracy to influence decision-makers. I should agree with the authors that low support for universal values and non-recognition of societal heterogeneity hinders the development of corporate agency for political solidarity.

Loss of time during the crisis and new opportunities

An analysis of the data from the nationally representative survey showed that entrepreneurship as an occupation statistically significantly increased the respondents' self-esteem. They were more satisfied with their quality of life and more often demonstrated normative and functional solidarity. Entrepreneurship contributed to economic growth through serving as a means of increasing competition and therefore the diversity of businesses. However, the population of Latvia preferred employee status. The paper "Business, income and risk management" addresses two problems arising from the data analysis: 1) legal opportunities and restrictions for small and medium enterprises; 2) the state social insurance system as a mechanism for reducing individual risks. In the opinion of the researchers, solving the problems could improve the socio-economic situation of the population of Latvia, which I can fully agree with.

The paper focuses on an analysis of national crisis mitigation policies in 2020-2021. During the Covid-19 pandemic, the national support programmes were targeted at businesspersons and citizens to retain employment, compensating for lost incomes and tackling the most pressing business problems. I should agree with the researchers that short-term support was mainly provided without a longer-term vision. The government's response could be viewed as reactive, without implementing proactive crisis management measures, as well as without developing a medium-term crisis management strategy. The representatives of professional business associations had also pointed out shortcomings in the implementation of the support programmes.

The researchers have correctly described the resilience of entrepreneurs during the crisis based on four principles: (1) strategic changes, i.e. development of teleworking policies, diversification of economic activity, progress towards digital transformation; (2) acquisition of a variety of additional skills ranging from digital to cognitive and emotional; 3) introduction of new forms of work arrangement for in addition to teleworking, e.g. a shorter working week; (4) sharing of experience in a professional environment. If the prerequisites for implementing the principles are created together by public support and the mobilization of internal resources of companies, in my opinion, not only resilience in crisis conditions works but they represent also lines of action after the crisis.

The research performed an analysis of endogenous and exogenous factors in business start-up motivation. From the perspective of an analysis of exogenous factors, a lack of public support and the conservative lending policy of banks did not motivate the respondents to start up their own businesses. The tax policy and a business-friendly legal environment were the resources that could encourage individuals to start up a business. Getting familiarized with the high international ranking of Latvia in relation to its tax policy and business-friendly legal environment, a question arises: why do so many entrepreneurs blame the country for the factors and even choose to register their businesses in the neighbouring countries?

I appreciate a balanced, data-based analysis of the business environment done by the researchers. They have proved that the crisis is a time of both serious challenges and new opportunities. The crisis caused by Covid-19 affected the existence of companies that were set up shortly before the pandemic. Most of the companies invested in business expansion without making any savings for the crisis. Some of them were not eligible for public support due to their short life because they did not meet the eligibility criteria. However, the crisis has also provided a stimulus for business expansion: many companies have changed their business patterns through cost-cutting measures, and new kinds of economic activity and new ways of delivering goods and services have emerged.

In my opinion, the conclusion made by the researchers that the incomes of the population of Latvia were insufficiently diversified is very important and relevant. They rightly recommend increasing the proportions of various sources of income in total income for the population. This would be possible by creating favourable conditions and support for self-employment and engagement in business. The researchers have proved that family businesses could provide effective employment and income for their family members.

Analysing the state social insurance system, the researchers have expressed reasoned criticism: the system provides an extremely low level of incomes (means of survival promote the psychology of survival, which was also proved by research on the culture of poverty in Latvia, e.g. by S. Dobelniece) and is the basis for population distrust of the state social insurance system. Analysing the changes in social transfers in 2020, I need to agree with the researchers especially with regard to the (poor) financial situation of the unemployed. The researchers have emphasized the fact that no minimum amount of benefits was set, which means that the system protected low-wage earners less. Unemployment benefits would need to be further linked to the Relative Household Expenditure Budget designed by the government in 2021. Given the data-based conclusion drawn by the researchers that the majority of unemployment benefit recipients were women (67%) and the number of benefit recipients has consistently increased 6.6-fold between May and December 2020, it could be concluded that gender equality-related measures were not integrated into crisis management.

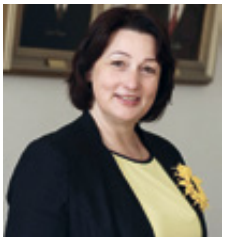
I need to agree with the researchers that the state social insurance system did not fully perform its functions because economically justified criteria and standards were not applied to create a social transfer system. Consequently, Latvia had a high level of poverty and inequality. A reform of the social security system is needed to ensure that a person is protected in a dignified manner against the risks of health loss due to old age and other objective factors. It is positive that the problems have been identified and solutions have been suggested in the new Guidelines for Social Protection and Labour Market Policy for 2021-2027 (see https://likumi.lv/ta/id/325828-par-socialas-aizsardzibas-un-darba-tirgus-politikas-pamatnostadnem-2021-2027-gadam).

After examining the self-esteem and security of the population of Latvia and their attitude towards the future, the researchers have found that the population's rating of the future was more pessimistic than the EU average. The respondents were quite critical of the government's actions to mitigate the economic consequences of the pandemic, and business confidence and start-up indicators confirmed the negative rating of the economic situation. The researchers reasonably believe that the social security system could allow both current and would-be businesspersons to free up part of their personal and capital resources for business expansion, which they currently use to manage future risks.

In conclusion, I would like to emphasize that I have acquired a resource for higher quality policy-making, as well as satisfied my interest as a researcher in the field of solidarity and trust. I have not changed my mind that only trust and solidarity in everyday interpersonal practice could change our country to a safer, more cohesive and prosperous one over time.

7. Education Digital Competence

Factors Affecting the Competitiveness of the Education System as a Result of Global Economic and Social Transformations and the Additional Challenges Caused by the Covid-19 Pandemic



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The global economy and society as a whole are open to the challenges of the 21st century – the use of information and communication technologies (ICT) in professional activity and the digital transformation of processes to promote the creation of high value-added goods and services. In the public sector, digital technologies are used in communication, which allows for interaction between residents and national-level and municipal officials. Technologies help to achieve the main management goals of public sector institutions, which include increasing efficiency and service quality, reducing service production time,

raising transparency and ensuring the provision of both uniform and specific services by all organizations.

In business and entrepreneurship, however, one of the most important criteria for successful competitiveness is digitalization and digital transformation for the transition to a modern globalized industry. The dominant opinion is that digitalization could significantly increase competitiveness, as well as achieve other strategic goals set for the company, which in turn significantly affects the level of prosperity both regionally and nationally.

Global digitalization enters any area of human activity, not only education, business, entrepreneurship and public administration but also the daily routines of every individual; therefore, ICT has also become an essential tool for knowledge transfer. Thus, nowadays ICT create both challenges and opportunities for the development of higher education in line with the needs of Generation Z, namely the digitalization of learning, the use of digital technologies and virtual reality, access to big data and the latest scientific information, the global Internet, distance learning, smart devices etc. However, it should be taken into consideration that there are both risks and obstacles to introducing and using the advantages of ICT, as it depends on the strength of the information technology (IT) industry and the country's readiness for digital transformation.

7.1. Increasing competitiveness in the contexts of digitalization, the Covid-19 pandemic and education

Significant investments in creating an efficient, innovative knowledge economy and shaping a knowledgeable, inclusive and creative society are required to comply with trends in the global economy and to achieve the subordinate strategic goals of development set by Europe and Latvia. Since human capital is the most important resource in the economy of Latvia, its growth is determined by its ability to build up and skilfully use knowledge and skills. The development of a knowledge economy requires strategically and wisely investing the limited resources of Latvia in the creation, acquisition and transfer of knowledge, as well as in the development of a society that is able to adapt to the challenges caused by global trends and find new growth opportunities (National Development Plan of Latvia for 2021–2027). However, the current wave of technological changes creates a lot of uncertainty about the implications of digitalization for employers and employees, the economy and society as a whole. According to the Digital Competence Framework for Citizens developed by the European Commission (EC), digital skills are important for people in a number of areas, and many challenges are daily faced for the continuous build-up of digital skills.

The structural changes and restructuring of the national economy continue to focus both on tackling environmental challenges and on digital transformation, which affects every area of the economy, society and industry. The breadth and depth, scale and pace, nature and urgency of this transformation have been unprecedented up to now. As the pace of restructuring increases, Europe needs to ensure that the education sector and professional development keep pace with the changes (New Industrial Strategy for Europe).

The rapid digital transformation means that almost any professional prepared by educational institutions needs to have a certain level of digital skills. Therefore, a notion that education is a system that prepares human resources for the national economic system becomes increasingly important. In today's changing world, a situation emerges where it is necessary to constantly match the supply of one system (education) with the demand by another system (economy), as only an equilibrium between supply and demand leads to a high-quality

workforce capable of working under the conditions of economic structural changes. This confirms the importance of the role of education in the development of digital competences and skills.

The global labour market faces rapid changes caused by automation and robotization. As digital technologies enter industry, the economy, education and society, it is important to understand the term rural. A distinction needs to be made between the understanding of **digital formats and technologies, digitalization and digital transformation** and their scale and impacts on processes (Figure 7.1.).

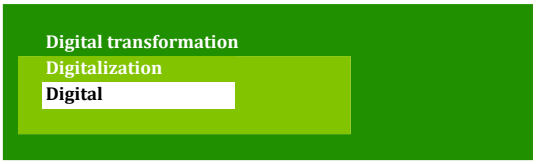


Fig.7.1. Scaling of digitalization-related terms.

Being aware that the digital dimension is emerging as a cross-sectoral area, it is important to share the knowledge that contributes to a better understanding of the strategic requirements of digital transformation. Such strategic requirements relate to several aspects of competitiveness and the company's functional areas: information flow, marketing, innovation, strategic and tactical management.

Digital formats and technologies are IT-designed tasks for faster, more accurate storage of information and also for accounting for the company's resources. Therefore, the main task of the digital format is to convert analogue information into digital information. Usually, digital formats primarily digitalize internal and external documentation processes, yet not with the aim of changing value-creation activities or changing business processes. **Digitalization** should be perceived as a set of activities and digital technologies changing current business processes. Such changes often involve the establishment of new structures, which has not previously been possible without digital technologies. Digital solutions serve as a driver that motivates individuals to use new business opportunities and change current business processes or overall business management. The use of digital tools is not focused on cost savings but on process improvements that significantly affect the competitiveness of companies (Muro, M., & Maxim, R., 2018).

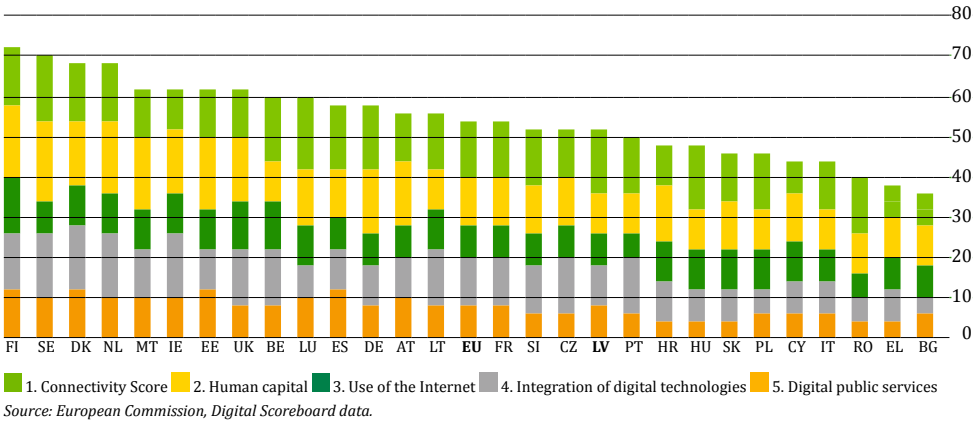
Digital transformation is currently the most commonly used term related to digitalization, which describes changes in a company, an organization or a municipality, nationwide changes and contributes to new models for development. Therefore, it is considered that digital transformation creates competitive advantages for companies, industries and sectors as well as countries (Porter, M. E., Heppelmann, J. E. (2014)). Besides, digital transformation harnesses digitalization and digital technologies to interact with suppliers, customers and competitors internationally and globally. Digital transformation basically relates to strategic changes in the business or the economic development models, which are determined or caused by the impacts of digital technologies and the external environment.

Several aspects are referred to as challenges for digital transformation:

- rapid development of the current situation, because of which digital solutions tend to rapidly become obsolete; digitalization could only occur gradually;
- large investments are made in digitalization to foster digital transformation;

- digital changes at various stages move towards digital transformation, which result in faster progress than the strategy envisages;
- digital transformation is the most difficult stage that could be achieved only if digitalization has been implemented.

One of the indicators for comparing the readiness of countries for the introduction and use of digital technologies is the Digital Economy and Society Index or DESI created by the EC.



Source: European Commission, Digital Scoreboard data.

Fig.7.2. Digital Economy and Society Index for EU Member States in 2020.

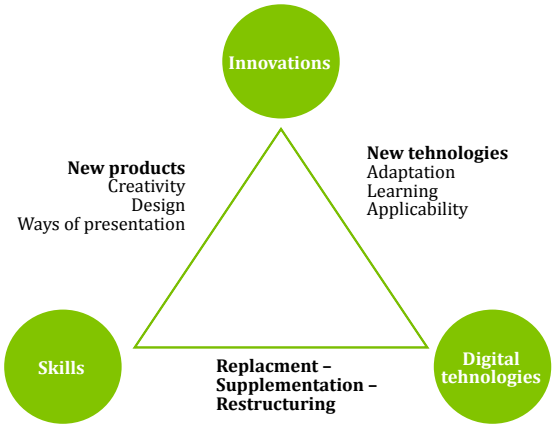
As shown in Fig.7.2, Latvia ranked 18th in 2020 (15th in 2019). According to the Ministry of Economics (MoE) of the Republic of Latvia, currently the workforce in Latvia has a low level of digital skills, which limits the potential for innovation and the use of digital technologies by companies. According to the Economic Development Report of Latvia, only 43 % of the population of Latvia aged 16 to 74 had digital skills. A comparison of this figure with the average for the European Union (58%) reveals that Latvia lagged behind by 15 percentage points. A study by the MoE has showed that many companies in Latvia still do not even have their own corporate websites. In addition, not many small and medium enterprises in particular relatively use electronic sales channels, making their revenue from online sales one of the lowest in the EU (Ministry of Economics). A study by the Organization for Economic Cooperation and Development (OECD) acknowledged that companies in Latvia continued increasing the use of digital technologies, yet the progress was too slow, as their performance still lagged behind that in many other EU Member States (Organization for Economic Cooperation and Development).

According to the MoE, national public support for digital transformation of companies throughout Latvia, incl. the regions, in the period 2021–2027 is going to be provided through the establishment of European Digital Innovation Hubs (EDIHs). According to the MoE, the establishment of the digital hubs is going to give almost every company an opportunity to create new and innovative products, implement new technological solutions, provide digital skills training for the employees, promote the international recognition, assess digital skills possessed by the employees, and increase the companies' awareness of digital advantages increasing their competitiveness (Ministry of Economics).

Digital skills

Latvia had the lowest scores for human capital and integration of digital technologies. Therefore, digital skills, their application and public involvement are very important. This requires companies and organizations to align digital needs with the digital skills and abilities of employees so that they can adapt or even radically change to succeed in an ever-changing digital world.

Digital technologies will increasingly impact innovation and skills that are subject to constant change. The interactions and complex and dialectical relationships between innovation, skills and digital technologies are shown in Figure 7.3



Source: authors' construction based on Ciarli T., Kenney M., Massini S., Piscitello L. (2021).

Fig.7.3. Interactions between innovation, skills and digital technologies.

It is believed that the development of digital technologies is completely exogenous, and innovation is both the result and the source of digital changes affecting the economy, education and society. There is a need for both unique skills related to the understanding and use of digital technologies, as well as the skills needed to implement digitalization in a company/organization, as well as to educate, plan and motivate the workforce. The mentioned factors also affect the innovation process and the development of new digital technologies and create interactions: digital technologies continue progressing, while the skills required for the development and implementation of such technologies also evolve, thereby driving the innovation. The ability to adapt to this continuous progression, driven by digitalization processes, requires companies and their employees to place more emphasis on meta-skills, which represent the ability to continuously adapt current skills or acquire new skills to take advantage of digital opportunities. The following meta skills are considered to be important: an ability to solve complex problems, management, leadership, critical thinking, entrepreneurial ability, abilities to react flexibly, quickly learn the new, adapt to conditions etc.

It is important to understand the Digital Competence Framework for Citizens developed by the EC. The key digital skills without which digitalization is not be possible have already been identified.

1. **Acquisition and processing of information**, which include browsing, searching and filtering data, information and digital content, as well as assessing and managing the content.
2. **Use of digital technologies in communication**, which includes cooperation and interaction through digital technologies, as well as data and information sharing.
3. **Planning and creation of digital content**, which include the development, modification, refinement, enhancement and improvement of digital content and the integration of it into current knowledge to create new, original and meaningful content and knowledge.
4. **Data and device security** includes device protection and risk and threat assessment, as well as personal data and privacy protection in the digital environment based on the ability to protect oneself and others from potential threats such as cyber-attacks, as well as knowledge of digital technologies for social wellbeing and inclusion.
5. **Development of problem-solving skills** includes both solving technical problems when operating devices and using the digital environment and applying creative digital technologies to create a new knowledge and innovate processes and products.

All the mentioned skills interact to provide the necessary set of skills that play an important role in the digital age. As the world evolves rapidly in the fields of technology and knowledge, future employees will need to develop skills that are useful in a changing world (Darling-Hammond, 2010; Friedman 2005). Thus, the role of the education sector in adapting to the changing world and raising economic competitiveness increases.

The concept of digital skills goes far beyond knowledge of ICT use, which means the use of computer and Internet technologies for acquiring and exchanging information. It is important to solve, process and critically assess information, and use it to solve problems. Over the years, several research studies have enhanced and supplemented the definition of digital skills. The digital skill typology distinguishes three levels of digital skills:

1. Instrumental skills, which represent basic technical and operational competence related to the use of technological devices;
2. Structural or informative skills pertaining to the search for, selection and processing of online information, as well as the understanding, interpretation and assessment of it;
3. Strategic skills related to the ability to actively use information to influence the professional and/or personal environment (Building tomorrow's digital skills ..., 2018).

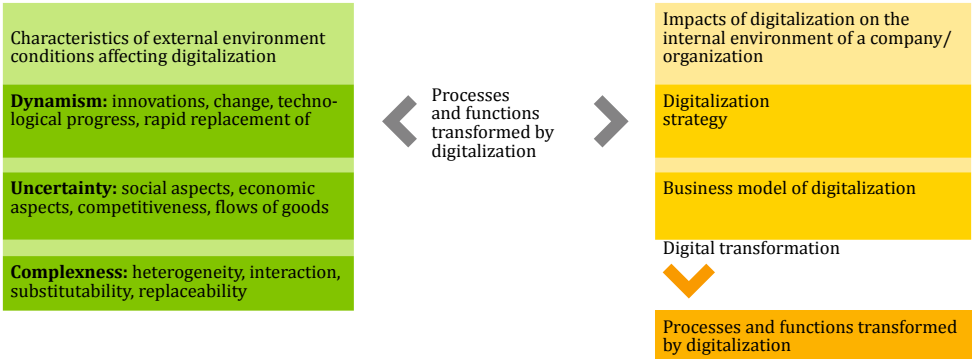
Research studies on digital competence as a "survival skill in the digital age" (Yoram Eshet-Alkalai), which affect not only education but also the social environment, are urgent. Therefore, digital skills need to be viewed in a broad sense, as they cover a wide range of skills, some of which cannot be considered to be mere skills, but rather relate to behaviours, competence and life skills. Besides, the patterns of behaviour and skills are closely interlinked and complementary (Building tomorrow's digital skills ..., 2018).

A 2019 OECD study on skills needed in the digital world assessed the transformation of digitalization in three areas: **skills in the digital world of employment, skills in a digital society and learning in the digital environment**.

The digitalization of business and future skills in the labour market as a challenge for the education system

One of the aspects of competitiveness that affects digitalization and digital transformation processes, as well as the competitiveness, is **external environment conditions**. Compared with the pre-digitalization period and due to the challenges caused by the Covid-19 pandemic, which have contributed to the rapid growth of digitalization, significant factor shifts have

occurred in the external environment. Therefore, it is believed that digitalization is subject not only to the development of processes but also to the impacts of the external environment (Figure 7.4.).



Source: authors' construction based on Gupta G., Bose I., (2020).

Fig.7.4. External environment conditions impacting digitalization in a company/ organization.

As shown in Figure 7.4, due to digitalization and rapid economic changes as well as the Covid-19 pandemic, the following factors are considered in relation to the external environment: dynamism, uncertainty and complexity or complexness, which determine the business model and the transformation of business by companies in line with digitalization. However, an in-depth examination of the mentioned aspects reveals that the drivers of digitalization are as follows: innovations, changes in the nature of economic activity and technological achievements, which could be assessed through the dimensions of the external and the internal environments. The drivers also reflect the degree of change and instability in the external business environment. Several applied research studies suggest that the digitalization and transformation of companies are influenced by various aspects related to changes both in the product and in processes, which in turn correlate with competitiveness.

The *reasons identified in a case study* that have led to changes in companies/organizations as a result of digitalization are as follows:

- creation of digital platforms for counting customers;
- innovations in automation processes;
- change of customer behaviour towards e-services;
- digital management of resources;
- value creation, including digital innovation;
- online payment platforms;
- digitalization of organizational activities;
- shaping of consumer behaviour (digital marketing);
- drivers of the social system, including the development of digital skills;
- heterogeneity of production environment requirements and value chain components;
- complexity and dynamism in strategy development.

Digital and business consulting company Altimeter has defined digital transformation as "the restructuring of or new investment in technologies and business models to more

effectively attract digital customers at all stages of the customer experience lifecycle". This definition recognizes that changes are needed in technology, business models and, at the same time, in customer experience. However, the definition has not yet identified the necessary changes in processes, ways of working, and even culture (Li C., et al., 2020). A definition by Perkin, however, formulates digital transformation as "transforming and renewing a company's resources, priorities, and processes to be fit-for-purpose for the digital-enabled world" (Perkin N., 2017). Digitalization on a global scale is also viewed as one of the key drivers of the so-called Fourth Industrial Revolution, which was initiated by the Third Industrial Revolution when much of the work was gradually assigned to a variety of equipment and robotic technologies, leaving control over them to humans. The revolution makes significant impacts on society, the various processes occurring in the world, as well as the overall development of business. The whole process can involve not only the above-mentioned global digitalization but also nanotechnologies, smartphones, cars, 3D printers to be applied in various fields, as well as more smart cities, devices and renewable energy sources (MASOC, 2019).

The Fourth Industrial Revolution provides one of the key links between the physical and the digital worlds – the connection between things, products and people through various technologies and platforms. Technologies for sensors and other devices that connect the physical and the virtual worlds evolve at an ever-increasing pace. Various sensors are installed in homes, clothing, various networks, cities and vehicles, as well as in production processes. Digitalization radically changes the way people manage various business supply chains, while allowing assets and activities to be monitored and optimized down to the smallest detail. It is believed that digitalization is going to make transformative effects on all industries, be it manufacturing, health or infrastructure (Shwab, 2016).

Since the Fourth Industrial Revolution changes future job opportunities, companies need to prepare their employees for what will happen in the years to come, and it is the development of new skills, the use of innovation and the diversity of professions that need to be given high priority.

The pace of implementation of digital solutions largely determines how ready a company is to adapt to today's market needs. It is important for entrepreneurs to meet and satisfy the needs of their customers, yet now this cannot be achieved without introducing digital solutions at both the operational and the strategic levels of business management. To implement this, the most important thing is to identify which digital solution is the most suitable for achieving the goals set and how to implement it correctly, using employees with appropriate skills and contributing to the company's competitiveness. At the national level, various support projects are implemented for the purpose of digitalization of companies.

Investments in the transition to the digital world are intended specifically for digitalization, i.e. the use of digital technologies in manufacturing, trade, communication, financial processes, various e-systems, e-services, accounting, data storage, infrastructure development and energy efficiency improvement, as well as for the integration of other digital tools into the "future" (Ministry of Economics, 2020).

Most organizations introduce new technologies and digital solutions to maintain/increase competitiveness in line with the requirements of the age. However, it needs to be acknowledged that companies rarely seek to innovate on their own initiative unless it is a particularly critical need. According to Couchbase data, about 86% organizations faced various barriers to introducing digital transformation solutions. However, digitalization projects become stronger, and an increasing number of leaders of organizations see the great potential of digital transformation. Competitive advantages for companies are often provided by global digital

platforms. Companies taking advantage of this opportunity outperform their competitors in terms of production speed, cost as well as quality. This superiority is ensured by digital technologies being able to overcome barriers created not only by negative regional factors but also by national restrictions imposed on various databases, as well as by infrastructure capabilities and new technologies. Digital opportunities provide better transparency, thereby shaping early patterns of behaviour for new consumers using various mobile network services (Sunigovets, 2019, p. 5). Consequently, digitalization makes a direct impact on the competitiveness of companies, as it increases their production efficiency and visibility, satisfies consumer wishes and facilitates operational processes, which in turn increases competition in the industry.

Facilitation of the digitalization of business in a region: a case study of Vidzeme region

Vidzeme region could be characterized by an active and modern business environment in Valmiera city and the towns of Cesis, Sigulda and Aluksne as well as the rich traditions of rural municipalities in culture, art, education and sports. It is believed that among the regions of Latvia, Vidzeme has the greatest contrasts between the countryside and the urban environment because the ancient meets the modern and the industrial meets the natural. Today, one of the key goals of each region is to make business smarter, more sustainable and more competitive. Digitalization and consequently the fastest possible growth could both contribute to the mentioned aspects and create additional challenges for companies.

One of the priorities of Vidzeme region is to achieve stronger cooperation between companies through involving national and local government institutions and educational institutions to facilitate growth opportunities and knowledge exchange and increase the level of innovation, while wisely using technologies and available resources and achieving higher value added. The Vidzeme Planning Region Development Programme for 2021– 2027 refers to the development of the innovation ecosystem as the first objective to be achieved to foster innovation, science and development in the region. The innovation ecosystem needs to ensure the functioning of a knowledge and innovation platform, strategically position innovation, industry and science in the region, make support tools available for innovation development and increase competitiveness – from regional to international. The policy document also envisages the promotion of cooperation between industries, sciences and education for the availability of infrastructure for development, the development of new technologies and products, the introduction of innovations in companies as well as innovative procurement (Vidzeme planning region).

To identify the digitalization situation and assess its impact on the competitiveness of companies in Vidzeme region, an electronic survey was conducted to obtain detailed data on particular businesspersons and their companies, as well as on the application of digital solutions and their impacts on everyday processes. In addition, their opinions on the impacts of digitalization on the competitiveness of their companies, the contributory factors, the digitalization solutions to be introduced by them, and additional factors in their further implementation of digitalization were identified as well. The survey also revealed the main obstacles to the implementation of digitalization in the companies and the sources where the businesspersons were looking for information they needed in relation to digitalization opportunities and solutions.

The survey identified that digitalization in Vidzeme region was implemented through various measures – setting appropriate strategic goals and priorities as well as improving the business environment and supporting businesspersons. Various unified information technology solutions are increasingly introduced, e.g. e-government, e-services etc. An integral part of

digitalization is high-speed Internet connections required in almost every public place and workplace, while mobile platforms, 3D technologies and virtual reality technologies are also introduced. In the region, projects aimed at helping businesspersons understand their business processes in order to increase their competitiveness in the future are developed as well. The establishment of digital hubs in the region is especially necessary – one has been established in Cesis, while the second is planned in Valmiera. Digital hubs help companies to implement digital tools and the most appropriate solutions and provide support in difficult situations, while creating a modern and efficient environment for society and organizations around them. Continuing establishing digital hubs in Vidzeme region results in more comprehensive support to companies in selecting and implementing the most proper digitalization solutions.

Opinions of the Vidzeme businesspersons about digitalization as a factor of competitiveness

In the survey, 200 businesspersons from Vidzeme region were involved, reaching them by means of e-mail and social platforms. Of the total businesspersons surveyed, 99% had secondary and higher education. Most of the companies surveyed were located in Valmiera, and the most frequently indicated kind of main economic activity was production of goods and manufacturing, which were also the most export-capable industries of the region. The respondents indicated in their replies that:

- the most commonly used digitalization solutions in their companies were electronic communication with employees, electronic invoicing, smart technologies, the company's website and social media, whereas the least used ones – intelligent technologies and sales of goods through other online shops;
- digitalization solutions significantly facilitated daily activities for 43% survey participants;
- digitalization increased the competitiveness of their companies (73%);
- the most significant obstacle to the implementation of digitalization solutions was a lack of experience in working with digitalization solutions;
- services provided by information and communication technology specialists and field/industry specialists, information obtained from colleagues and acquaintances and in various seminars and projects as well as other support tools were most often used to obtain the necessary information about digitalization.

The businesspersons were also asked about their plans to develop their companies in the nearest future. Over the next five years, most businesspersons plan to create social media accounts and websites, introduce more smart technologies in their companies, as well as increase the sale of goods through online shops.

The digitalization situation in Vidzeme and Latvia as a whole was rated as good by the businesspersons owing to the wide coverage of mobile data services and a possibility to have access to the necessary data at any moment and time. However, the largest barrier to digitalization was the limited amount of data available, which required data storage resources that were often not available to businesses. In addition, there was a digital gap, which could be observed regionally. One of the proposed solutions was to create a single, publicly accessible data portal that would allow various organizations and companies to promptly obtain and exchange the necessary and up-to-date information, if desired and/or necessary, thereby contributing to digitalization in the region, promoting cooperation between businesses and raising their overall competitiveness.

The survey results revealed that the digitalization situation in Vidzeme region was at a satisfactory level, the surveyed companies used digitalization solutions, and it was acknowle-

dged that their implementation generally improved the competitiveness of the companies.

The survey revealed that the most important thing was to provide support to the education system by designing practical digital training programmes for businesspersons and their employees, so that they could gain not only theoretical but also practical experience in working with digital solutions and apply their experience in their businesses, thereby increasing their competitiveness. National and local government institutions, educational institutions, as well as businesspersons themselves are already involved in this process by holding forums, conferences and seminars. By designing training programmes for groups of employees of different ages, it is possible to bridge the current "digital gap" between different generations within a company.

Further research is needed to identify the specific needs of Vidzeme companies for a single public data portal, which would provide them with operational information on digitalization and related solutions, enabling them to increase the overall level of digitalization in the region as well as promote competition/cooperation between the companies.

7.2. Digital skills among the academic community as a factor of economic growth

Higher education plays an important role in the digital transformation of general processes, making an effect on economic growth nationally. Education policy-makers and society as a whole view the higher education sector as an important driver of overall economic growth and prosperity. The competence and skills of academic personnel make a significant effect on the quality of higher education, and this factor also makes a multiplier effect on economic growth in the country and the long-term prosperity of the population. The higher education sector and the academic community are currently facing the challenge of generating synergies between academic traditions and innovative approaches. Changing approaches and paradigms in education has always been a long and complex process. Although structural reforms aimed at enhancing the governance of higher education institutions are currently dominant in higher education in Latvia, long-term reforms aimed at the quality and content of education are inevitable, which will promote digital transformation at all levels of education.

A significant breakthrough in the quality of higher education is not possible without the development of digital skills and competences in academic personnel, which mainly involves improving their digital skills. Previous research studies have showed that progress in ICT affects both the national economy and higher education. In previous programming periods, the role of human resources in overall economic growth was emphasized in EU and national policy documents, yet the current programming period marks comprehensive digitalization in all industries. In this regard, it is important to be aware of the role of higher education as a driving force. In order for digital transformation to occur successfully and for Latvia as an economy to increase its competitiveness in the common global economic arena, it is important to contribute to the development of digital skills and competences in all kinds of teaching personnel, incl. in that of universities. The digital skills and competences of academic personnel make a significant impact on the competitiveness of future generations in the global economy, which is vital for Latvia as a small and open economy. It will also allow higher education institutions to integrate into European and global virtual universities.

The digital skills of academic personnel have become an important tool in their daily work routine, and the skills are important not only in teaching but also in scientific research, communication and administrative work. One of the current priorities in higher education is the

readiness of academic personnel for digital transformation in relation to delivery of courses and administration of the educational process. ICT advances rapidly, and the use of ICT in education becomes increasingly complex. The restrictions on the movement of people caused by the Covid-19 pandemic and the subsequent transformation of delivery of education into the delivery of that via the digital environment in 2020 were an important factor in increasing digital literacy across the whole society. It is safe to say that in the education sector, too, the progress made over a few months in providing the teaching and learning process has reached the scale that has so far been planned over several years.

As early as the beginning of this century, scientific research emphasized that ICT plays a key role in improving the functional effectiveness of the higher education system and serves as a powerful tool for the development of quality teaching and learning. ICT is a catalyst for radical changes in the current learning environment and an effective tool for preparing students for the future. Success in the implementation of ICT policies depends on the recognition of the role of and the sustainability of ICT application in the education sector. Maximizing ICT potential involves high-quality ICT policies and more private and public sector involvement in financing their implementation, as well as their proper introduction and monitoring (Yusuf, 2005). E-learning, provided through ICT infrastructure platforms that allow access to education at lower cost, is becoming increasingly important in higher education. ICT infrastructure is widely used not only for course delivery but also for support, administrative and research activities (Adebayo, 2012).

Increasing the application of ICT in functional areas and, in particular, in general administration, would improve the administration of general information in higher education institutions in the context of global competition (Krishnaveni, Meenakumari, 2010). Many scientists emphasize the role of policy makers in encouraging the use of ICT and the development of digital skills in academic personnel. In recent years, it has also been recognized that digital skills are important for all personnel involved in managing the educational process. The use of ICT and its tools by higher education institutions should be sufficient in terms of quantity and quality, as the institutions prepare future teachers who, in the coming years, need to educate the public about the general use of and integration of ICT into all areas of human activity. No less important is technical support for making full use of digital tools that contribute to the build-up of digital competence also through self-education.

According to research by Juma, Raihan and Clement (2016), ICT significantly improves the performance of education administrators through facilitating communication at management level, providing quick access to the information needed, increasing the accuracy of information and analysing data quickly and efficiently. Various cooperation platforms motivate administrators to access new information for research purposes and improve their research skills, as well as facilitate personnel and student assessment and result processing and reduce the workload. University management should invest enough in ICT equipment to achieve maximum effectiveness at all levels of education governance.

It should be taken into account that students represent Generation Z, who expect to acquire knowledge using ICT and digital tools; therefore, the digital skills of academic personnel need to be high enough. Ten years ago, D. R. Kawade and S. N. Kulkarni pointed out that ICT could be used to maximally help students to learn the curriculum, as the ICTs can enhance their learning achievement. ICT is used to provide lifelong learning opportunities that could help students develop their own unique intelligence and their ability to act as effective participants of a digital society. Undoubtedly, the level of digital competence of academic personnel and the use of digital tools in learning make an impact on the digitalization of the whole society.

Increasing digital literacy has also become a priority for the European Union in the context of lifelong learning. Digital skills, along with literacy and numeracy, are the basic skills needed by all groups of the population, yet too many people have limited or outdated digital competences. It is necessary to apply a comprehensive approach, as any individual needs an understanding of the various aspects of digital competence, as well as an in-depth approach to building up specific IT skills needed in IT professions (European Commission, 2018). The digital competences of EU residents, as mentioned earlier in this paper, are divided in the following five competence areas: information and digital literacy, communication and collaboration, digital content creation, security and problem solving (European Commission, 2016).

The present research conducted a questionnaire survey in April 2020, i.e. during the first wave of the Covid-19 pandemic when the emergency situation was declared, and academic personnel needed to rearrange things and organize the educational process remotely using the digital environment and ICT tools. The questionnaire survey obtained self-assessments of digital skills in the above-mentioned five competence areas by the academic personnel and summarized the results (Table 7.1). The Digital Competence Framework for Citizens (DigComp) developed by the Human Capital and Employment Unit of the EC Directorate-General for Employment, Social Affairs and Inclusion was used to develop the questionnaire.

Table 7.1. Digital Competence Framework for Citizens

Competence areas	Information and digital literacy	Communication and collaboration	Digital content creation	Security	Problem solving
Kompetences	1. Browsing, searching and filtering data, information and digital content 2. Evaluating data, information and digital content 3. Managing data, information and digital content	1. Interacting through digital technologies 2. Sharing through digital technologies 3. Engaging in citizenship through digital technologies 4. Collaborating through digital technologies 5. Netiquette 6. Managing digital identity	1. Developing digital content 2. Integrating and re-elaborating digital content 3. Copyright and licences 4. Programming	1. Protecting devices 2. Protecting personal data and privacy 3. Protecting health and well-being 4. Protecting the environment	1. Solving technical problems 2. Identifying needs and technological responses 3. Creatively using digital technologies 4. Identifying digital competence gaps

The respondents made self-assessments of their skills at three levels: basic level – 1, intermediate level – 2, advanced level – 3. The survey results revealed that the weighted average rating of digital skills in all the five competence areas was 2 points or intermediate level, yet there were significant differences in some competence areas (Figure 7.5.).

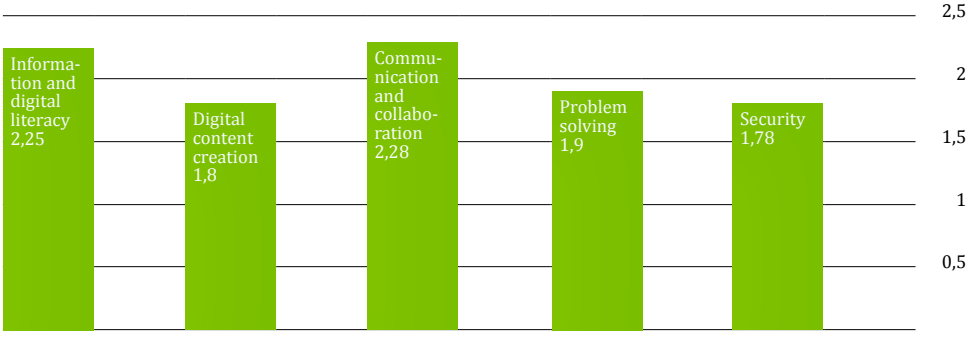


Fig.7.5. Weighted average ratings of digital skills in five competence areas by the respondents.

The respondents gave the highest (2.28.) ratings to their skills in the area of communication and collaboration in the digital environment, as well as to their skills in the area of information and digital literacy (2.25.). However, problem-solving skills (1.9.) and digital content creation skills (1.8.) were rated slightly below intermediate level, whereas their skills providing competence in solving security-related problems in the digital environment were rated the lowest.

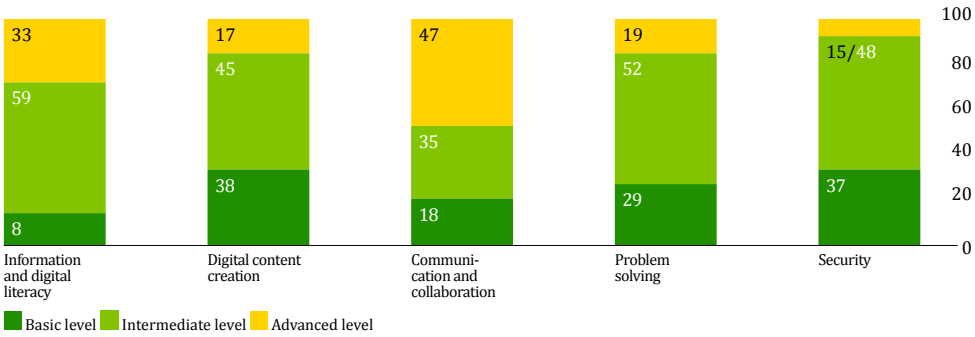


Fig.7.6. Percentage breakdown of the respondents' ratings of their digital skills by level in five competence areas.

Almost half of the respondents, 47 %, rated their communication and collaboration skills in the digital environment at advanced level, while relatively small proportions of the respondents rated their digital content creation and security skills at advanced level, 17 % and 15 %, respectively. Skills in creating digital content are important in the field of education; however, 38 % respondents rated them at basic level. Overall, the survey results allowed us to conclude that:

- respondents whose education/profession did not relate to IT preferred to improve their digital skills in the form of e-learning or full-time courses (more than 70 %);
- respondents having an IT-related education/profession did not prefer to build up their digital skills through courses or e-learning; the respondents in this group considered self-education to be one of the best forms of professional development;
- performing a cross-tabulation analysis, which aimed to examine how an IT-related education/profession influenced the respondents' choices regarding areas of digital competence to be developed, allowed us to find that the respondents who did not have an IT-related education/profession paid the least attention to the area of digital security, whereas the highest attention was paid to it by the group of respondents who had an IT-related education/profession;
- an analysis of statistical independence between the age of respondents and each of the areas of digital competence revealed that the age of respondents and the ratings of their digital skills were interdependent variables;
- the research results showed the direct dependence of digital competence and skills on the condition whether the respondents had/had not the IT education/profession.

The EC Digital Education Action Plan 2021–2027 "Resetting education and training for the digital age" sets out a vision for quality, inclusive and accessible digital education in Europe. The plan calls for closer cooperation at European level to learn from the Covid-19 crisis, during

which relevant technologies were used as widely as possible in education and training, as well as to adapt education and training systems for the digital age. The plan has set two strategic priorities, one of which is to foster the development of a high-performance digital education ecosystem. Achieving this goal requires: infrastructure, connectivity and digital equipment; effective planning and strengthening of digital capabilities, including modern organizational capabilities; educational and training personnel and teachers have strong digital competence; quality content for learning, user-friendly tools and secure platforms that respect privacy and ethical standards.

The European Commission plans to:

- launch a strategic dialogue with the EU Member States to develop a proposal for a Council Recommendation in 2022 on the factors contributing to successful digital education;
- propose a Council Recommendation on online and distance learning in primary and secondary education. It should focus on an EU-wide common understanding of how to make distance, online and blended learning effective, inclusive and attractive;
- develop a European framework for digital education content based on European cultural and creative diversity and conduct a feasibility study on possibilities for setting up a European exchange platform for sharing certified online resources and connecting them with current educational platforms;
- support gigabit connectivity in schools as well as connectivity in schools, implement measures to raise an awareness of funding opportunities under the Connectivity4Schools initiative and encourage the Member States to make maximum use of EU support for Internet access, digital equipment, e-learning applications and online learning platforms;
- support digital transformation plans at all levels of education and training through Erasmus cooperation projects; support digital pedagogy and know-how for digital tools for teachers through Erasmus+ Teacher Academies and introduce an online self-assessment tool for teachers SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational Technologies);
- design ethical guidelines on the use of artificial intelligence (AI) and data in teacher education and training and support research and innovation in this area under Horizon Europe (European Commission, 2020).

The Digital Transformation Guidelines of Latvia for 2021–2027 stipulate that the education system needs to be able to develop digital meta and professional skills necessary for today's reality in every resident of Latvia in advance. In addition, the education system needs to be able to provide a deeper understanding of the opportunities, challenges and ethical issues created by digital transformation. At the same time, the education sector itself needs to be able to change and drive digital changes by providing a modern, personalized and open learning process, introducing and developing modern digital solutions and teaching aids and improving management effectiveness.

A prerequisite for change is the adequate management capacity of teachers and educational institutions. The guidelines also call for a change in the role of universities in digital transformation. Higher education institutions need to be strengthened as centres of knowledge creation, technology transfer and innovation for smart growth – digital innovation hubs. In order for them to be able to perform targeted activities in guiding digital transformation, including supporting companies and public administration during this process and provide support for the implementation of activities by national digital innovation hubs aimed at the digital transformation of private and public services, it is required to achieve greater coherence at EU level,

encompassing all actors in the innovation ecosystem: students, companies, the start-up community, academia and national and local institutions. One of the envisaged key actions is targeted measures for the development of digital skills, which are aimed at building up digital knowledge and skills in university teachers to the level of excellence, including preparing the core of Latvian digital teachers who are skilful in world-class content creation, pedagogy and teaching technologies.

7.3. Digital maturity and e-government: the performance of national institutions and municipalities in digitalization

Research on digitalization mostly relates to the digitalization of processes and industries, yet less attention is paid to national and municipal institutions. The world is at a point where the ongoing digital transformation is transforming the economy and society faster than ever. The constant digital transformation of the economy and society improves services and thus contributes to prosperity.

Digitalization in the public sector means new ways of working with stakeholders, creating a new framework for service delivery and creating new forms of relationships, yet there is little systemic empirical evidence on how public administration institutions deal with digital transformation in daily practice and implement digital transformation projects and what the expected results are (Mergel et al., 2019). The replacement of traditional techniques and old approaches with new ones is defined by the term digital transformation – a process in which digital technologies are applied (Johansson et al., 2019). The digital transformation in the first decade of the 21st century has emerged with the development of the so-called Fourth Industrial Revolution (Berghaus, 2018), and the growth of digitalization is observed in the last two decades.

Fundamental research on e-government is more focused on service delivery, as it aims to increase the efficiency of service delivery, while research on digitalization involves analyses of the internal and external environments (Mergel et al., 2019). Smart governance is not just a tool, as it represents a shift in the behaviour of organizations and the implementation of processes to provide public administration services to residents in a better and more efficient way.

New technological inventions become a means for managing the dynamics of time and space to create strong infrastructure and a sustainable economic era (Rose, 2016). Today, patented data formats are used to exchange information between people and devices, yet interruptions in the operation of data carriers and data loss need to be taken into account, and attention is also paid to data and equipment security and a possibility of malicious attacks (Masoc, 2019).

In the global economy, the year 2020 began with the Covid-19 pandemic, which not only partially halted the economy but also slowed down the entire social life. During this period, many national and local government institutions had a choice – to limit their activity if they are unable to provide services, or to continue operating in the digital environment as much as possible. Although at first it seemed impossible to many, the crisis has contributed to the digitalization of national and local government institutions. At present, the least challenge is faced by the institutions that have started their digital transformation in a timely manner. Digitalization is not a solution to every problem; therefore, approaches to governance need to be different and tailored to receive signals in a timely manner and avoid gaps.

Focus on digitalization in the policy documents of the Baltic States

Although the Covid-19 pandemic made a significant contribution to the development of digitalization, its role was identified much earlier, as stated by long- and medium-term international and national policy documents that underpin municipal policy documents. The Digital Europe Programme defines digitalization as a facilitator making cross-sectoral implications. In the EU Member States, separate policy documents, in which digitalization and e-government also play an important role, have been developed within smart specialization strategies (Pelse, Lescevica, 2020). The National Development Plan of Latvia for 2021–2027 identifies the further development of digitalization as a pervasive element across all areas, especially in areas such as innovation and science, education, health care, inclusive society and the labour market, infrastructure, regional development, security as well as the environment and energy.

The research project "Challenges for the Latvian State and Society and the Solutions in International Context – Interframe-LV" implemented under the national research programme "Latvian Heritage and Future Challenges for the Sustainability of the State" examined national long-term (LTPD) and medium-term (MTPD) documents of the Baltic States, the frequency of occurrence of keywords related to digitalization in the documents (Table 7.2), as well as the ideas expressed in the documents themselves aimed at solving digitalization-related problems.

An analysis of the policy documents revealed that the LTPDs were produced in all the three countries more than 10 years ago, e.g. the strategy for Latvia was approved in 2010, while the MTPDs were very recent documents. The term related to digitalization most frequently occurred in the policy documents of Latvia – more than a hundred times in both the LTPDs and the MTPDs, in the MTPDs even 154 –, whereas the least frequently in the policy documents of Estonia, only 25 times in the LTPDs. However, according to statistical data, it was Estonia where the level of public administration digitalization was the highest among the Baltic States.

Table 7.2.Comparison of long-term and medium-term national policy documents of the Baltic States in relation to digitalization

Keywords or a phrase	Latvia		Lithuania		Estonia	
	Long-term national plan (LTPD)					
	Sustainable Development Strategy of Latvia until 2030 (Latvia 2030)		Lithuania's progress strategy (Lithuania 2030)		National spatial plan Estonia 2030+ (Estonia 2030)	
	Medium-term national plan (MTPD)					
	National Development Plan for 2021–2027		2021–2030 Metu nacionalinis pažangos planas		Sustainable Estonia 21	
Frequency of occurrence of keywords in long-term and medium-term policy documents (times)						
Document period	LTPD	MTPD	LTPD	MTPD	LTPD	MTPD
Document length, pp.	207	89	35	63	56	81
size in MB	2.30	1.20	0.88	1.34	6.49	0.22
Smart	0	23	39	0	8	0
Digital	33	54	3	16	0	4
Digitalization	7	6	0	1	0	0
Information technologies	6	19	1	0	2	0
Information	46	34	17	33	3	15

Communi-cation	28	18	2	14	10	31
E-services	2	0	1	1	2	0
E-govern-ment	7	0	2	0	0	0
total	129	154	65	65	25	50

Source: National strategy documents of Latvia, Lithuania and Estonia, 2021.

The National Development Plan of Latvia states that digitalization is the only way towards effective management of public funds. In addition, in the case of effective public administration, all daily procedures related to public services (discounts, social benefits, tax relief) need to be simple and self-evident. The policy documents of Latvia are long and characterized by rich use of keywords related to digitalization. The policy documents of Estonia and Lithuania are similar in terms of number of pages, yet the terms digital and digitalization are rarely used, and instead terms such as smart, communication and information occur; there is less emphasis on a process or a tool, but more on the outcomes the use of digital tools can provide.

Digital maturity in public administration institutions in Latvia

Government e-services are available on various portals, e.g. the State Revenue Service (SRS) – an electronic declaration system (EDS), the Rural Support Service – an electronic application system (EAS), as well as the public administration services portal www.Latvija.lv, which is a one-stop access point for national and local government services, where residents of Latvia have access to information on all public services.

In 2019 in Latvia, there were almost 160 public administration institutions, a total of about 180 different important information technology systems and more than 600 e-services available, which can be used remotely without visiting the public institutions. In 2019, according to Eurostat, 58 % of the population in Latvia searched for information on government websites, compared with 89 % in Denmark, 69 % in Estonia and 49 % in Lithuania. The lowest figures were reported in Bulgaria and Italy, where one in five people searched for information on government websites, while in Romania only 9 %.

The research project identified digital maturity at four national institutions in Latvia: the SRS, the State Employment Agency (SEA), the Office of Citizenship and Migration Affairs (OCMA) and the State Social Insurance Agency (SSIA). The effectiveness of digitalization was identified according to the e-index, determining the maximum number of points for each criterion by the digitalization evaluation method. The results obtained are summarized in Table 7.3., which shows that the highest "digital maturity" was achieved by the State Revenue Service.

A comparison of the public administration institutions revealed a causal association – the more a public institution spent from its own budget on information technologies and invested in information systems, the higher the level of digitalization in this institution.

Table 7.3. Digital maturity in national public administration institutions in Latvia in 2019

Criterion	Maximum score	Public administration institution (score)			
		SEA	OCMA	SSIA	SRS
Communication with the public	21	14	14	11	17
Servicing customers	16	9	14	15	15
Open data availability	13	4	7	1	5
Provision of services	12	8	8	10	11
Institutional internal processes	17	10	8	8	16
Total	79	45	45	51	64
Percentage	100	57	57	65	81

Source: authors' calculations based on a comparison of criteria, using the open data portal in Latvia, 2020.

On average, the SRS allocated 13 % of its total budget to ICT maintenance, and technological development and provision of e-services is one of the priorities of the SRS. This is also evident in the analysis of digital maturity, as 81 % SRS internal processes were digitalized in 2019, and currently this figure is even higher. The SRS has achieved the highest level and efficiency of digitalization among the national public administration institutions analysed. This level was low at the SEA at 57 %, as well as at the OCMA, and this might hinder the progress of the institutions towards digital transformation.

E-government and the services provided by municipalities in Latvia

The research project also analysed the range of services provided by the local governments of cities of national significance after examining the public, digitally accessible, information space in the municipalities. At the beginning of 2021 in Latvia, there were 9 cities of national significance, which functioned as individual municipalities having no rural territories. The municipalities were comparable units, as all of them were also defined as regional development centres. The various services analysed were assigned numerical values, and the scores are shown in Table 7.4. The availability of a service was analysed in the spring of 2021. The numerical values assigned: 2 (digital service is available); 1 (digital service is partially available); 0 (no digital service available). A total of 14 services provided by local governments were analysed: online access to public e-services; council meeting recordings are available in audio or video format; submission of various kinds of applications; declaration of residence; birth/death registration documents; application for/receipt of building permits; registration of children in kindergarten; consultation with municipal employees; possibility for payment for the services used; availability of a one-stop customer service centre; availability of an e-tourism guide; submission of e-reports on problems/inactions; availability of digitalized information on cemeteries; opportunity to vote and participate in polls.

In digital format, all the local governments provided three of the services analysed: submission of various kinds of applications, application for/receipt of building permits, as well as availability of an e-tourism guide. Remote consultation and submission of e-reports on various problems/inactions in the municipalities were quite widely available, and such services were not available in only one municipality. Digitalized information on cemeteries was provided in a few of the municipalities.

Table 7.4. Availability of municipal digital services in the cities of national significance in Latvia in 2021

Indicator	Cities of national significance								
	Riga	Daugavpils	Jelgava	Jekabpils	Jurmala	Liepaja	Rezekne	Valmiera	Ventspils
Population in 2020*	688631	90939	60645	23241	56696	68535	29771	24899	37057
Area, km2	304.00	72.48	60.56	25.53	100.00	60.37	17.48	19.35	55.40
	Scores for digital services								
Availability of digital services (value)	21	17	20	19	15	22	20	26	24
Digital services, (% of total)	50	40	48	45	36	52	48	62	57

*OCMA data in 2021.

The local government of Valmiera provided the most complete range of digital services in its municipality, where 2 out of the 14 services were provided partially, while the other 12 were fully provided. The next highest figure was found for Ventspils: 11 fully digitalized, 2 partially, one service was not available in digital format. Almost 62000 people who had access to digital information and digitalized municipal services lived in the two cities. The third highest figure was found for Liepaja, followed by the capital Riga. More than 757 thousand people lived in both cities. The lowest availability of services in digital form, which were available on the official websites of local governments, was in Jurmala with a score of 15 points, and in Daugavpils with a score of 17. These two municipalities had a combined population of 147 thousand, for whom the range of digital services available was limited.

The municipalities with the widest range of digital services also had well-structured websites and individual mobile applications. However, the websites of several municipalities were poorly-structured, there was a lack of updated information, and the content was not available in several languages.

Based on the strategic territorial planning system established in the country, local government sustainable development strategies and their development programmes are hierarchically subordinated to national policy documents, and in Latvia they are: the National Development Plan for 2021–2027 (MTPD) and the Sustainable Development Strategy of Latvia until 2030 (LTPD). An analysis of the strategic policy documents of the cities of national significance revealed that the term digitalization was rarely found in all of them; moreover, it was mentioned mainly in connection with digital television, which did not actually relate to performing direct municipal functions. Unlike the national policy documents, the local government documents did not pay any attention to strategic issues related to e-government, and basically there was a gap in the strategic hierarchy concerning this issue. This significantly jeopardizes the implementation of national policy documents in the field of digitalization, and the commitments contained therein might not be met.

Conclusions

- Emphasizing the role of digital technology development has been a priority and purposeful in the strategic development plans of EU Member States over the last decade, yet the Covid-19 pandemic crisis represents a historic turning point, which has caused an unprecedented acceleration and impetus both for the transformation of the national economy and for the changes in the living and working environments of the population, thereby switching to new goods and services and building up and applying new skills.

- In companies and business processes in all industries, an effective process of acquiring digital competences and skills are going to be critical in the future, as the pace of changes in a globalized world is not going to slow down.
- Global economic and social transformations have made companies and institutions change their technological frameworks and infrastructures used so far in order to introduce innovations and work arrangements aligned with innovative technologies that increase efficiency and productivity.
- At the institutional level, the transition of the education sector to extraordinary distance learning during the Covid-19 pandemic created unprecedented situations and challenges, which in turn rapidly affected the development, use and application of digitalization in educational processes. The near future will see the comprehensive digitalization of all industries with higher education being a driving force in this process.
- The level of digital competencies of academic personnel and the use of digital tools in the educational process influence the digitalization of society as a whole. Besides, it should be taken into account that today's students represent Generation Z who expect to acquire knowledge at university by means of ICT and digital tools; therefore, the digital skills of academic personnel need to be high enough.
- The strategic policy documents of Latvia are rich in the use of digitalization terms in comparison with both the policy documents of the other Baltic States and local government policy documents in Latvia. However, the examination of e-government services showed that digital maturity was much higher in the public administration institutions that invested in digital tools and instruments, and any strategic plan with no funding allocated for it does not yield a result. The redistribution of resources within public administration institutions and municipalities, facilitated by the crisis caused by the Covid-19 pandemic, is a contributory factor in digitalization.
- In Latvia, there was a gap between the supply and quality of digital services across local governments, ranging from a very high supply and high quality in Valmiera, where 62 % services could be received digitally, to a low supply and poor quality in Jurmala and Daugavpils, where this figure was 36 % and 40 %, respectively.

Proposals

- The urgency of building up digital competence and skills in companies and organizations determines the need both to tactically plan changes and predict in which areas and how to implement technologies and to operatively plan how to manage the changes at a pace that exceeds the pace experienced previously.
- Digital and meta skills, i.e. the ability to solve complex problems, respond quickly and learn new technologies, adapt to crisis conditions and think critically, is going to play a crucial role in coping with the changes caused by digital processes. A company or institution could also transform its work arrangement system to have cooperation with innovative companies as an alternative to transforming its technologies and infrastructure.
- To shift to a sustainable education delivery model, educational institutions need to apply digital technologies and establish effective educational processes being operational during a crisis. The digital transformation of educational processes requires that both students and teaching personnel as well as IT administrators of educational institutions work together to create models combining full-time and distance learning that exploit the potential of digital tools to meet the students' needs and enhance their learning experience in the digital environment.

- The education sector itself needs to be able to change and drive digital changes by providing a modern, personalized and open learning process, introducing and developing modern digital solutions and teaching aids and improving management effectiveness. A prerequisite for such changes is the adequate management capacity of teachers and educational institutions.
- In order for digital transformation to occur successfully and for Latvia as an economy to increase its competitiveness in the common global economic arena, it is important to contribute to the development of digital skills and competences in all kinds of teaching personnel, incl. in that of universities. The digital skills and competences of academic personnel make a significant impact on the competitiveness of future generations in the global economy, which is vital for Latvia as a small and open economy. It will also allow higher education institutions to integrate into European and global virtual universities.
- The key function of local governments is to provide quality services to the population in line with the era of digital transformation; therefore, an objective of local governments is to foster the introduction of digital services, as well as to provide support to social groups with low digital skills and having limited access to digital services.

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Expert opinion
Digital technologies and people's digital skills go hand in hand

Skaidrīte Baltace,
Mg. soc. sc.
Head of the Rezekne Business Incubator of the Investment and Development Agency of Latvia (LIAA)

1) What is your assessment of the role and importance of digitalization in the economy?

In today's world, everyday life is no longer imaginable without digital solutions in both daily life and business. There are two important aspects in this regard: 1) an appropriate ICT infrastructure and 2) digital skills of human resources both on the side of process implementers and on the side of users, including an understanding of the advantages of digitalization and the ability to use them effectively.

Business digitalization is one of the current directions of business development. Technologies are used both for information and marketing purposes, as well as to improve business efficiency. To create new products and services, increase their value added, traditional activities and products are supplemented with digital solutions.

2) Would you describe some digitalization processes!

Digitalization processes need to be viewed not only as a solution to the current problem that has emerged during the Covid-19 pandemic but also as a solution to increasing productivity in a long term. In the changing external environment, it is important for public administration institutions and businesses to adapt and provide services, while the businesses need to be operational by using digital tools and solutions, yet maintaining high quality services and long-term business advantages requires technological progress and digital transformation.

One of the recent digital tools for business is the National Platform for Business Development https://business.gov.lv/, developed by LIAA and currently available for use in test mode. E-services, applications for support programmes, cooperation offers and other up-to-date information for businesspersons are available on this one-stop platform.

3) In your opinion, how digitalization will affect competitiveness?

The competitiveness of companies could be improved by investing in technologies and also by investing in the development of human resource knowledge and skills. It is not enough to implement the latest software in your company. It is equally important to have an adequate workforce. The companies that are able to quickly adapt to today's rapidly changing situation,

invest in technologies and, according to the specifics of their goods or services produced, skilfully use digital tools, including digital platforms, websites, applications etc., will be more competitive or even able to change their current business patterns.

4) What is the role of education in the development of digital skills and competences?

Every resident could be involved in shaping the digital society and economy, only the roles are different. Basic digital skills are needed by everyone nowadays, from simple use of e-mail and social media platforms, payment of bills via online banking to submission of applications to national and municipal institutions or project proposals in electronic systems. The digital skills required in public administration, education and business could be rated as intermediate, where it is important to ensure both the quality of services and the creation and maintenance of digital systems and solutions. Science and researchers, however, are the creators of value added in the digital sphere, as it is necessary to create new solutions and innovations. The level of digital skills and knowledge everyone needs is determined by our roles in everyday life and the responsibilities we need to perform.

It is important to ensure the build-up of basic digital skills in children from primary school, stimulate their interest in digital solutions during further education and encourage young people to develop their skills and knowledge in the field of ICT, as well as arose their interest in the IT sector. In the future, the impacts of digitalization will increase, and the relevant knowledge will also play an increasingly important role in the future labour market. With regard to digitalization skills and competences among adults and seniors, lifelong learning opportunities need to be emphasized, and such programmes are successfully implemented by university-based lifelong learning centres and the non-governmental sector.

An important aspect is also the support system for the creation and commercialization of digital innovations. This line of action is also stated in the Digital Transformation Guidelines of Latvia for 2021-2027[1]. The guidelines envisage the creation of sustainable educational programmes for developing a highly qualified workforce, programmes for improving skills in the business sector, as well as support for innovations that would directly affect various segments of the economy.

5) What is the role of the national/local governments in digitalization processes?

In relation to digitalization, the main objective of the government is to provide appropriate infrastructure and basic digital tools, including the range of e-services and their accessibility, foster the expansion of use of remote identification (e-signature, e-identification) and legal enactments relevant to digital transformation. It is also possible to increase the proportion of digital solutions in the services provided by local governments, e.g., submission of applications and administrative procedures.

It should be taken into account that the achievements of the national/local governments in the field of digitalization are also influenced by the digital skills of the public, i.e. how well the service recipient – a resident or a businessperson – is equipped digitally.

An example is the submission of applications for business incubation support in one of the programmes implemented by LIAA for young businesspersons. In the spring of 2021 during the Covid-19 containment measures, the applicants were asked to submit their applications only signed with a secure electronic signature, and the response was high. This confirmed

[1] Medium-term policy document "Digital Transformation Guidelines of Latvia for 2021-2027" (Cabinet Order No. 490, Riga, 7 July 2021, protocol No. 51 100. §), available: https://www.vestnesis.lv/op/2021/133.1

that the majority of people used their eID cards and e-signatures[2] daily, although for some applicants it was their first practical experience in using such tools.

6) What examples of good practices could you emphasize in the aspect of digitalization in Latvia?

Change of habits – these two words most clearly describe the events of the last year, also in business. The crisis caused by Covid-19 has forced society to reorient itself quickly and become more active in using e-solutions. In business, many new businesspersons reoriented their operations, became more active in taking advantage of digital marketing, digitalized the services, and launched sales of their goods on Internet platforms.

During the pandemic, remote work, which was also implemented by public administration institutions, including LIAA, confirmed that modern technologies allowed them to ensure a consistently high quality of their services both in holding distance training and seminars, as well as in individual consultations. An example is a 6-month pre-incubation training programme implemented by LIAA business incubators, which previously was carried out through face-to-face workshops, but now it has been adapted for remote training, and video collections have been created and the training material "Workbook" has been digitalized.

[2] According to a survey conducted by the Latvian Information and Communication Technology Association (LIKTA) in March 2021, 43% companies provided their employees with an opportunity to work remotely, 45% companies used e-invoices on a daily basis, while only a quarter used e-signatures (26 %), available: https://www.pkc.gov.lv/lv/aktualit%C4%81tes/digitala-latvija-arkartejas-situacijas-laika-izaicinajumi-un-iespejas

Expert opinion
When will there be no lockers for document folders in newly built public buildings?!

Juris Čeičs,
Head of the Valmiera Business Incubator of the Investment and Development Agency of Latvia (LIAA)

1) What is your assessment of the role and importance of digitalization in the economy?

Digitalization is gradually entering our daily lives. Someone faces it directly and feels it as a burden, while for others, digitalization is not even noticed daily. However, digitalization is inevitable in almost all areas and industries. At every step, however, we see processes and activities that seem cumbersome, time-consuming or resource-intensive and that could be made more efficient in the digital age – from services to the population to processes in the economy. It is efficiency that determines the rate of economic growth and competitiveness.

2) Would you describe some digitalization processes!

One of the largest digitalization projects is the introduction of e-signature and an increase in the number of its users in the country. LIAA cooperates with companies and national institutions, as well as individuals; therefore, it is easy to compare these groups with regard to e-signature usage habits and the degree of digitalization. Probably because this is such a large project, it cannot be compared with a classic digitalization project, yet it could be observed that each group of e-signature users is ready to get involved in the digitalization process only when they see their advantages. Each individual has their own motivation. Over time, every institution, legal or natural person will have a point of contact and motivation to use this digitalization tool.

3) In your opinion, how digitalization will affect competitiveness?

Competitiveness depends on efficiency. Human resources are expensive and highly error-prone, yet any digitalization process saves man-hours and increases efficiency. The more educated the public and the more developed the economy, the easier it is to introduce new digitalization processes. In organizations that still do not have basic processes in place and whose profitability depends on low-efficiency equipment that is managed by low-skilled workers, digitalization could be too complex and expensive.

4) What is the role of education in the development of digital skills and competences?

Digitalization skills should not be taught in isolation. If a person is aware of the importance of improving specific processes through digitalization, and digitalization itself is implemented wisely, new processes should be simpler than previous ones. Digitalization is inevitably linked with IT, data processing, and the use of smart devices, and it is such digital competences that would be needed for retraining as well as for the competitiveness and retention of the working-age population in the labour market.

5) What is the role of the national/local governments in digitalization processes?

The national/local governments are an important example showing the degree of digitalization in the country. If a public institution continues resisting the digitalization of processes, its customers do not feel the need and pressure to get digitalized either. Any national/municipal institution needs to be aware that this is how it influences the development of the national economy and increases efficiency.

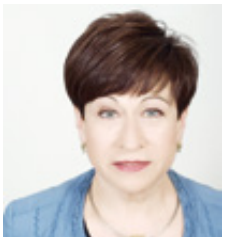
6) What examples of good practices could you emphasize in the aspect of digitalization in Latvia?

Unfortunately, the first thing that comes to mind is a not so good example experienced recently, which was a visit to a newly built public building. It is, of course, pleasant to visit a newly built public building where national and EU funding has been invested. When designing this building, energy efficiency, solutions for people with reduced mobility and various other functional innovations that would really make them happy were considered. However, seeing what furniture was purchased for the needs of administrative personnel – mostly lockers for document folders –, it becomes clear that digitalization has not yet become an integral part of development. Our society has not yet taken it for granted as a path to a "brighter future". I believe that this will change in the coming years and that digitalization is going to be one of the fastest growing sectors in process improvement.

7. Education Digital Competence
Expert opinion

8. Populism

Economic Consequences of populism and False Perceptions



Inna Šteinbuka, Dr. habil. oec., LU professor, leading researcher

Yinglu Xu, Mg. oec.

Against a backdrop of severe economic crisis (2007), migration crisis (2015), the rise of terrorist attacks and Covid-19 crisis (2020), radicalization and populism have gained increasing popularity and are changing the political climate all over the world. Anti-EU populism increased in the Europe 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) [1]. The 2019 European election was expected to be flooded with populism, however, the result eased the nerve of democratic parties as a normalized political scheme of the European Union was settled. However, populism becomes a common ingredient of European political picture with limited but unable to underestimate influences.

According to an exclusive research by the Guardian (Lewis *et al.,* 2018)[2], 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 and populist parties have got additional seats. Italy, Britain, France, Spain, Austria, Poland, Slovakia, the Czech Republic, Greece ... are all flooded with a tide of populism and radicalization. Most of populist and radical 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, up to now the populists seem unable to secure a majority for their anti-European course, neither in the EP nor in the EU MS. The Covid-19 crisis has slightly changed the populists' narrative and may produce high risks for the future.

Therefore, it is essential for the policymakers to understand the potential negative economic consequences of populism in attempt to find adequate ways of response. As for EU citizens, it is also necessary to be aware of the negative impact of radicalization and populism. Raising awareness helps gradually establish a way of independent and critical thinking and make a justified choice during elections.

This paper, which combines political and economic analysis, is aimed at assessing the potential negative economic impact of populism in the EU with a special focus on fiscal policy.

[1] Taylor, P. (2019) 'Has Europe reached peak populism', Politico, 5 September. Available at: https://www.politico.eu/article/europe-reached-peak-populism-far-right-anti-european-government-election/ (Accessed: 14 September 2019)

[2] Lewis, P. et al. (2018) 'Revealed: one in four Europeans vote populist', The Guardian, 20 November. Available at: https://www.theguardian.com/world/ng-interactive/2018/nov/20/revealed-one-in-four-europeans-vote-populist (Accessed: 7 March 2019)

The authors analyze how different well-established definitions of radicalization and populism match with the current trends in left- and right-wing parties and describe risks of implementing expansionary fiscal policies by left- and right-wing populist governments of some EU member states. The authors finally come to a conclusion that EU's coordination role and its response to the crises of different nature are crucial to reduce economic risks. Decisive actions of international community and domestic political pressure are the only safeguards against distortive effects of populist policies.

8.1. Populism and Radicalization

"Radicalization" is defined as "the action or process of making someone become more radical (= extreme) in their political or religious beliefs" in Cambridge Dictionary (Cambridge University Press, 2021).[3] 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 phenomena. (McLaughlin, 2012) And since then, radicalization has been frequently used in the political context and been usually seen as a "political phenomenon".

"Left-wing" radicalization and "right-wing" radicalization develop along with different routines while the interplay and interaction between these two terms also play an important role.

According to the research of Dzhekova and her colleagues, 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. However, among left-wing radicals there existed many sub-groups – Marxism-Leninism, New left, or anarchist – at that time they all fought against a common enemy – the "wealthy and upper classes". Since the 1990s, with the development of globalization, left-wing radicals resurged and fought against "global capitalism and neo-liberalism", together with other groups such as "environmentalists, anarchists, indigenous rights activists, and various ethnic and other groups" (Dzhekova *et al*., 2016).

Similarly, Luke 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 they are more in favor of a "mixed market economy" and incorporating the "excluded and marginalized" into the political system. Empirically, Luke divides the "far left" into four subgroups – "Communists", "Democratic socialist parties", "Populist socialist parties" and "Social populist parties" – against the backdrop of their ideology and "policy preferences". However, Luke also admits that these "categories are changeable and overlapping" and takes it as an example that all far left parties have become more populist while broadening the traditional definition of "working class". (March 2008)

The Greek party, SYRIZA, is a typical radical left party. Established originally by a group of former student activists and far-left intellectuals, it managed to rule Greece from 2015 to 2019 and emerged as the strongest of the populist far-left bunch. It revealed the corruption of the elite and described them as insufficiently patriotic, advocated anti-austerity economic

[3] Cambridge University Press (2021) Cambridge Dictionary. Available at: https://dictionary.cambridge.org/dictionary/english/radicalization (Accessed: 24 February 2019).

measures and promised to bring people back to the old days of "debt-fuelled prosperity". Before it won the election, the SYRIZA had been the main opposition party since 2012. It sharply defied the economic policies, which the major parties had imposed. According to an analyst, "the 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).[4]

Compared with right-wing parties, left-wing parties seem to play a less strong role in the EU. However, it was only from the late 1980s that the right-wing radicalization gained its popularity and became an important topic in politics, owing to accelerated dissatisfaction on the continuous economic downturn, the increasing unemployment rate and powerless feeling in the affection of political process (Betz, 1999).

Nowadays, the most frequently mentioned words in radical right politics are immigrants (or immigration). As Dzhekova underlines in her quote of Caiani's study, right-wing radicalization aims at protecting the nation and national culture, trying to keep a homogenous society against outsiders and minorities (Dzhekova *et al.,* 2016). Although right-wing political parties still accept fundamental basement of a democratic state, they criticize their opponents for "not representing the people belonging to the dominant nation" (Dzhekova *et al.,* 2016). Therefore, many scholars tend to criticize right-wing radicalization as its tendency to "exclusionary nationalism", "racism", "xenophobia", "anti-democracy" and "attempt to build a strong state" (Mudde, 1995).

However, as Kitschelt concludes from his study on the reason why extreme right parties are popular now, the "immigration" does play an essential role in radical right parties' agenda, but it is not the decisive factor. Parties will try to draw a wider blueprint, laying particular stress on more concerns and appeals, which is key to win more voters (Kitschelt and McGann, 1997).

For example, the far-right League party (former name: The Northern League/Lega Nord) became one of the biggest winners in 2018 Italian general election by widening its appeals from regional autonomy to anti-EU and anti-immigrant course. Matteo Salvini, the leader of the League played a key role in this transformation. In 2018, Salvini took the "Northern" away from the title of the party and adopted a new strategy targeting at the whole nation. He insisted that the euro is a mistaken experiment but expelled out the possibility to leave the monetary union. Similarly, he also claimed that he doesn't want to destroy the EU but want to make it more democratic, leaving governments of member states more space to manoeuvre, especially when it comes to trade policy. Besides, he also advocates transferring authority of the European Commission to the European Parliament, such as the ones regarding national budgets, foreign policy. In parallel with its much wider strategy, Salvini shifted his sentiment from Rome and South to Brussels' "faceless bureaucracy" and increasing immigrants (Salvini, 2019).[5]

However, how far and how effective these parties can promote their programmes are still under big question – after a few months of joint governance, Matteo Salvini called for a snap election after a failed attempt to mend the dispute with the populist Five Star Movement (M5S). In the 2018 general election, the Five Star won twice as many votes as the League, but the proportions have been reversed in the 2019 European election, which gave the League courage and confidence to win the new election. However, it failed to seize the power and the

[4] Kalyvas, S. (2017) 'What Democracies Can Learn From Greece's Failed Populist Experiment', The Atlantic, 4 May. Available at: https://www.theatlantic.com/international/archive/2017/05/greece-populism-syriza-trump-imf-eurozone/525369/ (Accessed: 17 May 2019).

[5] Salvini, M. (2019), Politico list, Politico. Available at: https://www.politico.eu/list/politico-28-class-of-2019-the-ranking/matteo-salvini/ (Accessed: 3 May 2019).

anti-establishment Five Star Movement (M5S) decided to form a new coalition with 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).[6]

There is a view that "authoritarianism" can be used to differentiate the left and right radicals, while it is only characteristic to the right. However, McClosky contests this statement in his study and argues that 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", while they are totally different in their views on social and political issues and political beliefs. However, they both insist on their own opinions and try to influence their opponents in a similar way (McClosky and Chong, 1985).

Compared with radicalization, "populism", itself, is a quite new term. We can find its root at the end of the 19th century. However, it may can rank the very top among all the popular terms in today's politics. Most scholars think "populism" is an ideology or an attitude. For example, Luke defines "populism" as a political ideology which believes that society should be divided into "the pure people" and "the corrupt elite", and politics should present the "general will" of the people. So, populist parties regard themselves as the only representative of the "ordinary person" and they depend a lot on "emotional discourse" and "protest sentiment" (March 2008). Müller fundamentally agrees with Luke's definition, based on his study on populist parties in Europe and the USA, that populist parties believe that only they are the legitimate representatives of the "people". They are usually "anti-elitist" and "anti-pluralist". However, populism does not mean more participation of ordinary people in politics and they should be criticized for treating democracy (Müller, 2017).

Canovan defines the populism as an appeal of "the people" against the existing structure of power and dominated ideas and values in modern society. And as a consequence, populist movements involve revolt in the name of "people" against the "structure of power" and "elite value". He also mentions that populists prefer such economic policies like high taxation to fund a generous welfare state or trade protectionism and more state provision of market (Canovan, 1999). Similarly, Panizza regards populism as an "anti-status quo discourse" which simply divides the society into "people" and the "other" (Moffitt and Tormey, 2014). Despite the division of "people" and the "other", the feature of "anti-status quo" and "against the existing structure of power and dominated ideas and values" resembles the core concept of "radicalization", which also requires fundamental change. As we can see, radicalization and populism nowadays share a lot in common in the general political climate. And we can tell that 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". Populists can be divided further mainly into left-wing populists and right-wing populists, as well as other populists, which may not include in the further discussion of this paper. However, right-wing parties obviously outperform left-wing populist parties in recent years. Left-wing populist parties became popular right after the financial crisis, but only succeeded to take the lead in Greece. In converse, right-wing parties have won in elections in Italy, Poland, Hungary, and even in countries where they didn't win, 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

6 Horowitz, J. (2019) 'New Government Takes Shape in Italy, Sidelining Salvini and the Hard Right', The New York Times, 28 August. Available at: https://www.nytimes.com/2019/08/28/world/europe/italy-government-salvini.html (Accessed: 24 September 2019).

examples. Claudia Alvares mentioned that the success of populist parties achieved as they convince voters that they are different from the ordinary political parties, that they are for real representing the "people" and doing for people's sake. And the propaganda of media or mainstream press also contributes to the popularity of populist parties (Lewis *et al.*, 2018).[7]

According to Cas Mudde, the popularity of left-wing populism is mainly due to the economic recession, while the right-wing populism – so-called refugee crisis. Similarly, Ferguson finds the reason of popularity of populism and radicalization in distress of the people, caused by the rise of immigration, increase in inequality, perception of corruption, major financial crisis and the demagogue (Ferguson, 2016).

In recent years, "the left" has more and more frequently been tied with economic issues and egalitarianism while "the right" tied with political issues and authoritarianism. Regarding this, McLaughlin divided right-wing radicalism into "fascist radicalism", which is "a politically right-wing form" featuring authoritarianism and nationalism, and "libertarian radicalism", which is "an economically right-wing form", favoring liberal capitalism and free market while dividing left-wing radicalism into "socialist radicalism", which is "an economically left-wing radicalism", characterized by weakening the role of market in economy and restricting globalization and "anarchist radicalism", which is "a politically left-wing radicalism" with endorsement of egalitarianism (McLaughlin, 2012).

Some scholars, such as Anderson et al. (2017), have studied on Latin America in order to find out the influence of radical and populistic macroeconomic policies as Latin American governments are repeatedly fell into the vicious cycle. Policymakers in many Latin-American countries relied heavily on expansionary fiscal and economic policies and had to increase public spending and reduce taxes, which may reveal benefits on national economy and society in a short run. These policies indeed brought ephemeral economic growth, but thereafter the country had to combat with currencies' devaluation, crisis and collapse of the economic system, which may end with political instability and even insurgencies.

The governments may be blamed for implementing expansionary fiscal policies, however, Acemoglu et al. insist that this is the consequence of the interplay of politics and economics. Politicians, who want to win the election, should portray that he or she represents the mass people and shows that he or she is different from the rich elite, who may corrupt or satisfy one's own interest based on the people's sacrifice. As a result, these politicians will choose "populist" policies (Acemoglu et al., 2013).

Like populist parties in Latin America, populist parties in EU tend to advocate cutting taxes, granting more social benefits to the ordinary people, and, more or less, increasing the economic or monetary autonomy. According to the research of Mair, the various stances of political parties on the EU integration are weakening the differences between mainstream parties since they can hardly take an anti-European position. In contrast, Eurosceptic parties can hold more diverging attitudes towards economic issues. As a consequence, when there is increasingly less room left for the national government to adjust their economic policy in response to the market, the parties which want to take another way, have to be anti-EU (Katsanidou and Otjes, 2016). In other words, under radicalization and populism, the opinions of voters and parties over economic issues can be structured under the framework of anti-EU or pro-EU.

Take the 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, suggests Pol Morillas. First of all, the Brexit

7 Lewis, P. et al. (2018) 'Revealed: one in four Europeans vote populist', The Guardian, 20 November. Available at: https://www.theguardian.com/world/ng-interactive/2018/nov/20/revealed-one-in-four-europeans-vote-populist (Accessed: 7 March 2019).

shows a confrontation of "common people" and establishment, which is the core of populism. Second, taking back the sovereignty, including the control on immigration issues is one of the most important aims of Brexit (Morillas, 2017).[8]

Regardless of how much responsibility David Cameron and Boris Johnson should take for the ongoing Brexit mess, the damage it caused to British economy is irreversible. According to the Bank of England, the British economy has lost 2% of GDP and the cost of Brexit to Britain has reached 40 billion pounds a year, which means 1 billion American dollars per week (Partington, 2019). [9] Other Eurosceptic member states (Poland, Hungary) haven't gone so far as the UK, but their Eurosceptic agenda, still, arose much concern.

As we can see, populist parties in 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. These political choices tend to help them win more supports as the distress of people has accumulated and it urgently need to find a way out to express their appeals and concerns. But the commitments of populist parties are hard to achieve.

8.2. Raising People's Perceptions and Populists' Failure: Cases of Greece and Italy during Financial Crisis

Case of Greece. Many extreme left parties failed to take the power in the EU, but the Radical Left (SYRIZA) managed to rule the Greece since 2015 till 2019. The success of SYRIZA is an expression of the people's frustration of political response to the financial crisis.

Greece joined the EU and later the Eurozone with a rather weak economy. Shortly after joining the Eurozone, Greece was not capable to meet the requirements of Stability and Growth Pact (SGP) to maintain its government deficit below 3%, and debt-to-GDP ratio below 60% (Carassava, 2004).[10] After the Olympic games, the government deficit has climbed up to 6.1% and debt-to-GDP ratio – 110.6%. The 2008 global financial crisis revealed the intrinsic vulnerability of Greek economies, such as "wage rises outpaced productivity gains", low competence, the ineffectiveness of administration, corruption and tax evasion.

The 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 debt default and bankruptcy of Greece. 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). [11]

However, despite budgetary cuts and higher taxes, the implemented measures were insufficient, and Greece requested additional international support. Under the pressure of highly disappointed society, Papandreou proposed a referendum on second bailout agreement (BBC, 2011)[12] after the approval of the second 130-billion-euro bailout at the EU summit. Although Papandreou survived the confidence vote, he stepped down shortly, and a "technocratic"

[8] Morillas, P. (2017) 'Setting the Brexit agenda: Populism and UKIP in the United Kingdom', Cidob, April. Available at: https://www.cidob.org/en/articulos/cidob_report/n1_1/setting_the_brexit_agenda_populism_and_ukip_in_the_united_kingdom (Accessed: 5 April 2019).
[9] Partington, R. (2019) 'Cost of Brexit to UK economy running at £40bn a year – Bank rate-setter', The Guardian, 15 February. Available at: https://www.theguardian.com/business/2019/feb/14/brexit-has-cost-uk-economy-at-least-80bn-since-vote-bank-of-england-rate-setter (Accessed: 5 April 2019).
[10] Carassava, A. (2004) 'Greece Admits Faking Data to Join Europe', The New York Times, 23 September. Available at: https://www.nytimes.com/2004/09/23/world/europe/greece-admits-faking-data-to-join-europe.html (Accessed: 17 April 2019).
[11] BBC (2010) 'Eurozone approves massive Greece bail-out', BBC News, 2 May. Available at: http://news.bbc.co.uk/2/hi/europe/8656649.stm (Accessed: 25 April 2019).
[12] BBC (2011) 'Greek crisis: Papandreou promises a referendum on EU deal', BBC News, 1 November. Available at: https://www.bbc.com/news/world-europe-15526719 (Accessed: 25 April 2019).

government under the leadership of economist Lucas Papademos accepted the second bailout for the debt restructuring (Xafa, 2014).[13]

In 2012, New Democracy won the election and formed a rather fragile unity government with PASOK and Democratic Left (DIMAR). As a condition of the ongoing EU-IMF bailout, this government has approved new austerity measures. The plan included major layoffs and wage cuts for civil service workers, tax reform and other painful budgetary cuts. The new austerity plan raised unstoppable strikes and rages among Greek people, which further reduced the stability of the fragile coalition (Kitsantonis, 2013).[14]

Driven by discontent, anger and fear, people came to the streets to protest against the international creditors. These emotions were amplified by the media and radical politicians. As a result, once there appeared a party, which claimed to oppose the austerity measures and promised to cut taxes and increase incomes instead, the voters' support was guaranteed. This inevitably led to the success of the Radical Left SYRIZA in the next election.

After forming a coalition with the nationalist conservative party Independent Greeks (ANEL), the leader of SIRIZA Alexis Tsipras, a strong opponent of 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 spendin g– setting up a showdown with international creditors that threatens Greek default and a potential exit from the monetary union (Council on Foreign Relations, 2021).[15] 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 the next allocation of money to keep the government running and pay off looming debts to avoid a potential default (Alderman, 2015). [16]

In a typical populist manner, 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).[17] It turned out in the referendum that the majority of voters, over 61%, were overwhelmingly against the bailout conditions. However, the truth is that the country could not survive without the bailout, and a better plan did not exist. Therefore, despite of winning the referendum, Tsipras was forced to alter his stance and accept the strict conditions of international creditors. In July 2015, Tsipras reached an agreement that Greece can receive €86 billion bailout under very harsh austerity conditions. This "betrayal" led to split in SYZIRA party. As Tsipras was elected because of his strong anti-austerity stance, his compromise clearly contradicted previous commitments, and 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.

As a consequence, this political development, in 2007-2009, the budget deficit (Figure 8.1.) dumped to a catastrophic level – more than 15%, which is more than 5 times of the SGP ceiling. 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 created by anti-austerity populist SYRIZA party.

[13] Xafa, M. (2014) 'Lessons from the 2012 Greek debt restructuring', VoxEU, 25 June. Available at: https://voxeu.org/article/greek-debt-restructuring-lessons-learned (Accessed: 28 April 2019).
[14] Kitsantonis, N. (2013) 'Greece Approves New Austerity Measures', The New York Times, 17 July. Available at: https://www.nytimes.com/2013/07/18/world/europe/greece-approves-new-austerity-measures.html?_r=0 (Accessed: 28 April 2019).
[15] Council on Foreign Relations (2021) Greece's Debt 1974-2018. Available at: https://www.cfr.org/timeline/greeces-debt-crisis-timeline (Accessed: 28 April 2019).
[16] Alderman, L. (2015) 'New Leader in Greece Now Faces Creditors', The New York Times, 26 January. Available at: https://www.nytimes.com/2015/01/27/business/international/after-vote-in-greece-alexis-tsipras-seeks-to-address-debt.html (Accessed: 28 April 2019).
[17] BBC (2015) 'Greece debt crisis: MPs back a referendum on bailout', BBC News, 28 June. Available at: https://www.bbc.com/news/world-europe-33302526 (Accessed: 28 April 2019).

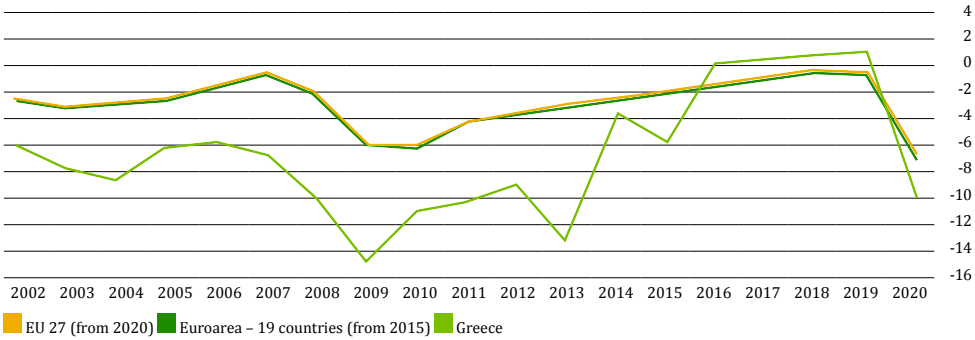


Fig. 8.1. Annual General Government Deficit of Greece, 2002-2020 (Percentage of GDP)[18].

In particular, the national debt of Greece, which kept high ever since it joined the EMU, continued skyrocketing during financial crisis (Figure 8.2.). Driven by Covid-19 crisis, the public debt-to-GDP ratio has reached 205.6% in 2020, which is the highest in the EU.

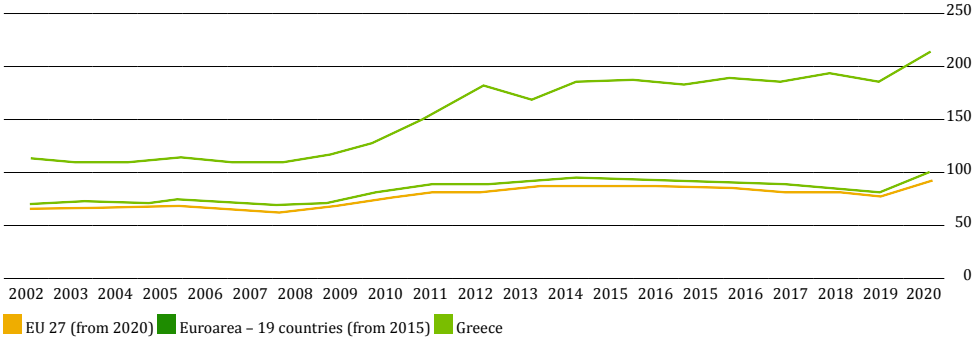


Fig. 8.2. Government Consolidated Gross Debt, 2002-2020 (Percentage of GDP)[19].

Greece case clearly illustrate that the hesitation and indecisiveness of the populist government between keeping their promises or concede to the reality and take actions for the benefits of the whole society at once, has cost the country a lot of time and money and lead to grave economic consequences. The failure of SYRIZA to keep its commitments made their supporters disappointed and the voters turned to center-right New Democracy party in the next election.

Case of Italy. Italy has second largest national debt among EU member states accumulated during a long-term economic downturn. Compared to Greece, its economic scale is much larger, and the risk would be much higher for the Eurozone stability in case of Italy's financial turmoil. In addition to troubles brought by financial crisis 2008, during migration crisis 2015, uncontrolled immigration flood made people furious and raised anti-immigration sentiments. Dissatisfaction in economic stagnation, fear of deepening immigration crisis, distrust of politics and strong desire to shake up the status quo explain why Italian voters chose the

[18] Source: Eurostat
[19] Source: Eurostat

anti-establishment M5S and the far-right League, which promised a prosperous future and firmly expressed their plans to reject immigrants and disconnect with the EU and euro.

M5S was the biggest winner. 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-mainstream attitudes, are the key features of M5S. Beppe Grillo, without any political background, built a big name for himself through "offensive" critics of the Italian politicians. Ever since its foundation, M5S has been firmly against the corrupt and self-serving politics. Its core policies combined anti-establishment, environmentalist, anti-globalist and Eurosceptic ideas. Its narratives rooted in sentiments of ordinary peoples, thus demonstrating a huge difference from the traditional political class. "Modern" ways of networking with strong propaganda elements brought huge popularity to M5S, and it once rose to be the largest party in Italy (Bulman, 2016). [20]

In 2013, M5S took part in the general election for the very first time and won 25.6% of votes in the Chamber and 23.6% in the Senate, following the centre-right coalition and centre-left coalition, which allowed M5S positioning itself as major partner of mainstream parties.

In 2018, it won the Italian general election with 32.7% of votes and formed a unity government with the far-right Leaguee 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 M5S supporters and activists, on whether it can govern the country effectively and to what extent it can bring out its commitments.

Although the populist M5S and the far-right League shared a lot in common, like Euroscepticism, anti-immigration stance and active use of social media and online platforms for communication, the new coalition was vulnerable. First, the supporters of M5S mainly come from the South while the League is backed mostly by the North (Perring, 2018).[21] Second, the League is a radical right party while M5S is hard to be included in traditional "left" or "right" paradigm. It's more accurate to describe M5S as "anti-establishment" party. Third, although both parties are quite Eurosceptic, the League seems to be more firmly against the existing rules of EU and Eurozone, saying that it wants to leave the Eurozone as soon as politically feasible (Stone, 2019).[22] On the contrary, M5S's politicians ruled out leaving euro.

On May 18th 2018, the new coalition government published a 58-page agreement document, where the two parties insisted their strong opposition towards immigration, introduced a special law to limit the time of migrants can stay before deportation and reform of the Dublin treaty to force "automatic and mandatory relocation of asylum seekers among EU member states" and a "review" of EU missions in the Mediterranean to prevent arrivals of boats in Italian ports without "shared responsibility" from other countries (Politi, 2018).[23]

[20] Bulman, M. (2016) 'Who is Beppe Grillo and what is Five Star Movement? All you need to know about the biggest threat to Italy's status quo', Independent, 5 December. Available at: https://www.independent.co.uk/news/world/europe/who-is-beppe-grillo-five-star-movement-italy-referendum-party-matteo-renzi-resigns-a7456106.html (Accessed: 2 May 2019).

[21] Perring, R. (2018) 'ITALY DIVIDED: Italian election results has SPLIT Rome to make it 'UNGOVERNABLE'', Express, 13 May. Available at: https://www.express.co.uk/news/world/930987/Italian-election-2018-results-Italy-news-Lega-M5S (Accessed: 5 May 2019).

[22] Stone, J. (2019) 'Italian populist parties unveil programme for a coalition government', Independent, 18 May. Available at: https://www.independent.co.uk/news/world/europe/italy-coalition-end-austerity-populist-five-star-movement-league-a8358306.html (Accessed: 6 May 2019).

[23] Politi, J. (2018) 'Italy's coalition: the main policy pledges', Financial Times, 18 May. Available at: https://www.ft.com/content/32b1daf6-5abf-11e8-bdb7-f6677d2e1ce8 (Accessed: 6 May 2019).

The Eurosceptic attitude of two parties is also revealed in the agreement, which emphasized the necessity to review the structure of European economic governance, the rules related to the single market and the mechanisms of management of EU funds. Furthermore, the agreement clearly expressed opposition to all "aspects" of trade deals like CETA and TTIP for their negative impact on the citizens' protections and competition (Politi, 2018).[24]

This agreement also introduced 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. Moreover, people can leave work if the sum of their age and years of contribution has reached 100. They also invest €2bn to support jobless and provide free daycare for Italian families and "economic prize" for women who return to work after maternity leave (Politi, 2018).[25]

If this document came in effect, another €100 billion would be added to public deficit in the long run, which would be 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).[26]

In October 2018, Italy has submitted its budgetary plan to EU and insisted that the chosen budgetary policy is necessary to stimulate the sluggish post-crisis economy and accelerate economic growth. However, unsurprisingly, 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 insisted implement this budget, it would have to face an initial penalty of 0.2% of GDP, which could rise to 0.7% if it still refuses to comply. Nevertheless, President of European Commission Jean-Claude Juncker said that EU has been very "kind, gentle and positive" towards Italy and "Italy was able to spend, over the last three years, €30 billion more without a sanction". However, the new budget plan was too expansive, and the deficit were about to reach around 2.4% of GDP and the public debt – around 131% of GDP (Smith-Meyer, 2018).[27]

European Commission vice-president, Valdis Dombrovskis, warned that the Italian budget plan "is counterproductive to the Italian economy itself" (Rios, 2018).[28] He also pointed out that it is the first time that the Commission has to request a euro country to revise its draft budgetary plan, but they don't have other choices (BBC, 2018).[29]

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. As a result, Italy lowered its initial 2.4% target to 2.04%, while the Commission agreed to accept a deficit, which rises next year instead of falling (Guarascio and Fonte, 2018).[30]

EU economics commissioner, Pierre Moscovici, praised this agreement as "a victory of political dialogue" and said this will "make the euro stronger". However, Valdis Dombrovskis described the agreement as a "borderline compromise" that fails to provide long-term solutions to

[24] Ibid.
[25] Politi, J. (2018) 'Italy's coalition: the main policy pledges', Financial Times, 18 May. Available at: https://www.ft.com/content/32b1daf6-5abf-11e8-bdb7-f6677d2e1ce8 (Accessed: 6 May 2019).
[26] Puglisi, R. (2018) 'Italy's populism in fiscal handcuffs', Politico, 25 September. Available at: https://www.politico.eu/article/opinion-italy-economy-populism-in-fiscal-handcuffs/ (Accessed: 3 May 2019).
[27] Smith-Meyer, B. (2018) 'Juncker on budget drama: 'Italy is Italy'', Politico, 18 October. Available at: https://www.politico.eu/pro/juncker-on-budget-drama-italy-is-italy/ (Accessed: 3 May 2019).
[28] Rios, B. (2018) 'Italy sticks to its guns in revised budget submitted to EU', Euractiv, 15 November. Available at: https://www.euractiv.com/section/economy-jobs/news/italy-sticks-to-its-budgetary-guns-in-commission-dispute/ (Accessed: 6 May 2019).
[29] BBC (2018) 'Italy budget: Rome rejects European Commission demands', BBC News, 14 November. Available at: https://www.bbc.com/news/world-europe-46203605 (Accessed: 6 May 2019).
[30] Guarascio, F. and Fonte, G. (2018) 'Italy and markets cheer budget deal with EU, but doubts persist', Reuters, 19 December. Available at: https://www.reuters.com/article/us-italy-budget-eu/italy-and-markets-cheer-budget-deal-with-eu-but-doubts-persist-idUSKBN1OI181 (Accessed: 6 May 2019).

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 and Giuffrida, 2018).[31]

The confrontation between the EU and Italy shows the economic risks that populism and radicalization may bring. Getting the budget right is crucial to Italy as it can directly influence investor sentiments and, ultimately, 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.

The increasing input in welfare formerly promised by the new coalition would leave a heavy burden on the Italian economy, which has already long suffered from a high public deficit and national debt. Backed by constituency and trapped by their own promises, the government insisted for a long time to deliver their pledges, hoping to drag the economy out of the recession through the increase of demand. However, this attempt is under high risk of failure and its consequences are unimaginable for the Eurozone and the EU. If Italy experienced the debt crisis which Greece has suffered for a long time, the financing requirements, which need to bailout Italy, would exhaust the existing capacity of the European Stability Mechanism's bailout funds (Salzano *et al.,* 2019).[32] That is not expected to happen in a short run, but "Italy's persistently weak economic performance makes it very hard to banish that risk conclusively".

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 remarks that Italy turns back to more moderate, EU-friendly economic and migration policies. This reveals the shortcomings of populist parties when they came to power, unable to implement their radical non-mainstream policies

8.3. Populism During Covid-19 Crisis: Cases of Hungary and Italy

An unprecedented global health crisis of 2020 made itself a litmus test for populism. According to the article, *Covid-19 and Socio-Political Attitudes in Europe: in Competence We Trust*, all crises, more or less, have either "disillusion" effect or "rallying around the flag" effect. "Disillusion" effect works when citizens hold high expectation of governments to tackle the crisis efficiently and properly, on the one hand, and get disappointed by the government's actual performances, on the other. "Rallying around the flag" effect is quite the opposite, it explains a short-run increase in people's support of the government or political leaders when the country or society faces crisis. The findings based on a survey conducted in Italy, Spain, Germany and the Netherlands showed that people's trust in politicians, media and EU has decreased while the trust in police, experts and scientists has gone up. However, people's trust in incumbent government remained stable (Daniele *et al.,* 2020).[33]

This conclusion though cannot be applicable to all countries. For instance, in Latvia the increased trust in the government during the first wave of Covid-19 crisis was short-term ("rallying around the flag" effect) (Šteinbuka, 2021) [34], and the trust in research has not increased even during third wave reflected in low level of vaccination. The Covid-related health crisis, in

[31] Tondo, L. and Giuffrida, A. (2018) 'Italy avoids EU sanctions after reaching 2019 budget agreement', The Guardian, 19 December. Available at: https://www.theguardian.com/world/2018/dec/19/italy-avoids-eu-sanctions-after-reaching-2019-budget-agreement (Accessed: 6 May 2019).

[32] Salzano, G. et al. (2019) 'Why Italy's Debts Are Europe's Big Problem', Bloomberg, 4 February. Available at: https://www.bloomberg.com/graphics/2019-italian-banks/ (Accessed: 9 May 2019).

[33] Daniele, G. et al. (2020) 'Covid-19 and socio-political attitudes in Europe: In competence we trust', VoxEU, 1 October. Available at: https://voxeu.org/article/covid-19-and-socio-political-attitudes-europe (Accessed: 27 January 2021).

[34] Šteinbuka I. (2021) Latvijas tautsaimniecība pandēmijas ēnā un pēckrīzes izrāviena iespējas = Latvian Economy in the Shadow of Pandemic and Opportunities of the Post-Crisis Recovery. Rīga: LU Akadēmiskais apgāds. Available at: https://doi.org/10.22364/ltpepii

some scholars' point of view, is a boon for populists because they are good at making use of grievances and frustrations, while some insist that the pandemic can "kill" populism as populists tend to act against experts and research, which is vital to fight the virus.

In reality, populists are reacting quite differently to the pandemic, notwithstanding some are in power while some are in opposition. As "populism" does not have one, unitary response to the pandemic" (Mudde, 2020)[35] it is hard to conclude at this stage whether populists have benefited from the pandemic or not. However, we can still find out some patterns that the populists have shared during the health crisis management.

Experts from the Tony Blair Institute for Global Change has drawn a comprehensive picture of performances of various populist leaders. From their Populist in Power database, they made a conclusion that, different from the stereotype that populists tend to downplay the crisis and refuse to take advices from experts and scientists, most populist governments (12 out of 17 cases) have taken the COVID-19 crisis seriously and taken containment measures in time following the advices of experts. When populist leaders choose to take the pandemic seriously in the first place, their anti-crisis measures are further divided into illiberal and liberal ones. The difference between illiberal and liberal measures lies in whether they adopt biased measures against certain groups in the society. In their research, 5 out of 12 countries, which have taken the crisis seriously, adopted illiberal measures, in other words, populist leaders in these countries took advantage of the pandemic to strengthen their political power, stressing the division of "native members of national-state" and "outsiders", which include immigrants, minorities and cosmopolitan elites. On the contrary, in face of crisis, non-populist leaders are more likely to try to unite their countries rather than exploiting divisions (Meyer, 2020).[36]

Case of Hungary. The prime minister of Hungary, Viktor Orbán, is a typical cultural populist, who has taken illiberal measures to tackle the pandemic.

Viktor Orbán and his Hungarian Civic Alliance (Fidesz) party have been the target of criticism of undermining the values of EU for a long time. After winning the third election in 2018, Viktor Orbán has been the longest leader of Hungary after the Communist era. Furthermore, Orbán's ruling coalition, Fidesz-KDNP (Christian Democrats) has controlled more than two-thirds (68%) of parliamentary seats (Harris, 2018).[37] The immigration remains the central issue of election as Viktor Orbán managed to convince the voters that Fidesz will protect Hungary from out-comers. Fidesz also advocates a confrontational policy towards the EU, although the country deeply depends on EU funding and the Single Market. Viktor Orbán strongly opposes the immigration policy of the EU and asks for more sovereignty while trying to change the EU into merely a single market and administrator of financial funds. He also tries to involve central and eastern European countries in its "fight". The "Visegrad group" is a stage to increase its influence over EU policies, especially on immigration policies (Bayer, 2017).[38]

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)[39], and Orbán himself stated in a speech that "democracy is not necessarily liberal" (Tóth, 2014)[40].

[35] Mudde, C. (2020) 'Will the coronavirus 'kill populism'? Don't count on it', The Guardian, 27 March. Available at: https://www.theguardian.com/commentisfree/2020/mar/27/coronavirus-populism-trump-politics-response (Accessed: 5 January 2021).
[36] Meyer, B. (2020) 'Pandemic Populism: An Analysis of Populist Leaders' Responses to Covid-19', Tony Blair Institute for Global Change, 17 August. Available at: https://institute.global/policy/pandemic-populism-analysis-populist-leaders-responses-covid-19.
[37] Harris, C. (2018) 'Hungary's crunch election: five things we learned', Euronews, 09 April. Available at: https://www.euronews.com/2018/04/06/hungary-election-live-updates-as-favourite-orban-seeks-fourth-term (Accessed: 12 Mar 2019).
[38] Bayer, L. (2017) 'Unity of Central Europe's Visegrad Group under strain', Politico, 31 August. Available at: https://www.politico.eu/article/unity-of-central-europes-visegrad-group-under-strain/ (Accessed: 12 Mar 2019).
[39] Szelényi, Z. (2017) '2018 Elections — Vital Decisions for Hungary's Future', Emerging Europe, 6 August. Available at: https://emerging-europe.com/voices/2018-elections-vital-decisions-for-hungarys-future/ (Accessed: 12 Mar 2019).
[40] Tóth, C. (2014) 'Full text of Viktor Orbán's speech at Băile Tuşnad (Tusnádfürdő) of 26 July 2014', The Budapest Beacon, 29 July. Available at: https://budapestbeacon.com/full-text-of-viktor-orbans-speech-at-baile-tusnad-tusnadfurdo-of-26-july-2014/ (Accessed 12 Mar 2019).

Viktor Orbán and his government have taken the coronavirus seriously from the very start. After two first cases of coronavirus were detected on March 4, 2020, the government soon announced a set of measures to curtail the spread of COVID-19, including declaring a state of emergency, prohibiting public gatherings, suspending entrances of foreigners, etc.

On March 30, the Hungarian parliament passed a controversial act, which made the state of emergency indefinite and during the state of emergency, the Prime Minister Orbán was given right to rule by decree, meanwhile, the by-elections and national and local referendums were postponed. The act also prescribed that people who spread misinformation would face a jail term of up to 5 years.

This act undoubtedly fueled strong criticism from the democratic groups and opponents, concerning that it would unavoidably centralize executive power and further undermine democracy. A French Green MEP, Gwendoline Delbos-Corfield, who leads the European parliament's work on Hungary and the rule of law, said "Sadly for Hungary, we have been so far [behind] that I am a bit lost [as to] what we can do now" (Walker, 2020).[41] Although it is of great necessity to stop spread of misinformation, many people worried that the "fake news" prohibition in the bill could be abused to target for reporting and critics against the government and its response to the pandemic (Walker, 2020).[42]

A Dutch liberal MEP, Sophie in't Veld, who chairs the European parliament's rule of law group, said: "Viktor Orbán has completed his project of killing democracy and the rule of law in Hungary. Clearly, the actions of the Hungarian government are incompatible with EU membership." (Rankin, 2020).[43]

One day after the introduction of rule by decree, Ursula von der Leyen, the European commission president, appealed for "limited to what is necessary and strictly proportionate" measures in handling the health crisis. Without mentioning Hungary, she said publicly in a statement that "it is of utmost importance that emergency measures are not at the expense of our fundamental principles and values as set out in the treaties" (Rankin, 2020).[44] Similarly, on 1 April 2020, a joint statement was issued by 13 EU member states stating that they were "deeply concerned about the risk of violations of the principles of rule of law, democracy and fundamental rights arising from the adoption of certain emergency measures" (Government of the Netherlands, 2020).[45]

After several days, Hungarian government announced to cut 50% funding of political parties in order to allocate more money on fighting against the coronavirus. Gabor Scheiring pointed out in his research that the cut funding (1.2 billion forints, €3.42 million) "is little compared to the budget of the crisis funds, but it effectively hinders the operation of opposition parties that overwhelmingly rely on state funding as a source of revenue." In the meantime, the ruling party, Fidesz would hardly be affected because of the support from their oligarchs and the access to governmental resources (Scheiring, 2020).[46]

[41] Walker, S. (2020) 'Hungary passes law that will let Orbán rule by decree', The Guardian, 30 March. Available at: https://www.theguardian.com/world/2020/mar/30/hungary-jail-for-coronavirus-misinformation-viktor-orban (Accessed: 31 January 2021).
[42] Ibid.
[43] Rankin, J. (2020) 'Hungary's emergency law 'incompatible with being in EU', say MEPs group', The Guardian, 31 March. Available at: https://www.theguardian.com/world/2020/mar/31/hungary-emergency-law-incompatible-with-being-in-eu-say-meps-group-viktor-orban (Accessed: 31 January 2021).
[44] Rankin, J. (2020) 'Hungary's emergency law 'incompatible with being in EU', say MEPs group', The Guardian, 31 March. Available at: https://www.theguardian.com/world/2020/mar/31/hungary-emergency-law-incompatible-with-being-in-eu-say-meps-group-viktor-orban (Accessed: 31 January 2021).
[45] Government of the Netherlands (2020) 'Statement by Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Romania, Spain, Sweden', Available at: https://www.government.nl/documents/diplomatic-statements/2020/04/01/statement-by-belgium-denmark-finland-france-germany-greece-ireland-italy-luxembourg-the-netherlands-portugal-spain-sweden (Accessed: 31 January 2021).
[46] Scheiring, G. (2020) The Political Economy of Coronavirus Responses in Hungary. Available at: https://www.gaborscheiring.com/post/the-political-economy-of-coronavirus-responses-in-hungary (Accessed: 31 January 2021).

On 16th June 2020, the National Assembly voted by 190 in favour and none against to abolish the state of emergency and put an end to the extraordinary power of Orbán. At the same time, a bill allowing the government to impose another state of emergency in case of another medical emergency was approved (BBC, 2020).[47]

EU has made some efforts to make Hungary show more respect to the EU values by linking a stimulus package to rule of law mechanism. In order to stimulate the sluggish economy in the wake of the COVID-19 pandemic crisis, member states of European Union have agreed in July to set up an economic recovery fund to support the economy in 27 countries (Amaro, 2020).[48] This includes a €750 billion recovery plan, labeled Next Generation EU, and the Commission's proposed €1.074 trillion Multiannual Fiscal Framework, the EU's seven-year budget for 2021-27 (Cameron, 2020).[49]

Hungary and Poland would be the two countries, which would be affected the most by the conditions of recovery funds. Both countries have been long under scrutiny of the European Union for breaching EU law and undermining judicial and media independence (Strupczewski, 2020).[50] Budapest and Warsaw objected to make the recovery fund conditional and vetoed the package (Reuters Staff, 2020).[51] In response, EU gave the two countries 24 hours to lift the veto. If Hungary and Poland persist with their veto, EU would bypass the two countries and turn to a "plan B", which means "setting up the EU's 750 billion euro recovery fund of grants and loans for just 25 member states" (Strupczewski, 2020).[52]

Hungary and Poland are two of the largest net beneficiaries of EU funds, they finally surrendered and lifted the veto as EU has also made some compromise – the two countries are granted with rights to ask for an opinion from the European Court of Justice, the EU's judicial body, on whether "making the disbursements conditional on the rule of law respects the European treaties", which usually take more than a year to respond. Even though, the compromise would allow the EU to move forward in offering the stimulus package and still keep it conditional for the rule of law and democratic norms (Amaro, 2020).[53] The European Court of Justice on 27 October 2021 ordered Poland to pay a €1m-per-day fine for not suspending the disciplinary chamber of its Supreme Court, which has been ruled a violation of EU law. It was the latest episode in the long-running legal and political battle between the nationalist government led by the Law and Justice party (PiS) and EU institutions over Warsaw's judicial overhaul.

According to Figure 8.3 and Figure 8.4 provided by the Our Wolrd in Data, Hungary has managed to control the pandemic quite successfully during the first wave with far lower infection and death rate than the average of the European Union. However, since September, the pandemic worsened extraordinarily, making the infection and death rate of Hungary much higher than other regions.

This line to some extent has explained the slight drop of Fidesz & KDNP in the polls in the end of the year. However, the supporting rate of Fidesz & KDNP remains high (Figure 8.5.).

[47] BBC (2020) 'Coronavirus: Hungary votes to end Viktor Orban emergency powers', BBC News, 16 June. Available at: https://www.bbc.com/news/world-europe-53062177 (Accessed: 31 January 2021).

[48] Amaro, S. (2020) 'EU leaders finally approve coronavirus stimulus package after Hungary and Poland lift their veto', CNBC, 10 December. Available at: https://www.cnbc.com/2020/12/10/eu-leaders-finally-approve-coronavirus-stimulus-package.html (Accessed: 14 February 2021).

[49] Cameron, D.R. (2020) 'After EU leaders endorse declaration on rule of law, Poland & Hungary drop budget veto', Yale Macmillan Center, 11 December. Available at: https://macmillan.yale.edu/news/after-eu-leaders-endorse-declaration-rule-law-poland-hungary-drop-budget-veto (Accessed: 14 February 2021).

[50] Strupczewski, J. (2020) 'EU to bypass Poland, Hungary if they don't OK budget by Tuesday -senior diplomat', Reuters, 7 December. Available at: https://www.reuters.com/article/eu-budget-signal-idUSKBN28H12B (Accessed: 14 February 2021).

[51] Reuters Staff (2020) 'Hungary and Poland stick to EU budget veto, Hungarian minister says', Reuters, 7 December. Available at: https://www.reuters.com/article/eu-budget-hungary-poland-idUSKBN28H1TI (Accessed: 14 February 2021).

[52] Strupczewski, J. (2020) 'EU to bypass Poland, Hungary if they don't OK budget by Tuesday -senior diplomat', Reuters, 7 December. Available at: https://www.reuters.com/article/eu-budget-signal-idUSKBN28H12B (Accessed: 14 February 2021).

[53] Amaro, S. (2020) 'EU leaders finally approve coronavirus stimulus package after Hungary and Poland lift their veto', CNBC, 10 December. Available at: https://www.cnbc.com/2020/12/10/eu-leaders-finally-approve-coronavirus-stimulus-package.html (Accessed: 14 February 2021).

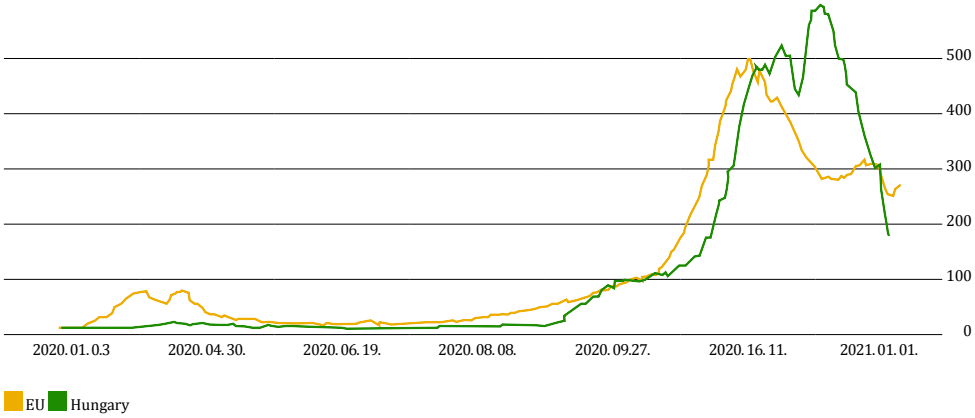


Fig. 8.3. Daily new confirmed Covid-19 cases in Hungary.

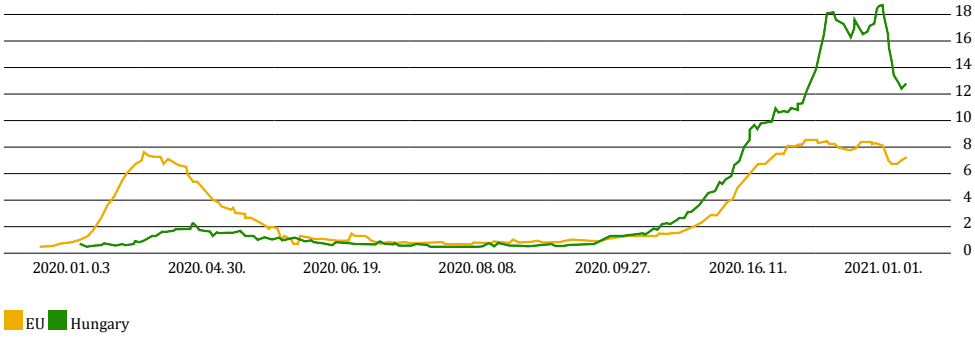
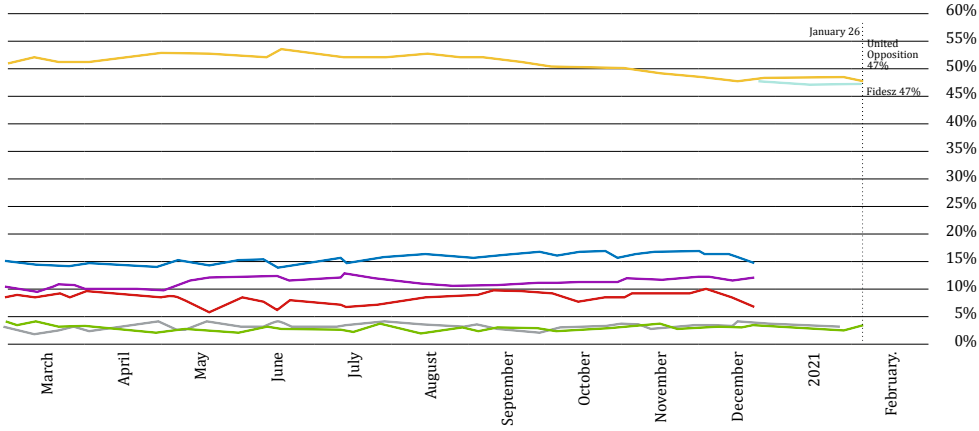


Fig. 8.4. Daily new confirmed Covid-19 deaths in Hungary.



Hungary - National parliament voting intention

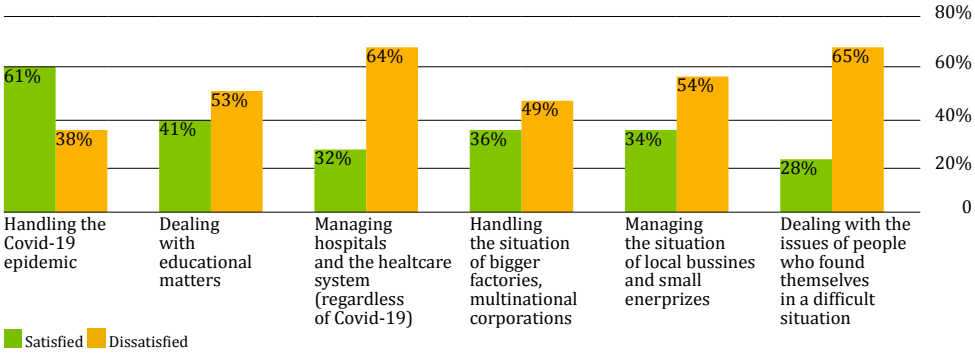


Fig. 8.5. Hungarians' satisfaction with the government's actions 2020[54].

According to the data of Statista, by June of 2020, more than 60% Hungarians were satisfied with the overall performances of their government in handling the crisis although more than 60% Hungarians were dissatisfied with managing hospitals and the healthcare system and dealing with the issue of people who found themselves in a difficult situation.

Case of Italy. Italy was the most affected country by coronavirus at the first phase. It was the epic-centre of the COVID-19 pandemic in Europe. The virus was first detected on 30 January 2020 when two Chinese tourists tested positive for COVID-19 in Rome. The government responded quickly with declaration of a state of emergency and decision of suspending all flights to and from China. However, in the following weeks, the virus spread rapidly in the North of Italy with Lombardy and Veneto, two of the most densely populated regions in Italy, being the centres and sources of most cases.

A decree-law was adopted soon on February 23, 2020 to contain the infection in the municipalities of the Regions Lombardy and Veneto. As a result, the most affected regions were labelled as red zones, residents of which were not allowed to leave the region or to participate in any public events or gatherings (Decree of the President of the Council of Ministers 23 February 2020, 2020).[55]

However, the leader of far-right League party, Matteo Salvini, trying to politicalize the pandemic, attacked the Italian government and called on the Prime Minister to resign. He cited the docking of the NGO Ocean Viking rescue ship in the Sicilian port of Pozzallo with 276 African migrants on board (Tondo, 2020).[56] His message falsely implied that immigrants should be responsible for the outbreaks, which aimed to provoke xenophobia among his supporters. In addition, Salvini rebuked Europe's border closures as another opportunity to vilify the European Union and its commitment to the free movement of people (Kendall-Taylor and Nietsche, 2020).[57] However, Salvini's attempt to fuel his political rise didn't succeed. According to the National Parliament Voting Polls of Politico, Salvini's political support has decreased to its lowest level since 2018.

[54] Statista (2021) Hungarians' satisfaction with the government's actions 2020. Available at: https://www.statista.com/statistics/1131823/hungary-satisfaction-with-the-government/ (Accessed: 31 January 2021).
[55] Decree of the President of the Council of Ministers 23 February 2020 (2020). Gazzetta Ufficiale Della Repubblica Italiana. Available at: https://www.gazzettaufficiale.it/eli/id/2020/02/23/20A01228/sg (Accessed: 26 December 2020).
[56] Tondo, L. (2020) 'Salvini attacks Italy PM over coronavirus and links to rescue ship', The Guardian, 24 February. Available at: https://www.theguardian.com/world/2020/feb/24/salvini-attacks-italy-pm-over-coronavirus-and-links-to-rescue-ship (Accessed: 5 January 2021).
[57] Kendall-Taylor, A. and Nietsche, C. (2020) 'The Coronavirus Is Exposing Populists' Hollow Politics', FP, 16 April. Available at: https://foreignpolicy.com/2020/04/16/coronavirus-populism-extremism-europe-league-italy/ (Accessed: 5 January 2021).

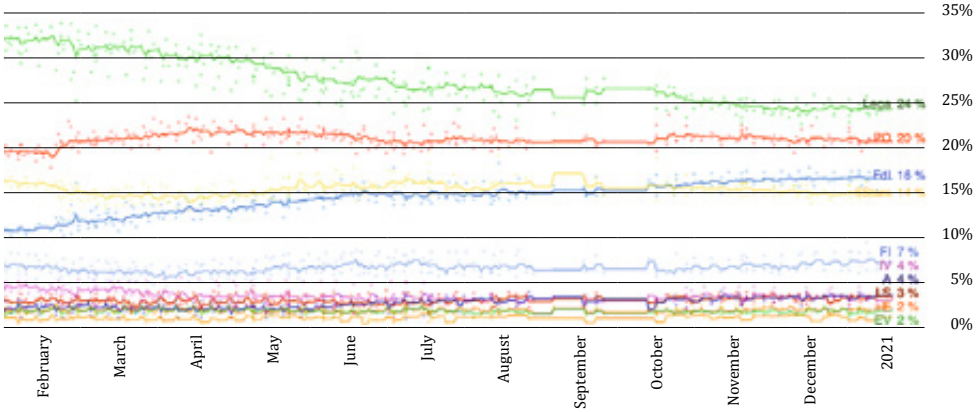


Fig. 8.6. Voting intention in the National Parliament of Italy.

The failure of Lega can be explained by two main reasons. On the one hand, Lega didn't do well in dealing with the pandemic in Lega-led Lombardia. On the other hand, the health crisis is different from the financial crisis, with can easily blame on the elites. While the far-right populists tend to focus on the socio-cultural issues, it is hard to convince the people of their capability to solve the problem properly and efficiently. "The urgency and magnitude of this shared crisis have demanded unity and reduced the polarization that populists thrive on." (Kendall-Taylor and Nietsche, 2020)[58]

However, Luca Zaia, a member of Lega and the governor of Veneto, unlike Salvini, has risen from a barely-known governor to the second most loved politician in Italy. Thanks to his successful handling with the coronavirus in Veneto, 53% people expressed their trust in Luca Zaia, close to the approval rate of the Prime Minister Giuseppe Conte with 54%. Zaia's management of the crisis has won him praises from other parties, which made his potential leadership possible. Be known as "keeping a low profile and admitting no ambition" (Privitera, 2020, 23 June) [59], the prospects of the far-right party are still full of uncertainties (Figure 8.7.).

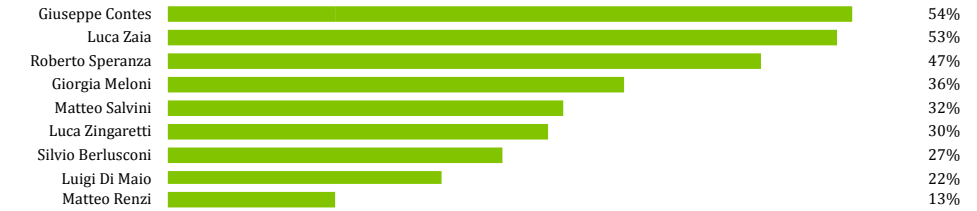


Fig. 8.7. Level of public trust in political leaders in Italy as of November 2020[60].

Surprisingly, Brothers of Italy (FDL), a far-right party with connection to the fascism has gained the most in polls during the crisis while it promotes similar narratives to Lega,

[58] Kendall-Taylor, A. and Nietsche, C. (2020) 'The Coronavirus Is Exposing Populists' Hollow Politics', FP, 16 April. Available at: https://foreignpolicy.com/2020/04/16/coronavirus-populism-extremism-europe-league-italy/ (Accessed: 5 January 2021).
[59] Privitera, G. (2020) 'Italy's far right has a new rising star', Politico, 23 June. Available at: https://www.politico.eu/article/italys-far-right-has-a-new-rising-star-luca-zaia-governor-of-veneto/ (Accessed: 6 January 2021).
[60] Statista (2021) Level of public trust in political leaders in Italy as of November 2020. Available at: https://www.statista.com/statistics/609880/level-of-public-trust-in-political-leaders-italy/ (Accessed: 6 January 2021).

criticizing the government for the lockdown measures and connecting the spread of COVID-19 with illegal immigration. "accused the government of applying a double standard in favor of immigrants that penalized Italian businesses and freedom of movement" (De Maio, 2020).[61]

Brothers of Italy has attracted the support of neo-fascist groups since its foundation in 2012, as well as advocating radical conservatism, Euroscepticism, anti-immigration and anti-globalization, it also strongly opposed abortion and euthanasia rights, as well as same-sex marriage (De Maio, 2020).[62]

In April, the leader of FDL, Giorgia Meloni, protested in front of Piazza Colonna guiding around 70 people, including her parliamentarians and the Lazio regional councillors. They wore masks in colour of the Italian flag and stood at a distance of two meters, holding signs with the words "The silence of the innocents" and the names of various professional categories which in their opinion risk disappearing after the anti-virus measures announced by the Prime Minister Giuseppe Conte take into effect (Bazzucchi, 2020).[63]

In September, Giorgia Meloni was elected president of the European Conservatives and Reformists Party (Gehrke, 2020)[64], which made her be recognized as a representative of Italian and European far-right groups. In the foreseen future, Meloni will spend more efforts pushing for radically conservative, anti-immigration, and anti-globalist agendas both in Italy and in Europe more broadly (De Maio, 2020).[65]

Some experts expected a coalition of the Lega and FDL, whose priority will be promoting the radicalism and populism.

On the contrary, M5S, the well-known populist party has become more moderate after forming coalition with the central left Democratic party (PD). Some experts call this kind of combination "Technocratic populism". While analyzing the interplay between populism and technology, Petra Guasti and Lenka Buštíková found out that the combination of responsiveness (populism) and responsibility (technology) is more competitive and popular than the established parties or left-wing/right-wing parties during the current health emergency as both public health expertise and good governance are essential to combat the crisis (Guasti and Buštíková, 2020). Indeed, the Italian government has responded promptly and done a good job in dealing with the first wave of crisis.

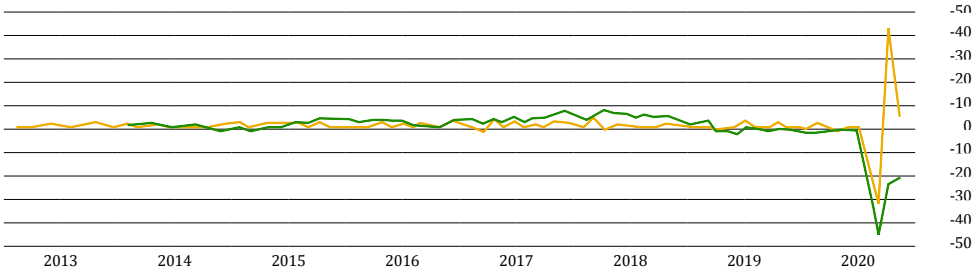
Despite the collapse of the coalition between M5S and the Lega, Giuseppe Conte managed to stay in his position and even gained more popularity during the pandemic. He has been considered a responsible and determined man, who put the nation and people's interests first regardless of division between different parties. He played as an intermediary between the M5S and the Lega, as well as between the European Union and the Eurosceptic coalition. From his point of view, populism is not a derogatory term, it stands for an ability to listen to the needs of the people and courage to remove old privileges (Lazar, 2020).[66]

In addition to the efforts to contain spread of pandemic, the government also imposed a series of measures to protect the workers and stimulate the economy and labour demand, including distributing more than 4 billion from the municipal solidarity fund to support the

[61] De Maio, G. (2020) 'The impact of COVID-19 on the Italian far right: The rise of Brothers of Italy', Brookings, 30 November. Available at: https://www.brookings.edu/blog/order-from-chaos/2020/11/30/the-impact-of-covid-19-on-the-italian-far-right-the-rise-of-brothers-of-italy/ (Accessed: 6 January 2021).
[62] Ibid.
[63] Bazzucchi, M. (2020) 'The flash mob (Israel model) by Fratelli d'Italia in front of Palazzo Chigi', AGI, 28 April. Available at: https://www.agi.it/politica/news/2020-04-28/flash-mob-fratelli-italia-palazzo-chigi-costituzione-8463718/ (Accessed: 6 January 2021).
[64] Gehrke, L. (2020) 'Italy's Giorgia Meloni elected president of European Conservatives and Reformists', Politico, 29 September. Available at: https://www.politico.eu/article/italy-giorgia-meloni-ecr-president-european-parliament/ (Accessed: 6 January 2021).
[65] De Maio, G. (2020) 'The impact of COVID-19 on the Italian far right: The rise of Brothers of Italy', Brookings, 30 November. Available at: https://www.brookings.edu/blog/order-from-chaos/2020/11/30/the-impact-of-covid-19-on-the-italian-far-right-the-rise-of-brothers-of-italy/ (Accessed: 6 January 2021).
[66] Lazar, M. (2020) 'Leaders Revealed by Covid-19: The Curious Giuseppe Conte', Institut Montaigne, 1 September. Available at: https://www.institutmontaigne.org/en/blog/leaders-revealed-covid-19-curious-giuseppe-conte (Accessed: 10 January 2021).

municipalities affected by the epidemiological emergency (Decree of the President of the Council of Ministers 28 March 2020, 2020)[67], strengthening anti-takeover rules, and public guarantees for €400 billion-worth of loans and investments to help business (Leali, 2020, 6 April)[68], temporarily freezing corporate tax for companies and granting aid to small businesses (Leali, 2020, 13 May)[69].

However, the pandemic had devastating impact on Italian economy. According to a report by Rabobank, Italy's GDP has contracted by close to 17% year-over-year in the second quarter of 2020. Experts project the full economic recovery only after 2025 (Wijffelaars, 2020).[70]



Source: Macrobond, Confindustria, RaboResearch

Fig. 8.8. Quarterly chain index of the gross domestic product (GDP) in Italy from the 1st quarter of 2016 to the 1st quarter of 2020.

A recent survey found that 81 percent of Italians are finding the second lockdown harder than the first, which arose their anxiety and distrust to the government (Privitera, 2020, 26 November).[71]

Moreover, another study shows that the pandemic hit the disadvantaged Italians harder and economic and social inequalities have widened during the crisis (Zampano, 2020).[72] This inevitably led to the surge of a group of people, "new poor", who are angry with Prime Minister Giuseppe Conte and his government's handling of the coronavirus crisis. Some groundless rumours arose and widely circulated. Some people said the 5G wireless technology accelerated the spread of the virus (Morgan, 2020).[73] Some people even believed that the so-called national emergency was totally a fake and the doctors, journalists and politicians had been lying to people (Privitera, 2020, 26 November).[74]

On 26th January, president Conte resigned due to the unsettled conflicts over the spending of the post-pandemic economic recovery package within the governing alliance (Roberts, 2021, 26 January).[75] The former European Central Bank President, Mario Draghi, agreed to try to

[67] Decree of the President of the Council of Ministers 28 March 2020 (2020). Gazzetta Ufficiale Della Repubblica Italiana. Available at: https://www.gazzettaufficiale.it/eli/id/2020/03/29/20A01920/sg (Accessed: 27 December 2020).
[68] Leali, G. (2020) 'Italy adopts €400B liquidity plan amid coronavirus crisis', Politico, 6 April. Available at: https://www.politico.eu/article/italy-adopts-e400b-liquidity-plan-amid-coronavirus-crisis/ (Accessed: 10 January 2021).
[69] Leali, G. (2020) 'Italy adopts €55B coronavirus economic package', Politico, 13 May. Available at: https://www.politico.eu/article/italy-adopts-e55b-coronavirus-economic-package/ (Accessed: 10 January 2021).
[70] Wijffelaars, M. (2020) 'COVID-19 has a devastating impact on Italy's economy', Rabobank/RaboResearch,10 July. Available at: https://economics.rabobank.com/publications/2020/july/covid-19-devastating-impact-on-italy-economy/ (Accessed: 10 January 2021).
[71] Privitera, G. (2020) 'Italy's doctors face new threat: Conspiracy theories', Politico, 26 November. Available at: https://www.politico.eu/article/italy-coronavirus-doctors-face-conspiracy-theories/ (Accessed: 10 January 2021).
[72] Zampano, G. (2020) 'Pandemic widens Italy's social divide, study shows', AA, 3 July. Available at: https://www.aa.com.tr/en/europe/pandemic-widens-italys-social-divide-study-shows/1898800 Accessed: 10 January 2021.
[73] Morgan, A. (2020) 'What is the truth behind the 5G coronavirus conspiracy theory', Euronews, 15 May. Available at: https://www.euronews.com/2020/05/15/what-is-the-truth-behind-the-5g-coronavirus-conspiracy-theory-culture-clash (Accessed: 10 January 20201).
[74] Privitera, G. (2020) 'Italy's doctors face new threat: Conspiracy theories', Politico, 26 November. Available at: https://www.politico.eu/article/italy-coronavirus-doctors-face-conspiracy-theories/ (Accessed: 10 January 2021).
[75] Roberts, H. (2021) 'Italian Prime Minister Giuseppe Conte resigns', Politico, 26 January. Available at: https://www.politico.eu/article/italy-prime-minister-giuseppe-conte-resigns/ (Accessed: 14 February 2021).

form a new government to usher the country out of the economic and pandemic slump. In this circumstance, the leader of Lega, Salvini changed his Eurosceptic terms and showed willingness to support Draghi and his plans for greater European integration.[76]

The sudden U-turn of attitudes of Salvini also suggest that the populists are pragmatic, they could turn more moderate if it's needed.

Conclusion

Populism is on the rapid rise in the EU and around the world as people, having suffered from uncontrolled migration, severe consequences of economic crisis and Covid-19 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 EU as populistic 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 populistic 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.

For the illustration of the economic consequences of populism during financial crisis 2008, the authors have selected two Eurozone countries as examples: Greece and Italy. Greece has been severely hit by the economic and financial crisis, and urgent implementation of austerity measures was the only possible solution to prevent default. Italy has accumulated large public debt under rather different economic circumstances. Despite these differences, the commitments of the populist governments in both countries to raise budget spending and cut taxes seem rather similar.

In Greece and Italy, EU played the role of a supervisory power. Greece finally has tightened its budget, restructured its debt and moved back to recovery. Italy has softened the initial hard budgetary approach, reduced fiscal deficit, thus reducing economic risk.

Both 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 they provide are fantasy.

An unprecedented global health crisis of 2020 made itself a litmus test for populists and populism. However, contrary to expectations, most populist governments have taken the COVID-19 crisis seriously and taken containment measures in time following the advices of experts.

The prime minister of Hungary, Viktor Orbán, took illiberal measures to tackle the pandemic and gained a relatively positive result as more than 60% Hungarians were satisfied with the overall performances of their government in handling the crisis in June 2020. However, Hungary (like Poland) has been long under scrutiny of the European Union for breaching EU

[76] Roberts, H. (2021) 'European League: Matteo Salvini's switch to Team EU', Politico, 12 February. Available at: https://www.politico.eu/article/european-league-matteo-salvini-switches-to-team-eu/ (Accessed: 14 February 2021).

law. If the European Court of Justice would decide to punish Hungary similar to Poland, which has to pay a €1m-per-day fine, it would lead to heavy fiscal consequences.

The case of Italy provides mixed picture of various coalitions of populist and mainstream parties. The handling of Covid-19 crisis is also mixed, developing from the "worst in the EU" to one of the few "safe" EU countries in October 2021. However, due to long expansionary policy of populist governments, Italy accumulated the second highest public debt in the EU, which in 2020 reached about 160% of GDP. In 2021, the estimated budget deficit is the third highest in the EU (9.4% of GDP) following Malta and Greece (9.9% of GDP).

This research confirms that populism can bring high risks to the national economy. First, the populistic 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, populistic parties promise broad economic and social benefits based on expansionary fiscal policy and protectionism. 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 fiscal vulnerability of national economy putting at risk the stability of Eurozone.

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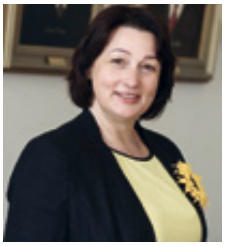
Chapter III
Sustainability Strategy

Chapter III is devoted to determining the most important priority for the sustainable strategy of Latvia by the Analytic Hierarchy Process (AHP) and the Analytical Network Process (ANP). The main purpose of the analysis was to determine the readiness of Latvia and the most important priority for sustainable development, which was digital transformation; value orientation of the society; sustainability of education; the Green Deal (incl. the bioeconomy, the circular economy); economic restructuring. The sub-priorities were as follows: reducing regional stratification; involving the labour market in the development of digital skills; increasing the role of lifelong learning; involving the public in decision-making and providing feedback; the impacts of climate change adaptation on regional development. Undoubtedly, all the priorities and sub-priorities are important for the sustainability of Latvia, yet the analysis of expert opinions showed what was valued higher and what was valued lower. This helps to assess and guide processes at various levels of government, identify risks and build the necessary awareness.

Identification of the Most Appropriate Priority for the Sustainability Strategy of Latvia by the AHP and ANP Methods



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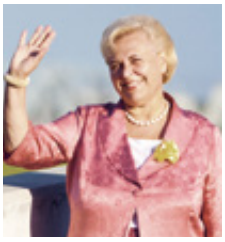

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The readiness of Latvia for and the most appropriate priorities of sustainable development were identified based on the examinations and analyses carried out in the previous research project, as well as on the opinions of experts.

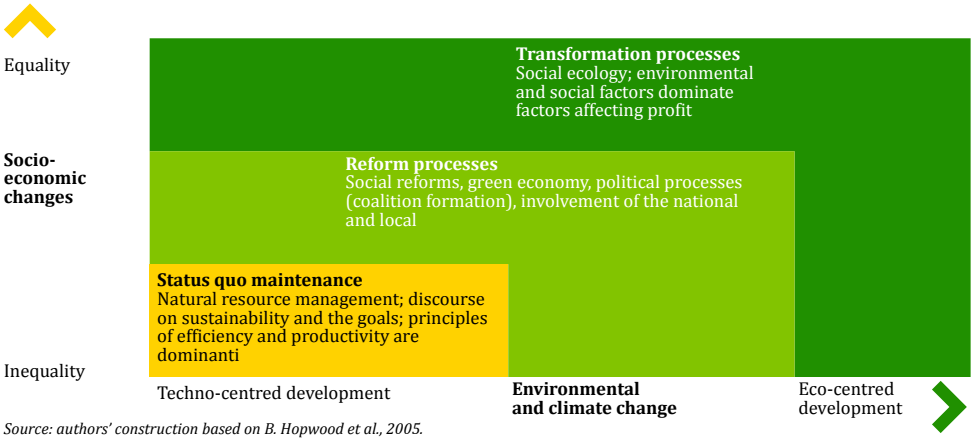
The overall conception of the present research is based on an approach to sustainable development that is associated with holistic transformation and change, in which sustainability is understood as progress, progressive transformation and achievement of sustainability goals. In addition, sustainable development goals involve a variety of factors – ecological, economic, social, cultural and political – and their integration.

By creating a hierarchy of sustainable development and summarizing the findings of several authors (Glavič P., Lukman R., 2007, Chasin F., 2014), individual approaches are combined into a complex approach to identifying the most appropriate priority for the strategy. The approaches involve:

- systemic view, which helps to prevent sub-optimization, as one of the priorities of sustainability could be a solution to the problem in one aspect, whereas in another aspect it causes other problems;
- scientific view, as relevant, most reliable and up-to-date knowledge is used to understand systems and make decisions that have been pre-tested;
- principles approach that allows the goal of sustainability to be clearly defined, not based on current trends only, which could be agreed upon even by large groups of people and complemented by more context-specific goals;

- sustainability principles, which are defined as research limitations, thereby allowing the development of a systemic approach to creativity and innovation, which is vital for the whole society of Latvia;
- problems of implementation, thereby reflecting the gap between research and the implementation of the results of it. The problems could be identified regarding sustainability, the implementation of sustainability goals and the main strategic priorities identified, which necessitates applying additional rational methods and instruments for designing specific indicators, monitoring, decision support, cross-sectoral communication and informing the public.

Several approaches are applied to design national strategies, in which sustainability is mainly focused on systematically balancing the interaction between environmental and social aspects. Boundary conditions for development shift from an unsustainable to a sustainable vision (assuming that sustainability is driven by innovation, participation and cooperation). A map of the interaction between ecological and societal processes could be created by summarizing the different scenarios and definitions of concepts.



Source: authors' construction based on B. Hopwood et al., 2005.

Fig.3.1. Interaction between the environment, climate change and societal processes.

As shown in Figure 3.1, socio-economic development is focused on social equality and includes important trends in human wellbeing. At the same time, environmental and climate change are more important for the development and implementation of global sustainability strategies. The mapping outlines several ways of advancing the discourse on the sustainability strategy. Besides, the approach applied in this case does not consider aspects and views related to an unsustainable approach to dealing with environmental or socio-economic problems. The map shows three widely accepted views on the changes needed in political and economic entities and human-nature relationships to achieve sustainable development, and how to achieve this in current entities:

- status quo – a situation where normal, understandable actions at a certain moment prevail. This situation resembles a state of adaptation and can provide economic growth without a major breakthrough. On the positive side, technological advancements occur, processes

are streamlined, and changes are observed in management and values that are oriented to the development of society. Ecological modernization is often needed to maintain a status quo, which means introducing less resource-intensive technologies. However, change in sustainability cannot be achieved without fundamental reforms;

- reform processes – recognizing that the challenges of environmental and climate change continue growing and that, if critically viewed, the status quo cannot be maintained, most countries prefer a reform approach to development and sustainability. A lack of knowledge, information and action creates a gap between the development of sustainability strategies and their implementation, as confirmed by the UN Climate Conference (COP 26) in Glasgow in November 2021 – major changes are urgently needed in global politics and people's lifestyles. This could be achieved through the involvement of both social and economic entities. Governments and international organizations need to, based on sound arguments, implement the necessary far-reaching reforms based on advanced science, technology, reliable information and market changes. The reform approach determines that national governments play a key role in driving sustainable development, while entrepreneurs and society need to also act purposefully and be involved in implementing the strategy. Most researchers (Ny H., MacDonald J.P. et al., 2006, Johnston P., 2007, Broman G., Robert KH, 2016) emphasize that without democratic processes, public participation, active community involvement and support, a sustainable strategy cannot to be implemented;
- transformation processes – the final phase of implementation of reforms involves the transformation of public beliefs and actions, mutual relations and relationships with the environment: it is necessary to transform people's relationships with the environment. Many problems need to be addressed in the long term and are not just a matter of reform, socio-economic habits need to be changed – they need to be balanced in relation to the environment and climate change.

The above-mentioned considerations and the research carried out within the project determine the main priorities and the factors whereby the readiness of Latvia is assessed and the most appropriate priority for sustainable development is determined.

3.1. Application of the Analytic Hierarchy Process to identify the readiness of Latvia for and the most appropriate priority of sustainable development

The Analytic Hierarchy Process (AHP) is a systematic procedure for hierarchically arranging the elements of any problem by comparing their pairs, and the results are used to evaluate (rank) alternatives of the general priority (Saaty T. L., Vargas L. G., 2001). It is a multi-criteria decision-making method that helps the decision maker to analyse complex problems according to several contradictory and subjective criteria. An expert evaluation is carried out at several stages, ranging from the formation of a group of analysts, the preparation of an examination, the selection of experts and the formation of an expert group to an expert survey, a statistical analysis of the results and judgment consistency at the final stage. The Analytic Hierarchy Process is especially suitable for making complex or complicated decisions when it is required to compare several difficult-to-calculate decision elements (Saaty T. L., 2004).

A hierarchy of interrelated levels is created for the AHP analysis: the first level sets the main goal, the second level sets evaluation criteria, the third level sets the alternatives to be evaluated according to the second level criteria.

To perform an AHP analysis, the main goal of expert ratings was set: the **readiness of Latvia for and the most appropriate priority of sustainable development**. Then second-level factors in sustainable development were defined (they were clearly identified already during the research and proved their impact on sustainable development).

The second-level factors influencing the priority of sustainable development were as follows:

- reduction of regional stratification;
- labour market involvement in the build-up of digital skills;
- increase in the role of lifelong learning;
- public involvement in decision-making and the provision of feedback;
- impact of climate change adaptation on regional development.

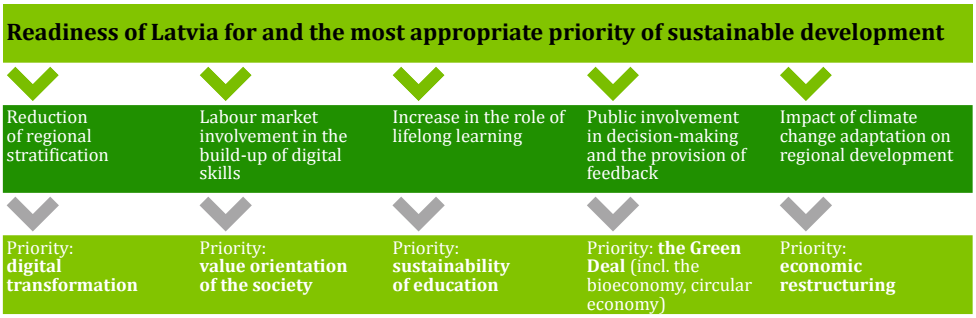
At the third level, alternatives are identified to determine the most appropriate priority of sustainable development. The present research identified 5 alternatives:

- digital transformation;
- value orientation of the society;
- sustainability of education;
- Green Deal (incl. the bioeconomy, circular economy);
- economic restructuring.

In identifying the second and third-level criteria, researchers select the generally accepted principles that make up an AHP hierarchy (Saaty T. L., 1987):

- avoidance of confusion about the elements included in the hierarchy;
- factors selected need to cover as wide a field as possible in relation to the goal defined;
- various industries and scientific disciplines need to be able to understand and use the factors;
- specificity principle – alternatives need to be specific and capable of solving the problem and contributing to innovation.

The next step is to create a hierarchy or decompose the decision problem that shows the levels of hierarchy analysis.



Source: authors' construction based on the AHP methodology and the research project

Fig.3.2. Hierarchy for the goal set: the readiness of Latvia for and the most appropriate priority of sustainable development, depending on the factors and alternatives.

Decision-making is based on the expert method, involving several experts. The AHP methodology (Van Den Honert, R. & Lootsma, F., 1997) prescribes that experts are selected as individual opinion providers for each hierarchical level, and then overall synergistic evaluations are made. The experts need to be selected in a way that the problems to be examined are clear to everyone, and the experts suggest high-level solutions to the problems in the field researched. In addition, the experts need to be selected based on the principle that each of them is associated with the groups of factors defined at the second-level of the hierarchy in order to take into account the diversity of opinions among the experts.

The following experts were selected:

Ivars Kalviņš – the president of the Latvian Academy of Sciences;

Gints Kaminskis – the chairman of the Association of Local and Regional Governments of Latvia;

Jānis Vucāns – a member of the Education, Culture and Science Commission during the 13th Saeima;

Arvīds Barševskis – the vice-rector for science of Daugavpils University;

Vitālijs Gavrilovs – the president of the Latvian Employers Confederation (LDDK).

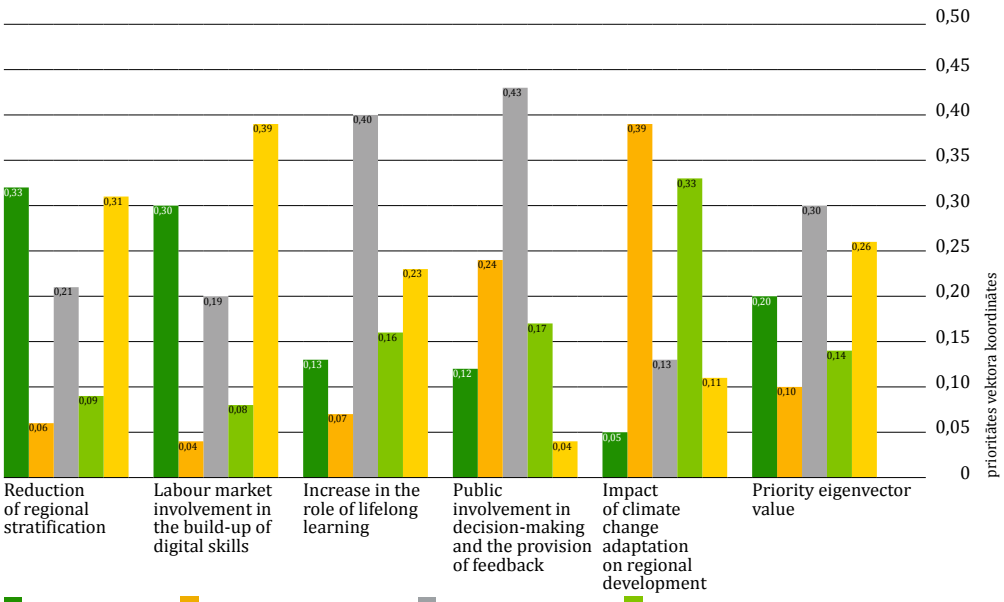
The next step involved comparing the pairs, and at each level of the hierarchy, in a matrix, the opinions of the experts were summarized according to the criteria set, so that the comparison of the pairs of priorities could be performed further. The selected experts needed, first, to compare the groups of evaluation criteria in pairs in relation to the main goal at the first level. The results of the comparison were entered by each expert in a table in the form of a matrix. The table could be considered to be an example of the experts' work of comparing the groups of criteria. If comparing an element (group of criteria) with the same element, the ratio is equal to 1. It should be emphasized that the relative importance scale has been effective in many cases of its application, and the advantages of the scale have also been proved theoretically.

Table 3.1. Relative importance scale

Relative importance intensity	Definition	Note
Odd		
1	Equal importance	Equal contribution of the two kinds of activity
3	Moderate superiority of one element over another	Experience and judgments suggest there is moderate superiority of one element over another
5	Substantial or strong superiority	Experience and judgments suggest there is strong superiority of one element over another
7	Significant superiority	Superiority of one element over another is significant, and it becomes practically important
9	Very significant superiority	Superiority of one element over another is confirmed explicitly
Even		
2;4;6;8	Relative importance intensity between values	Used in compromise cases

Source: Saaty T. L., 1987.

By comparing a criterion of the 1st group of criteria with a criterion of the 2nd group of criteria in relation to the main goal, an expert determined the importance or intensity, which indicated significant superiority of the 2nd group of criteria over the 1st group of criteria. Then the 1st group of criteria needed to be compared with the 3rd group of criteria in relation to the Level 1 objective. Continuing this, the expert filled in the entire matrix. One of the strengths of the analytic hierarchy process is that it allows for the evaluation of both quantitative and qualitative criteria and alternatives regarding the problem on the same scale of values at nine levels.



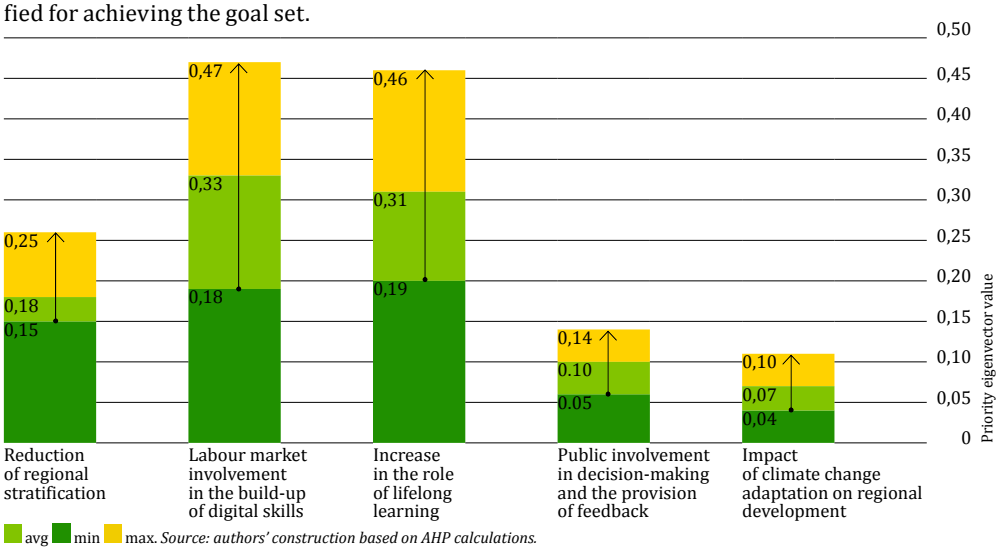
Source: authors' construction based on AHP calculations.

Fig.3.3. Expert A ratings of all the second-level factors in relation to the priorities of sustainable development.

The AHP analysis showed each expert's ratings of the hierarchical groups in relation to alternatives. As shown in Figure 3.3, expert A gave the highest rating to the *priority of education sustainability* after evaluating three factors. In addition, high ratings of 0.40 and 0.43 of education sustainability were given to the factors: *increase in the role of lifelong learning* and *public involvement in decision-making and the provision of feedback*. Therefore, the AHP method ensured that each expert rated the factors in relation to the goal set and also determined the most appropriate priority, evaluating both the second-level factors and the alternative priorities.

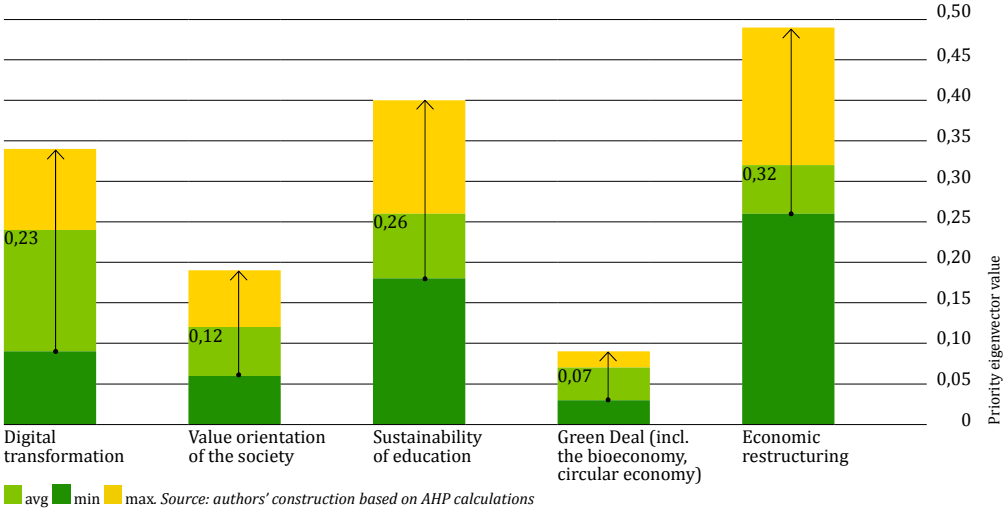
Figure 3.3 shows a summary of the opinions of all the experts on the importance of the factors in relation to the goal set. The experts highly rated the following factors: *labour market involvement in the build-up of digital skills* (average rating 0.33) and *increase in the role of lifelong learning* (average rating 0.31). In addition, the two factors had almost the same variance, 0.29 and 0.27, respectively, which means that the experts' opinions differed on the factors. However, the lowest ratings were given to *public involvement in decision-making and the provision of feedback* (average rating 0.10) and the *impact of climate change adaptation on regional development* (average rating 0.07). It is positive that both factors had a high degree of expert consensus, with variances of 0.08 and 0.06. In summary, it could be concluded that the experts had unanimously identified *public involvement in decision-making* and the *impact of climate change adaptation on regional development* as less important factors in achieving the goal, while *labour market involvement in the build-up of digital skills* and *increase in the role of lifelong learning* as more important ones.

Next, the experts rated the potential priorities according to the factor importance identified for achieving the goal set.



Source: authors' construction based on AHP calculations.

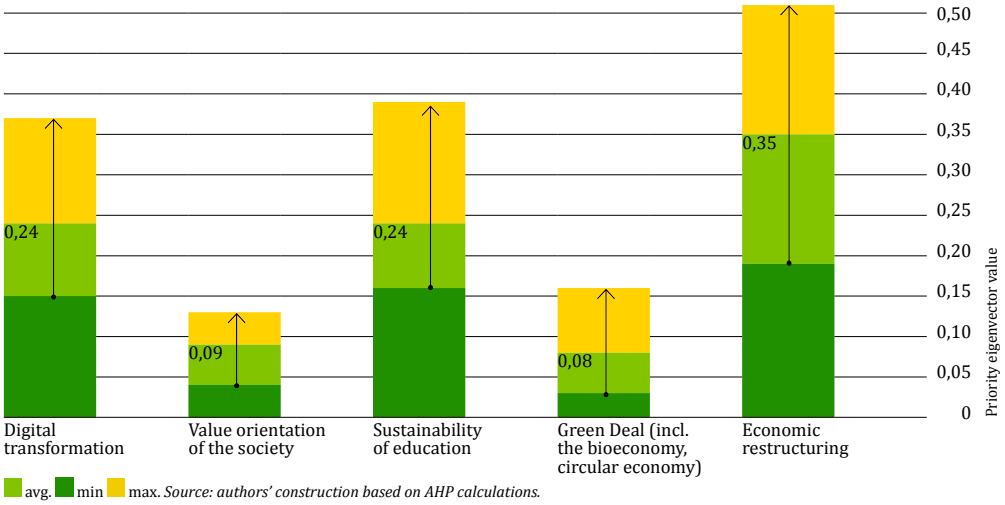
Fig.3.4. Expert ratings, including minimum and maximum priority eigenvector values.



Source: authors' construction based on AHP calculations

Fig.3.5. Potential priority regarding the factor of *reduction of regional stratification*, including minimum and maximum priority eigenvector values.

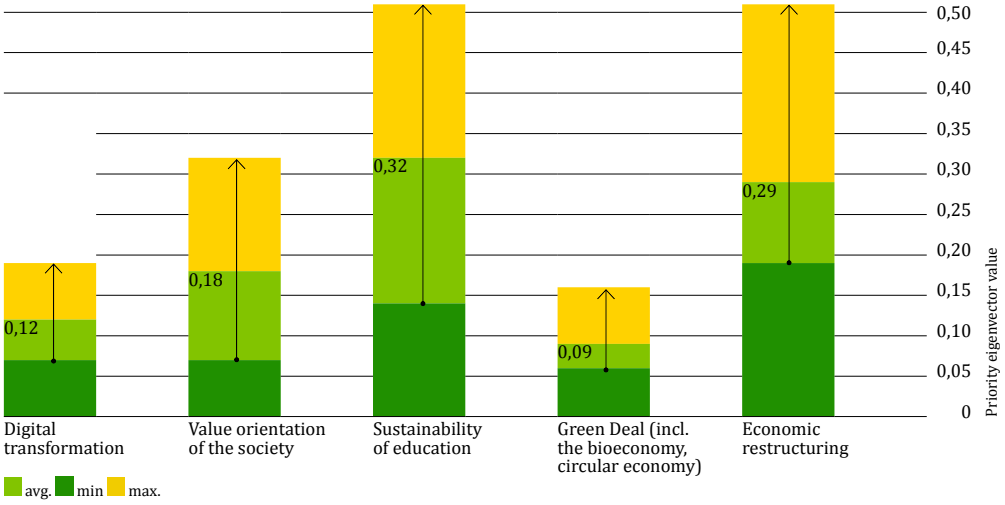
According to the experts, the impact of the regional stratification factor could be reduced by economic restructuring (average rating 0.32), sustainability of education (average rating 0.26) and digital transformation (average rating 0.23), while the rating of the priority Green Deal (average rating 0.07) was the lowest. The most controversially rated priority was digital transformation with a variance of 0.25, which indicated different and often opposite opinions of the experts on the suitability of this priority for reducing regional stratification.



Source: authors' construction based on AHP calculations.

Fig.3.6. Potential priority regarding the factor pf *labour market involvement in the build-up of digital skills*, including minimum and maximum priority eigenvector values.

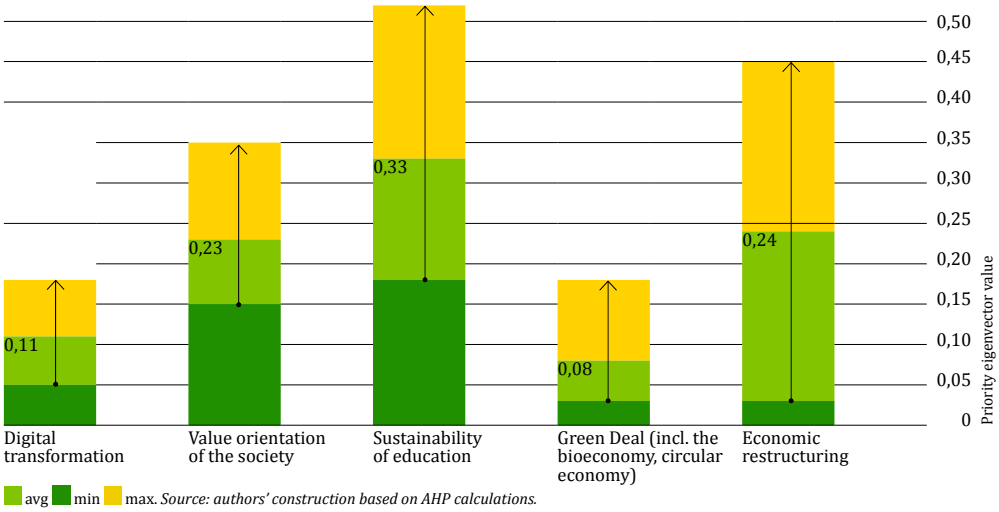
According to the experts, *labour market involvement in the build-up of digital skills* could be addressed through *economic restructuring* (average rating 0.35), while the sustainability of education and digital transformation were rated as the same alternatives (average ratings 0.24), whereas the lowest ratings were given to the *Green Deal* (average rating 0.08) and the *value orientation of the society* (average rating 0.09). In relation to this group of factors, expert opinions were the most controversial on the priority of *economic restructuring*, with a variance of 0.34.



Source: authors' construction based on AHP calculations.

Fig.3.7. Potential priority regarding the factor of *increase in the role of lifelong learning*, including minimum and maximum priority eigenvector values.

According to the experts, the factor of *increase in the role of lifelong learning* could be addressed by the sustainability of education (average rating 0.32), economic restructuring (average rating 0.29) and the value orientation of the society (average rating 0.18). The alternative – the Green Deal – was rated the lowest in dealing with this factor (average rating 0.09). In addition, the sustainability of education (variance 0.36) and economic restructuring (variance 0.33) were rated as contradictory alternatives.

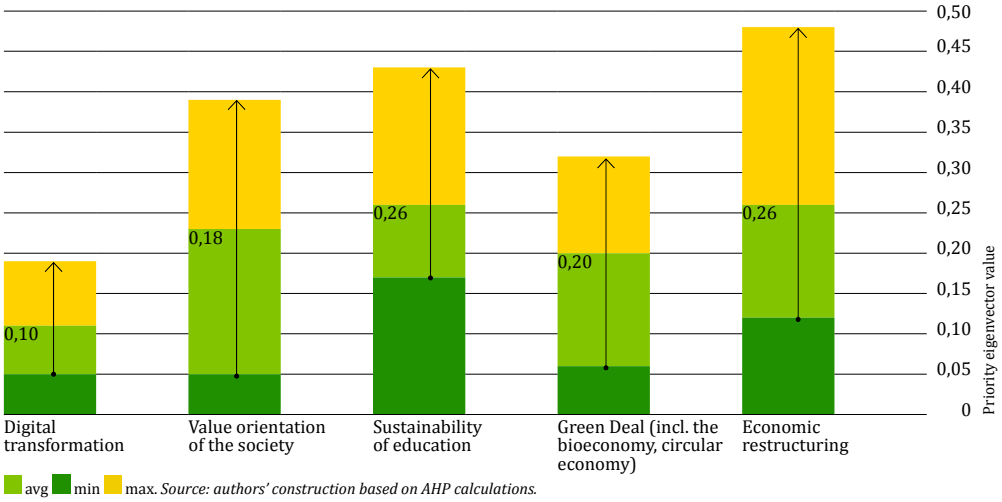


Source: authors' construction based on AHP calculations.

Fig.3.8. Potential priority regarding the factor of *public involvement in decision-making and the provision of feedback*, including minimum and maximum priority eigenvector values.

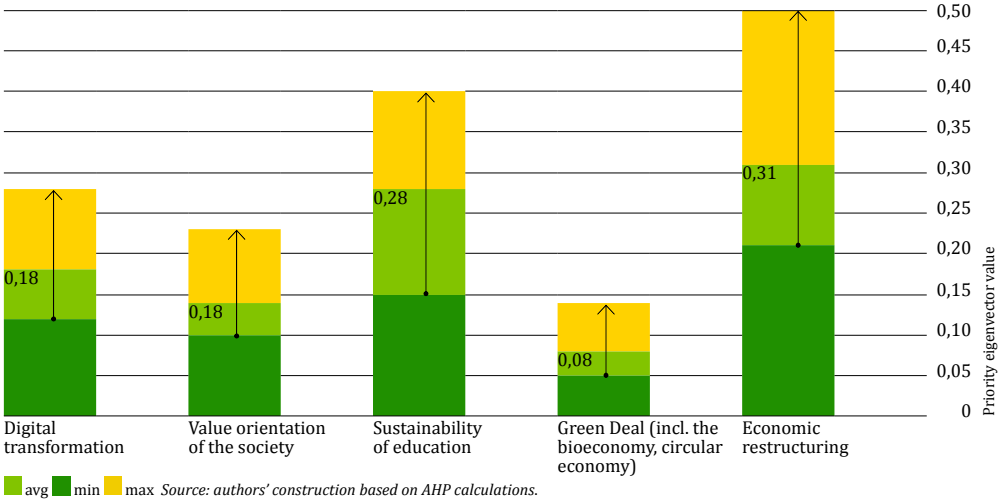
According to the experts, the potential strategic priorities for the factor of *public involvement in decision-making and the provision of feedback* could be the sustainability of education (average rating 0.33), economic restructuring (average rating 0.24) and the value orientation of the society (average rating 0.23). The alternative – the Green Deal – was rated the lowest in dealing with this factor (average rating 0.08). From the perspective of this factor, the opposite opinions of the experts on the priority of *economic restructuring* need to be critically viewed (variance 0.40).

According to the experts, the potential strategic priorities for the factor of impact of climate change adaptation on regional development could be the sustainability of education and economic restructuring (average ratings 0.26), the alternative – the Green Deal – was also highly rated (average rating 0.20). Digital transformation was considered to be the least important priority (average rating 0.10) Fig.3.9.



Source: authors' construction based on AHP calculations.

Fig.3.9. Potential priority regarding the factor of *impact of climate change adaptation on regional development*, including minimum and maximum priority eigenvector values.

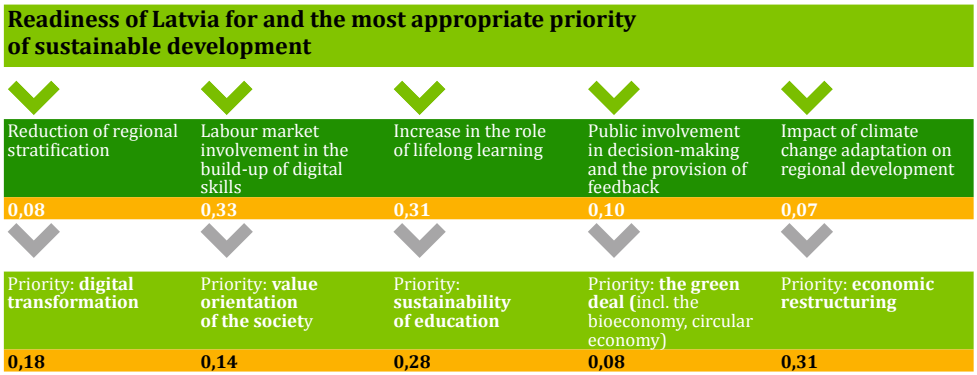


Source: authors' construction based on AHP calculations.

Fig.3.10. Expert ratings of all the potential priorities regarding the main goal, including minimum and maximum priority eigenvector values.

After summarizing the opinions of the experts to determine the most important development priority in relation to the main goal – the readiness of Latvia for and the most appropriate priority of sustainable development –, it could be concluded that, according to the experts, the most important priority was economic restructuring (average rating 0.31) and the sustainability of education (average rating 0.28). The other alternatives – digital transformation (average rating 0.18) and the value orientation of the society (average rating 0.14) – were also relatively highly rated, and there was a relatively high level of expert consensus on the two alternatives, as the variance was less than 10%.

Arranging the average ratings by all the experts in relation to the main goal (Figure 3.11) in a hierarchy allows for an overall arrangement of both the factors and potential scenarios.



Source: authors' construction based on the AHP methodology.

Fig.3.11. Hierarchical arrangement of the ratings, including the expert ratings.

As shown in Figure 3.11, the key factors influencing the achievement of the main goal – *the readiness of Latvia for and the most appropriate priority of sustainable development* – were labour market involvement the build-up of digital skills and increase in the role of lifelong learning, whereas the least important factor was the impact of climate change adaptation on regional development. Such a result basically confirms previous research findings both in the context of digitalization and in the field of lifelong learning and societal development. However, this does not mean that the other factors are irrelevant, especially if they are rated, for example, in a different context and based on other, more complex research studies.

The ratings by the experts revealed that achieving the main goal – *the readiness of Latvia for and the most appropriate priority of sustainable development* – requires economic restructuring and the sustainability of education.

Economic restructuring and the sustainability of education as potential priorities aimed at achieving the main goal – *the readiness of Latvia for and the most appropriate priority of sustainable development* – were rated higher by the experts, whereas the lowest rating was given to the Green Deal. The priorities highly rated by the experts were also in line with the findings of complex research carried out within the project.

In addition, the Analytical Network Process (ANP) method was employed to in depth examine the experts' opinions and the interaction with other external factors that could affect the priorities identified.

3.2. Application of the Analytical Network Process (ANP) method to identify the readiness of Latvia for and the most appropriate priority of sustainable development

The Analytical Network Process (ANP) is a multi-criteria decision analysis method used to derive relative priority scales of absolute numbers from individual judgments (or from actual measurements normalized to a relative form) that also belong to a fundamental scale of absolute numbers. The judgments represent the relative influence of one of two elements over the

other in a pairwise comparison process. Then, creating an arrangement of elements in the matrix (supermatrix), a comparison process with the third element of the system, which is accepted as a control criterion, is performed. The ANP synthesizes the outcome of dependence and feedback within and between clusters of elements, thus significantly revealing the influence of external factors and also the interaction between internal factors. Several authors (Van Den Honert R., Lootsma F.,1997, Saaty, 2004, Chang C. W. et al., 2007) emphasize the role of combination of the two methods, the AHP and the ANP, as multi-criteria decision-making concepts and methods form a framework in which several conflicting criteria might be included. In addition, the combination of the methods eliminates the problems that arise when employing decision modelling methods.

As mentioned above, the AHP method helped to create a hierarchy of expert opinions on the importance of factors and the importance of priorities, but excluded the influence of external factors or risks. Therefore, in addition to the AHP method, the analytical network process method was used as well. The ANP is able to deal with complex systems and detect complex interdependent relationships between the elements. This evaluation model can show the best alternative by integrating the interaction between the criteria, the alternatives and the feedback into the decision-making system. In addition, the ANP as a decision modelling method has several strengths:

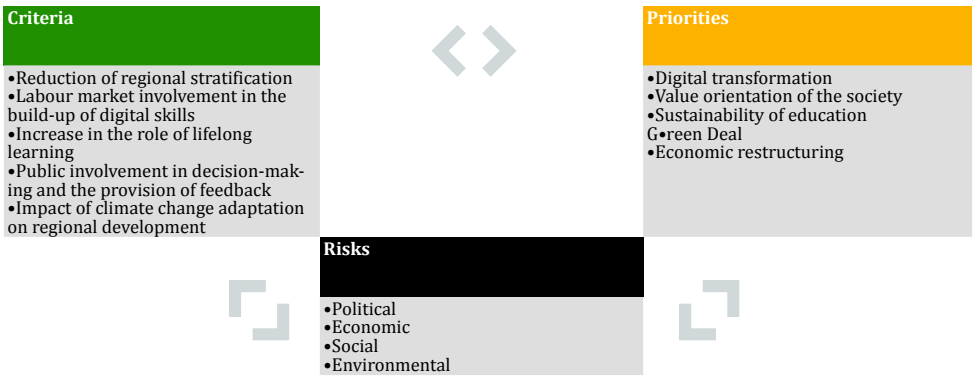
1) the ANP and the AHP are interdependent; therefore, both methods are complementary and provide an integrated approach;

2) the ANP considers the dependence of the elements in the set created (independent variables) and between various sets of elements (dependent variables);

3) the structure of the AHP and ANP network allows any decision or problem to be evaluated without considering which is the primary factor and which is the secondary factor;

4) a real problem could be represented in the ANP scheme, giving priority not only to elements but also to groups or sets of elements.

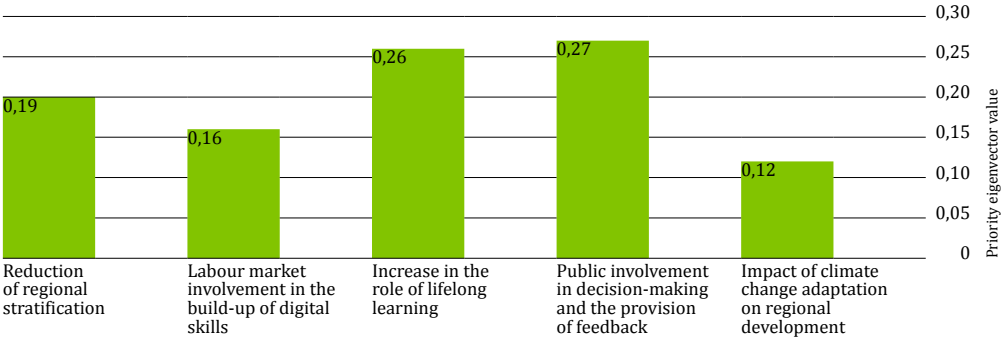
An ANP scheme, which also included the criteria and priorities identified by the AHP model was created taking advantage of the combination of both methods.



Source: authors' construction based on the ANP methodology.

Fig.3.12. ANP scheme including all groups of criteria, priorities and external factors or risks.

The ANP scheme shows the basic idea of this method that mutually compares the criteria and priorities, then performs an assessment of the interaction between the criteria, priorities and risks, which represents an important instrument for formulating an understanding of a decision-making problem that is shaped as a detailed analysis of interdependence of the priorities and cluster elements.

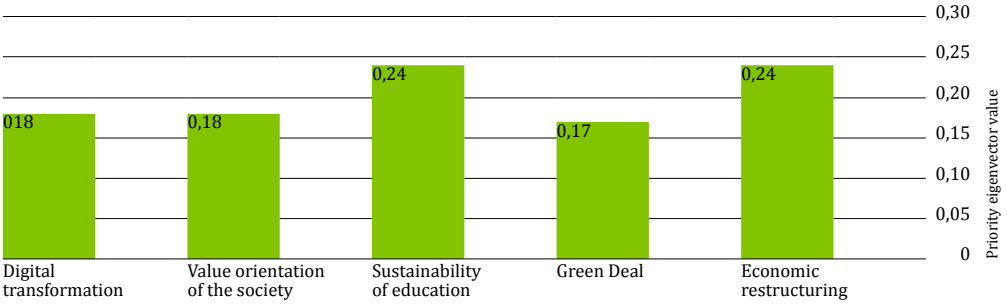


Source: authors' construction based on ANP calculations.

Fig.3.13. ANP ratings of the criteria. (Priority eigenvector value)

Using the ANP method, as shown in Figure 3.13, higher ratings were given to the following criteria: *public involvement in decision-making and the provision of feedback, increase in the role of lifelong learning* and *reduction of regional stratification*. The lowest rating was given to the criterion of *impact of climate change adaptation on regional development.* A comparison of the ratings made employing the ANP and AHP methods revealed that the criterion of *increase in the role of lifelong learning* was highly rated according to both methods, whereas the criterion of *impact of climate change adaptation on regional development* was rated the lowest according to both methods. The criterion of *public involvement in decision-making and the provision of feedback* was considered to be the most influential one according to the ANP method, while the AHP method showed that it was rated relatively low; however, this revealed the aspect of expert consensus. As mentioned above with regard to the AHP ratings, the expert consensus or the variance of opinions was an important aspect to be taken into account, moreover, in the case of applying the ANP method. Therefore, the criterion of labour market involvement in the build-up of digital skills was also rated relatively low by the ANP method.

Next, priorities of sustainable development are evaluated by the ANP method.

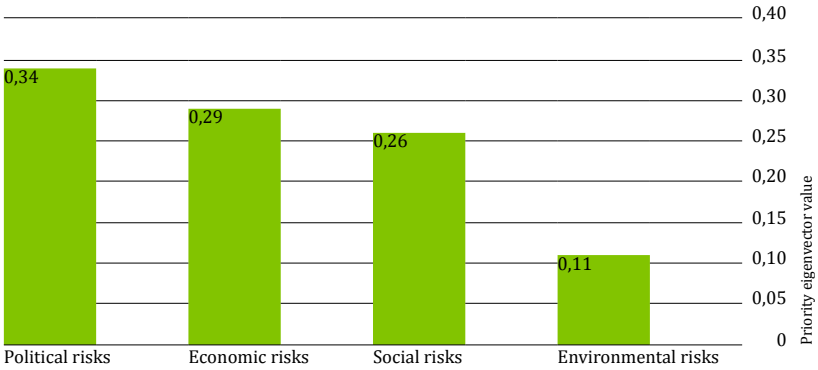


Source: authors' construction based on ANP calculations.

Fig.3.14. Ratings of all the potential priorities of sustainable development regarding the main goal by the ANP method.

As shown in Figure 3.14, the ratings of the *sustainability of education* and *economic restructuring* by the ANP method were high, whereas the *Green Deal* was rated low. A comparison of the results with those obtained by the AHP methods revealed that there was no significant difference, and the ratings of priorities due to the different opinions of the experts changed only slightly. Therefore, several alternatives could be used to choose the most appropriate priority.

The next step involved rating the external factors or risks that affected the criteria and priorities, which were determined and rated in relation to the main goal.



Source: authors' construction based on ANP calculations.

Fig.3.15. Ratings of the external factors or risks that affected the criteria and priorities regarding the main goal by the ANP method.

As shown in Figure 3.15, the most important factor or risk was political (0.34), which could affect certain priorities of development, followed by economic risks (0.29), whereas the lowest rating was given to environmental risks (0.11).

Such conclusions, based on the ANP method and calculations, were also confirmed by the research results and assumptions about the impacts of risks on the factors and priorities included in the AHP model and hierarchy that were summarized in the previous chapters.

Conclusions

- When designing a development strategy and a hierarchy aligned to the main goal, certain approaches focusing sustainability mainly on the systematic balancing of the interaction between ecological and social aspects, could be applied.
- To perform an AHP analysis, the main goal was set: **the readiness of Latvia for and the most appropriate priority of sustainable development**; then second-level factors influencing one of the following priorities of sustainable development were defined: reduction of regional stratification; labour market involvement in the build-up of digital skills; increase in the role of lifelong learning; public involvement in decision-making and the provision of feedback; impact of climate change adaptation on regional development.
- At the third level of the AHP hierarchy, alternatives or the most appropriate priorities for sustainable development were defined: digital transformation; value orientation of the society; sustainability of education; the Green Deal (incl. the bioeconomy, circular economy); economic restructuring.

- The AHP analysis revealed that the experts highly rated the following factors: *labour market involvement in the build-up of digital skills* (average rating 0.33) and *increase in the role of lifelong learning* (average rating 0.31). Besides, both factors had almost the same variance, 0.29 and 0.27, respectively, which means that the experts' opinions differed on the factors. However, the lowest ratings were given to *public involvement in decision-making and the provision of feedback* (average rating 0.10) and the *impact of climate change adaptation on regional development* (average rating 0.07). It is positive that both factors had a high degree of expert consensus, with variances of 0.08 and 0.06. This means that it could be concluded that the experts had unanimously identified *public involvement in decision-making* and the *impact of climate change adaptation on regional development* as less important factors in achieving the goal, while *labour market involvement in the build-up of digital skills* and *increase in the role of lifelong learning* as more important ones.
- After summarizing the opinions of the experts to determine the most important development priority in relation to the main goal – the readiness of Latvia for and the most appropriate priority of sustainable development –, it could be concluded that, according to the experts, the most important priority was *economic restructuring* (average rating 0.31) and the *sustainability of education* (average rating 0.28). The other alternatives – *digital transformation* (average rating 0.18) and the *value orientation of the society* (average rating 0.14) – were also relatively highly rated, and there was a relatively high level of expert consensus on the two alternatives, as the variance was less than 10%.
- In addition to the AHP method, the analytical network process (ANP) method that allows creating complex interdependent relationships between elements was employed. This evaluation model could show the best alternative by integrating the interaction between the criteria, the alternatives and the feedback into the decision-making system as well as complements the evaluation made by the AHP method.
- The calculations performed using the AHP method showed that higher ratings were given to the following criteria: *public involvement in decision-making and the provision of feedback, increase in the role of lifelong learning* and *reduction of regional stratification*. The lowest rating was given to the criterion of *impact of climate change adaptation on regional development.*
- The ANP analysis revealed that the ratings of the *sustainability of education* and *economic restructuring* were high, whereas the *Green Deal* was rated low. A comparison of the results with those obtained by the AHP methods revealed that there was no significant difference, and the ratings of priorities due to the different opinions of the experts changed only slightly.
- The ANP analysis identified political and economic risks that could significantly influence the identified priorities of sustainable development in the future. This is indicated by the current significant increase in energy prices and problems with the implementation of Green Deal initiatives.

Proposals

- When the government makes important decisions, it is necessary to communicate with the public and involve them in discussing, making and implementing decisions, as the present research identified public involvement in decision-making as a factor significantly influencing the readiness of Latvia for sustainable development.

- In Latvia, much more training and education is necessary on sustainability principles and sustainable development issues, incl. on the Green Deal, which also includes the circular economy (transition from the pattern "take, make, consume, discard" to the pattern "reuse, split into parts, recycle, consume less").
- With the active involvement of the national and local governments in the implementation of the EU's Green Deal, the national interests of the society and Latvia need to be taken into account, where economic risks and also the public's understanding of it are important.
- The rapid development of digital transformation needs to take into account the readiness of various strata of society for the change, providing, if necessary, significant support for the acquisition of digital competences, so that the digitalization does not lead to significant non-involvement or exclusion of certain strata of society. The risks to employees and residents with low digital skills need to be identified, as well as the risks in situations where the digitalization is so rapid that it is targeted only at narrow niche areas of interest.
- The importance of lifelong learning needs to be widely advocated while ensuring access to lifelong learning; business associations should be involved in its implementation in order to create a stable link among employers – who constantly need to educate their employees –, educators and learners.

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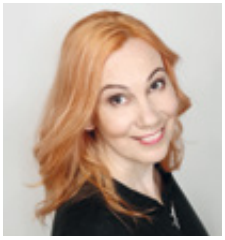
Annexes

The annexes mostly focus on the activities carried out during the project implementation, presenting the research results to the general public and cooperating with various audiences and institutions interested in the research findings throughout Latvia. For example, Annex 2 gives an overview of 5 regional forums held in Zemgale, Vidzeme, Latgale, Kurzeme and Pieriga on digitalization tools for business support. Judging by the great interest of the forum audiences in new information, there is a need for much broader and more intensive education of the population about technologies, the fact that the 4th Industrial Revolution or Industry 4.0 created needs in the fields of education, the labour market, skills and competences, as well as about principles of the Green Deal and the circular economy.
Annex 4 provides information on the IV International Economic Forum held by the LAS Institute of Economics, in the organization and group work of which Interframe-LV scientists participated as well. Annex 5 focuses on a hopeful trend observed in Latvia in recent years – residents choose the countryside not only as a place to relax but also as a permanent place to live and work. Besides, the newcomers to rural areas who deliberately move to the regions and get involved in community life gradually shape a new perspective for the local population. However, Annex 6 reports about a significant achievement within the project Inteframe-LV – eight doctoral theses were developed during the project implementation.

Annex 1
Socio-economic prerequisites for agency

Analysis of data from nationally representative surveys of the population of Latvia
(The results are discussed further in the chapter II.6 “Entrepreneurship, Income and Risk Management”)



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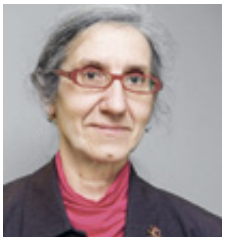

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The 2008–2010 financial crisis has taught a hard lesson to Latvia exposing inefficiency of the country’s economy. The National Development Plan of Latvia for 2014–2020 aimed at a radical reform of economy. A slogan style introductory sentence set a goal to be achieved by 2020: “Economic Breakthrough – for the Greater Well-Being of every Latvia’s resident and the state!” The current Plan for 2021–2027 approved during the Covid-19 pandemic, in July 2020, proposed a more concrete business goal: producing higher added value products and taking on a global market (analysed in Kruk 2020). The Plan sets

knowledge-based industry as the national priority. 'Innovation', 'productivity', 'efficiency', 'competitiveness', 'export promotion policy' are the key words of the document. To attain the goal the Plan demands a reform of public governance institutions but envisages no substantial measures to improve the quality of public services. More attention the Plan pays to character improvement: the government should teach the population the skills of collaboration because the envisaged economic breakthrough cannot occur without solidarity. In the sociological literature this term is used to denote four modalities of social relationships (Bayertz 1999; Hechter 1987; Scholz 2012; Smith and Sorrell 2014; Thome 1999).

(1) *Normative solidarity* based on moral criteria, e.g., voluntary work, helping others.

(2) *Functional solidarity* based on material effectiveness, e.g., economic cooperation.

(3) *Political solidarity* based on the criteria of balancing interests, e.g., search for a compromise in decision-making.

(4) *Social solidarity* based on mutual interdependence of individuals in a group, e.g., trustfulness, respect of others.

In Latvian, words 'collaboration', 'participation', 'integration', 'cohesion', 'unity' are used interchangeably to describe the conditions of social relationship that oppose social atomization. The Plan mentions only normative, functional, and social solidarity. A peculiar understanding of social solidarity allows for neglecting political solidarity: social solidarity envisages the interiorization of homogeneous cultural values that are expected to ensure the homogeneity of interests and consent with the official common good policies. In such conditions, articulation of plural interests and seeking compromise is redundant because all individuals are expected to agree with the concept of common good based on the shared culture. As a feature of political solidarity, the Plan mentions 'participation in decision-making', but the lack of substantial institutional mechanisms of political communication makes of the participation a mere a formality.

The Plan maintains that solidary action is possible when individuals are 'aware of the state' and trust each other and institutions. Policy makers treat awareness of the state and trustfulness as character dispositions that depend on emotional identification with the group (feeling of belonging to the community, ethnic group, the state) and national identity. Individuals can refine their character if they know democracy values and understand the structure and functions of public governance institutions. The government and the media should deliver the appropriate information in top-down communication. The Cohesive and Active Civil Society Development Guidelines for 2021–2027 elaborate the moral education program further.

The quoted policy documents neglect individual motivations and do not envisage feedback communication. The task of the current empirical research is to reveal the factors constraining and enabling agency. The research data are the national representative surveys conducted by the Research centre SKDS in October 2013, October 2019, September 2020, and September 2021 (N ~ 1000). Random stratified sample includes permanent residents of Latvia aged 18-74 years. Respondents were interviewed at their domicile in their preferred language – Latvian or Russian.

Conceptually, we draw from theories of social morphogenesis and social capital. The starting point of theory of social morphogenesis is analysis of self (Archer 1995, 2000). What an individual can do is determined by the nature of the body: physical constitution, innate temperament, and practical abilities. Embodied practices are the foundation for the emergence of the sense of self; it is prior to our sociality and should not be confused with the concepts of the self which are social, Margaret Archer stresses. The second level of analysis is the primary agency. Humans are born into an ongoing socio-cultural system which delineates collectivities in the same position of distribution of scarce resources. Occupying a certain position makes of

everyone necessarily an agent. Thus, primary agents are individuals sharing the same life chances, they have interests. But they cannot express interests and organize for their strategic pursuit because they lack a collective organization and objectives, therefore their concerns are not included in the political decision-making agenda, and they do not model institutions that organize their lives. Corporate agents can articulate their interests to themselves and others, they can engage in organized action to model or re-model institutions. Action of primary agents produces aggregate effects whereas corporate agents act together and interact with others strategically generating emergent properties: capacities for articulating shared interests, organizing for collective action, generating social movements, and exercising corporate influence in decision making. Strategic action means that corporate agents are active social subjects seeking to bring about certain outcomes, rather than objects to whom things just happen. Corporate agency is embedded in social interaction, it regroups individuals enhancing re-elaboration of institutions.

The idea of corporate agency is akin to the concept of social capital and open social structure. James Coleman (1988, 1990) recognizes social wholes as structures of interrelated positions. Individuals enter in social relationships attempting to make best use of their individual resources, furthermore these relations can constitute useful resources that individuals may use in ways facilitating action, Coleman contends. The resources called 'social capital' include obligations and expectations, information potential, norms and effective sanctions, authority relations. Social capital provides individuals with more instruments for controlling officials thus influencing the political decision-making; thereby it may explain the micro-to-macro transition. The amount of social capital depends on the type of organization of social relationships. Members of closed social structures like family and community maintain intensive interaction developing trustful relations among personally acquainted individuals. Membership in open social structures like voluntary associations is open to dissimilar individuals from different groups; the positive effect of the membership is access to organizational resources enabling production of certain public goods.

Robert Putnam (2000) uses the concepts of bonding and bridging social capital corresponding to Coleman's closed and open social structures. Bonding social capital develops in relationship with family, close friends, and neighbours; it tends to reinforce parochial identities and homogenous groups. Bridging social capital develops between groups; fostering broader identities it provides access to external assets.

In a similar way, Shalom Schwartz's (2010) theory of basic human values differentiates prosocial behaviour towards in-group and out-group. Benevolence values are socialized in the family and other primary groups, and they concern the welfare of those with whom one is in frequent personal contact. Universalism values develop outside the extended primary group; they concern understanding, appreciation, tolerance, and protection regarding the welfare of all people and of nature. Empirical study demonstrates that universalism is the strongest predictor of political activism.

The concepts of closed social structure, bonding social capital and benevolence values describe intensive relations among familiar persons. The concepts of open social structure, bridging social capital, universalism values and corporate agency stand for relations with distant others with whom one does not develop emotional attachment and does not share many similar characteristics. Members of open structures can accumulate larger resources facilitating the resolution of shared problem issues.

In an earlier study we presumed that the 2008–2010 financial crisis that struck the country severely would have motivated Latvians to team up solving their problem issues, however the

opposite was the case: the respondents expressed a strong reliance on the self and the closed social structures. Cautious economic behaviour and distrust of distant others rather than openness to change were the lessons drawn from the crisis (Lāce and Rungule 2016; Vasiļjeva 2016). In this paper we investigate social relationship during the years of post-crisis economic stabilization and the Covid-19 pandemic. To assess the social relationship, we draw on Archer's conceptual tools. The self is operationalized as the respondent's evaluation of health conditions, meaningfulness of life, feeling secure, confidence in the future, satisfaction with the living standard. Primary agency is specified as respondent's assessment of free agency. Corporate agency is operationalized as respondent's assessment of open social structures: membership in voluntary associations and participation in political activities, institutional and general trust, recognition of social heterogeneity.

An overview of the survey data

Altogether 46 items inquiring about evaluation of the self, agency, and social relationships were included in the 2019 questionnaire. Exploratory factor analysis identified 21 factors, fourteen of which were internally consistent (Cronbach's $\alpha > 0.7$). Extraction method: Principal Component Analysis; rotation method: Varimax rotation with Kaiser normalization. The answers 'Do not know' and 'No opinion' were recoded as missing data. As a result, the number of respondents having given concrete answers to all the questions fell to n = 34 which is insufficient for factor analysis. Then we used another way of recoding: the answer 'No opinion' was added to the central value (in 5-points scale) or added as a new central value (in 4- and 10-points scales). Answers of the entire sample of N = 1014 respondents were included in the factor analysis except one item comprising 23 self-assessment statements. The sample of respondents reached N = 626 in this case, because other respondents who have given 'No opinion' answer were excluded from the factor analysis. Altogether we have identified 12 internally consistent factors ($\alpha > 0.7$).

Factor 1 'Feeling secure' includes five questions: 'Would you rate the extent to which the things mentioned make you feel or not feel safe: health, self-efficacy, family, work, friends, and colleagues?' Cronbach's $\alpha = .757$.

Factor 2 'Satisfaction with the living standard' includes four statements about satisfaction with housing, family life, the place of residence, the level of life. Cronbach's $\alpha = .793$.

Factor 3 'Confidence in the future' includes statements about confidence in the future, feeling secure about one's own and children's future. Cronbach's $\alpha = .803$.

Factor 4 'Life meaningfulness' includes statements about external support, meaningfulness of life, personal goals, alienation from others, frustration with the current life and hope in the future. Cronbach's $\alpha = .873$.

Factor 5 'Goal orientation' includes statements 'I know clearly what I want to achieve in my life', 'I know what I want to achieve in the future', 'I feel belonging to people in my place of residence', 'I feel being accepted by the society'. Cronbach's $\alpha = .786$.

Factor 6 'Feeling of belonging' includes three statements: 'I view myself as a part of Latvia', 'I view myself as a part of my ethnic group', 'I view myself as a part of my local community.' Cronbach's $\alpha = .792$.

Factor 7 'Social heterogeneity' includes five statements: 'In business and politics people can work together only if they are personally familiar for several years', 'In business and politics people can work together only if a strong leader controls them and takes decisions', 'If members of a group hold many different opinions this group cannot last long', 'There are

two categories of people: those who support justice and those who not', 'People can only work together in business and politics if the duties and responsibilities of each employee are clearly defined'. Cronbach's α = .741.

Factor 8 'Institutional trust' includes eight statements about trust in parliament, national government, local government, news media, police, justice system, social insurance system, and health system. Cronbach's α = .883.

Factor 9 'Respect of laws' includes four statements: 'I always try to act in accordance with laws'; 'I respect laws'; 'I am indifferent to laws'; 'I act in accordance with social norms'. Cronbach's α = .758.

Factor 10 'Respect of social norms' includes eight statements about the attitude to the following social behaviour: Lying in one's own interests; Claiming state benefits to which you are not entitled; Bribery; Tax evasion; Failure to pay for a public transport ticket; Extramarital affairs; Payment for services in cash to evade taxes; Drug use. Cronbach's α = .834.

Factor 11 'Latvia is secure' includes statements: 'National security is threatened by political and economic developments in the European Union'; 'National security is threatened by global political and economic developments in the world (outside Europe)'; 'National security is threatened by political and economic developments in Latvia'; 'National security is threatened by international terrorism'; 'National security is threatened by the negative impacts of climate change'. Cronbach's α = .720.

Factor 12 'Prescriptive altruism' includes three statements: 'More fortunate relatives should help less fortunate ones'; 'More fortunate people should help their less fortunate friends'; 'Adult children have a responsibility to take care of their elderly parents'. Cronbach's α = .723.

Table 1. Assessment of self and social structures, upper and lower quartiles

Socio-demographic parameter	1. Feeling secure	2. Satisfaction with the living standard	3. Confidence in the future	4. Life meaningfulness	5. Goal orientation	6. Feeling of belonging	7. Social heterogeneity	8. Institutional trust	9. Respect of laws	10. Respect of social norms	11. Latvia is secure	12. Prescriptive altruism
Age 45–54			-									
Lonely	-	-	-	-		+						+
Residing in Vidzeme	-	-	-									
Non-working	-		-		-				+			+
Low income	-	-	-	-	-		-					+
Disenfranchised	-	-						-				
Residing in countryside	-					-	-	-				
Ethnic minorities	-					-		-		-		
Blue collars		-					-	-	-			
Residing in Zemgale						-		-			-	
Residing in Latgale							-	-				
Male						-			-	-		
Age 18–24										-		
Latvian language at home									-	+		
Russian language at home									+	-		
Large household											-	-
Self-employed					+							
Medium income					+							
Female									+	+		
Age 64–75	-					+			+	+		
Residing in Riga		+	+	+		+	+	+		-	+	+

Continued from Table 1 on page 386

Higher education	+		+	+		+						
High income	+	+				+						
White collars	+	+				+	+					
Ethnic Latvians	+						+		+			
Citizens	+						+					
Age 25–34	+		+					-				

The table is based on rotated component matrix. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations. *Source: SKDS October 2019, N=1014.*

Table 1 summarizes the socio-demographic parameters of the upper (marked by minus sign) and lower (marked by plus sign) quartiles of each factor. K-Means Cluster Analysis has grouped the respondents in five clusters. **Cluster 1** consists of the most advantageous Latvians who make 19.5% of the sample. Their statistically significant characteristics are: a feeling of security for the future; internal and external resources that make one feel secure; satisfaction with the life; a strong feeling of belonging to the community; support for authoritarianism; goal orientation; respect of laws. In this cluster proportionally more often are represented working people, middle and top-level managers, respondents with average high income, large households (four and more members), families with children above 18 years, residents of Riga and Latgale. The least represented are non-working people, ones with low and average low income, pensioners, residents of Suburban Riga and Zemgale.

Cluster 2 counts 20.3% of the respondents. The socio-demographic characteristic suggests these respondents are well-to-do, but they are not expressly social like the Cluster 1. They tend to respect no law; do not feel threats to Latvia from the outside; do not believe that more fortunate people should help their less fortunate friends and relatives. Statistically more often represented groups are: people aged 25–34 years, ethnic Latvians, private sector employees, high income people, families with children below 18 years, residents of suburban Riga. Less represented are 64–75 years old seniors, one person households, non-working people and residents of Latgale.

Characteristics of the disadvantageous **Cluster 3** (20.3% of respondents) are: feeling insecure about the future; feelings of exclusion, hopelessness and powerlessness; distrust of public governance institutions and support systems; the perception that they have different values from society; dissatisfaction with one's own life. Mostly the cluster is represented by 45–54 years old respondents, non-working people, ones earning low income, and ethnic minorities.

Similarly, **Cluster 4** (19.0%) is characterized by disadvantageous economic conditions, but these respondents tend to rely on public governance institutions. They tend to demonstrate: no goal orientation and a feeling of alienation; respect of laws, trust in institutions; no internal and external resources to feel safe. Their socio-demographic characteristics are: 64–75 years; two persons households; non-working; pensioners; average low income, residing in Vidzeme. The least represented are large families (four and more household members); private sector employees; blue collars, average high income.

Cluster 5 counts 20.8% respondents who tend to respect no laws; rely on institutional resources; feel no belonging to the community; feel external threat to Latvia. Statistically more often one-person households are represented in the cluster, the least often – two persons households and 55–63 years age group.

Arguably, Clusters 1 and 2 possess good agential resources, while Clusters 3 and 4 have the most deficient ones.

Table 1 demonstrates that the lower evaluation of the self correlates with the respondent's disadvantageous socio-economic position: basic education, low-paid work, living on social benefits, living in countryside, age 55–75 years. Lonely people have less sources of solidary

support. Minorities have political reasons to feel themselves excluded from the society. In the following sections we will analyse these finding in more details seeking to understand whether the Latvians possess bridging social capital and rely on corporate agency to improve their position in the socio-economic structure. Three peculiarities of the employment market are to be kept in mind interpreting the survey data. First, there is a low proportion of business owners – Latvians prefer the status of an employee (Table 2). Despite the difference of employment categories used in 2013 and 2021, the share of respondents doing their own business is below 10 percent.

Second, a large public sector is dominated by the ethnic majority while more ethnic minority people are occupied in the private sector (Tables 3a, 3b, 3c and 3d). The intersectoral difference is statistically significant and it has not changed between our surveys conducted in 2013 and 2020. A larger share of non-working population in 2013 was due to a higher unemployment rate after the financial crisis (10.9% in 2013 and 5.8% in 2019).

Third, Latvia's monocentric economy results in regional disparities that are reflected in the highest household income per person and confidence in the future in Riga (Figures 1 and 2). Respondents in suburban Riga have the second highest income leaving other regions behind but their confidence in the future does not differ statistically significantly from one reported by Latvians in other regions.

Table 2. Employment status, percent

	2013	2021
Non-working	40.7	30.1
Employed in public sector	16.5	14.5
Employed in private sector	36.7	37.2
Would-be businessmen (currently employed in public or private sector or non-working)	n.a.	9.4
Self-employed	n.a.	5.1
Business owner	n.a.	3.7
Individual business	6.1	n.a.
Total	100.0	100.0

Source: SKDS, October 2013, N=1000. SKDS, September 2021, N=1017.

Table 3a. Employment status by ethnicity, 2013, percent

	Ethnic majority	Ethnic minority	Total
Public sector	20.4	11.0	16.5
Private sector	40.1	46.5	42.8
Non-working	39.5	42.4	40.7

Sig. $p < .001$ for Pearson's χ^2 test. Source: SKDS, October 2013, N=1000.

Table 3b. Employment status by ethnicity, 2015, percent

	Ethnic majority	Ethnic minority	Total
Public sector	21.7	9.4	16.6
Private sector	45.0	52.0	47.9
Non-working	33.3	38.6	35.5

Sig. $p < .001$ for Pearson's χ^2 test. *Source: SKDS, August 2015, N=1004.*

Table 3c. Employment status by ethnicity, 2019, percent

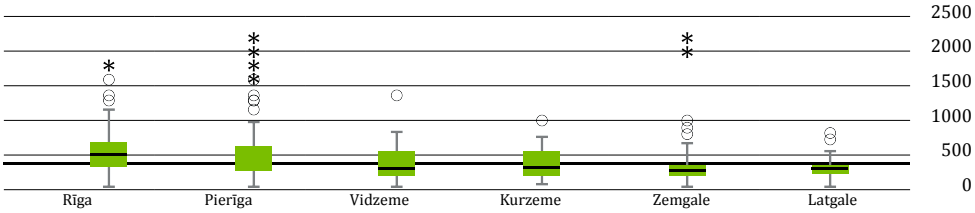
	Ethnic majority	Ethnic minority	Total
Public sector	22.6	13.4	18.8
Private sector	47.7	50.4	48.2
Non-working	30.7	36.2	32.9

Sig. p = .001 for Pearson's $\chi 2$ test. *Source: SKDS, October 2019, N=1014.*

Table 3d. Employment status by ethnicity, 2020, percent

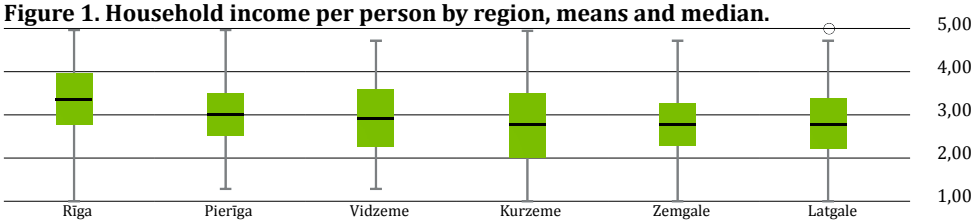
	Ethnic majority	Ethnic minority	Total
Public sector	23.4	12.2	18.7
Private sector	44.7	51.3	47.5
Non-working	31.9	36.5	33.8

Sig. $p < .001$ for Pearson's χ^2 test. *Source: SKDS, September 2020, N=1003.*



Grand median – 400,00. Sig. P < .001 for Kruskal-Wallis test. *Source: SKDS October 2019, N=1014. NA/DK (n = 191) answers were recoded as missing data.*

Figure 1. Household income per person by region, means and median.



Confidence in the future (Factor 3) is assessed by four statements in 5-point scale, Cronbach's α = .803. Sig. P < .001 for Kruskal-Wallis test. *Source: SKDS October 2019, N=1014.*

Figure 2. Confidence in the future by region.

Enablements and Constraints of Agency

Two survey questions were used to measure the respondents' agency constraints in the September 2020 survey.

Q1. 'Some people feel that they have complete freedom of choice and determine their own lives, while others feel that they have no choice and that they cannot really influence what happens to them. Please use a scale from 1 to 10, tell us how you rate your freedom to decide for yourself, if 1 means there is no choice and 10 means a wide range of choices!'

Q2. 'How often do you think / feel that X...?' Nine items proposed for the assessment of physical, psychological and social constraints bearing on their agency are health, age, financial resources, dismal mood, feeling jilted, feeling life as meaningless, ability to control events. The frequency was measured by four-point Likert scale ("often", "sometime", "rarely", "never"), complemented by the answer option "no opinion".

The mean result for the first question in the sample is M = 6.30. The One-way ANOVA test reveals statistically significant correlation of agency with the items listed in the second question. More often freedom to decide for oneself is constrained by age (M = 5.48), health (M = 5.71), and a lack of financial resources (M = 6.07). The respondents who have acknowledged the existence of bureaucratic constraints also gave lower ratings (M = 6.11). In the absence of constraining factors, the respondents rated their freedom to decide and choose as good (M = 7.42). Family duties, compared with other constraints, less hampered the freedom to decide and choose (M = 6.64)

Table 4. Constraints of agency, mean

Constraints of agency	Mean
Total	6.30
No constraints	7.42
Family duties	6.64
DK / NO	6.32
Government regulations of your professional activities	6.11
Lack of financial resources	6.07
Health conditions	5.71
Age	5.48

Source: SKDS, September 2020, N=1003.

Factor analysis of the October 2019 data has identified three main groups of enablements and constraints of agency (Table 5).

Table 5. Assessment of agency. Rotated component matrixa

	Component		
How often do you…	1	2	3
expect new day with a hope?	.812		
feel that your life is meaningful?	.696		
think that you can do what you want?	.627		
think that your health does not allow you to do what you want?		.883	
think that your age does not allow you to do what you want?		.861	
feel that something happens to your out of your control?		.641	
feel yourself neglected by others?		.560	
think that household duties do not allow you to do what you want?			.837
think that money scarcity does not allow you to do what you want?			.629

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 4 iterations.
Source: SKDS October 2019, N=1014.

(1) The psychological enablement of agency correlates with higher education, high household mean income per member, high and average personal income, and the place of residence in Riga. Despite good self-evaluation of agency these respondents prefer cautions economic behaviour however: prudent spending, saving money, and self-reliance are the lessons drawn from the crisis. They are favourable towards civic activism holding that one must engage in politics and improve the public governance. However, they do not mention cooperation with others as an important asset realizing political goals.

(2) The psychological and physical constraints of agency correlate with the age 55-75 years, non-employment, basic education, low and average household income, low personal income, residence in countryside and in Latgale. These respondents feel themselves depending on others: cooperation with others is an important lesson they drew from the financial crisis. Respondents with minor constraints of agency hold they should change themselves and improve the education quality.

(3) The social and economic constraints of agency correlate with the age 35-54 years, low household income. This group also maintains that changing oneself and improving education quality are important lessons of the crisis.

Feeling secure

The most contrasting factor dividing the population is feeling secure. The lowest quartile – people not feeling secure – includes eight socio-demographic categories; the highest one six (Table 1). Statements about respondent's health conditions and self-efficacy included in this factor indicate objective conditions of agency. Lonely, non-working, disenfranchised

respondents, ethnic minorities, seniors aged 64-75, residents of Vidzeme and countryside, as well as ones having low income are the most vulnerable socio-demographic categories. It is reasonable to suggest that the respondents in the lowest quartile need an external help. Among the most advantageous respondents are ones with higher education, high income, white collars, ethnic Latvians, citizens, and the age group 25-34 years. These respondents tend to be satisfied with living standard and view their future optimistically. In general, the positive assessment of the self is accompanied by the positive evaluation of social structures.

In 2019 the Survey questionnaire included 14 questions enquiring about the respondents' feeling secure: "To what extent X allows you or not to feel secure?" Factor analysis of responses revealed three loci of security: (1) the self and the family, (2) formal institutions, (3) informal relations (Table 6).

Reliance on the self, family, closest friends, and colleagues manifests a strong consistency constituting a factor with Cronbach's $\alpha = 0.757$. These are the most important loci of feeling secure. Reliance on and trust in open social structures – people with whom one maintains less intense contacts – does not manifest such a strong consistency. Items, evaluating attitude to open social structures (parish, voluntary associations, neighbours), trust to unknown others and general trust constitute a factor but the items lack the internal consistency (Cronbach's $\alpha < 0.7$).

Comparing the quartiles, (1) locating the security in the self and family is common to respondents with higher education, high and medium household income, high personal income, managers and white collars, residents of Riga and Zemgale. The least common this factor is among respondents of age group 55–75, and non-working respondents. (2) Formal institutions as loci of feeling secure are important for respondents residing in the countryside. (3) Informal relations factor is important for women, persons of age group 55–64, residents of countryside, small towns and Latgale; less important this factor is for unemployed, respondents with low household and personal income, residents of Riga and suburban Riga. This factor has a moderate importance for people receiving high income.

Table 6. Feeling secure, factor components and percent of all respondents.

It makes me feel secure...	Factor components			Percent of all respondents
	1	2	3	
My work	.80			61
Belief in my abilities	.78			85
Health	.74			74
Education	.70			71
Family	.64			90
Municipal social aid system		.85		32
Social insurance system		.83		36
Health care system		.81		35
Justice system (including police, courts)		.67		55
Army		.48		55
Church, parish			.81	33
Neighbours			.75	63
Voluntary association		.42	.64	20
Friends, school mates, colleagues	.53		.56	81

Source: SKDS October 2019, N=1014.

Statistical assessment of the eventual change of feeling secure during the last three years reveals four clusters (Table 7). (1) Feeling secure has not changed. Statistically more often the cluster includes women, people aged 55–64, respondents with higher education, high household income, residents of Riga and Vidzeme. (2) Feeling secure has increased. Statistically more often this evaluation is reported by the respondents in the age group 18-34, with higher

education, high household and personal income, employed people, white collars, residents of Riga and suburban Riga. (3) Perception of the self, family, and the place of residence as the loci of security has not changed, but Latvia is perceived as less safe. In this cluster we find students, respondents with low household income, and ones residing in countryside statistically more often. (4) Perception of the self, family, and Latvia as the loci of security has decreased, but the place of residence remains a stable source of feeling secure. Respondents aged 65–75, with basic education, low income, non-working, retired, residing in small towns and Latgale report this evaluation of their current feeling secure statistically more often.

Table 7. Evaluation of feeling secure change during the last three years. Final Cluster Centres

	Cluster			
Locus of feeling secure	**1. Unchanged**	**2. Increased**	**3. Unchanged, in Latvia decreased**	**4. Decreased, in place of residence unchanged**
Self	2.0	1.22	1.9	3.0
Family	2.0	1.14	1.8	2.7
Place of residence	2.0	1.17	2.0	2.4
Latvia	2.0	1.29	3.0	2.8
Number of cases, unweighted	604	179	106	104
Socio-demographic parameters	Age 55-64 Higher education High income Riga Vidzeme Female	Age 18-34 Higher education High income Riga Suburban Riga Working White collars	 Low income Countryside Students	Age 65-75 Basic education Low income Outside Riga Latgale Non-working Pensioners

Source: SKDS October 2019, N=1014 (valid n = 993, missing n = 21).

Economic well-being, higher education and living in the centre are the most common preconditions for feeling secure. Clusters 3 and 4 reflect the conditions in periphery: here people evaluate their community as safer than the country. Most probably this is related to frustration with the national political institutions epitomized by the ill-considered regional policy and unjust redistribution of resources. The difference between these clusters owes to a difference in agency. Cluster 3 groups together resilient people capable to act in economically disadvantageous conditions as compared to ones available in Riga. Local community is the resource of social capital sustaining informal economic relations which compensate for low financial capital. Cluster 4 represents people with agency constraints who depend on welfare allowances. In this case informal relations compensate for small public insurance benefits.

Values orientations

According to the Values Survey, security is the dominant motivational value of Latvians (Table 8, Figure 3). Altogether, this value orientation is moderately or very important for 88% of Latvians aged 18–75 years. Motivating to maintain a stable, protective environment and focusing on one's own rather than others' needs, security value opposes prosocial behaviour which might entail risk (Schwartz 2010: 224). Ranked the second, benevolence value is compatible with behaviour oriented towards the closed social structure. Schwartz (2010: 237) has found empirically that universalism value is the strongest predictor of political activism; it is followed by education, stimulation, self-direction, and income, whereas security value correlates most negatively. Results obtained in Latvia demonstrate a weak correlation with universalism and self-direction, a moderate negative correlation with stimulation and a strong

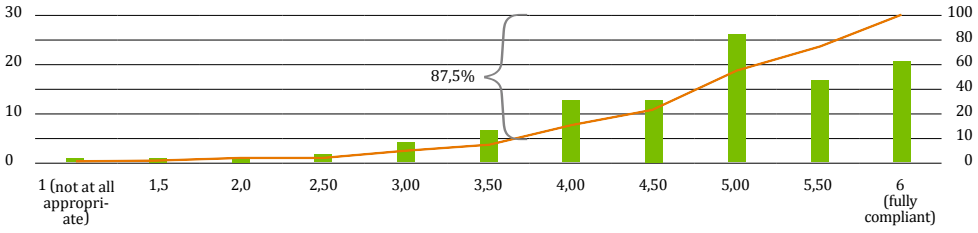
correlation with security – such a values orientation is not supportive of political activism. Respondents running their own business (employers, self-employed, and family workers) upheld different values: their adherence to security value is moderate, they are moderately self-directed, more oriented to achievement, and reject conformity very strongly (Rungule and Seņkāne 2018). These values enhance risk and openness to change, however the disregard of universalism constraints solidarity in open social structures. Business owners are self-reliant, and the empirical data discussed in the subsequent sections attest at their willingness to act as corporate agents articulating and defending their interests in political decision-making.

Table 8. Motivational values, 2020

Values All respondents	
Security. Safety, harmony, and stability of society, of relationships, and of self.	.68
Benevolence. Preserving and enhancing the welfare of those with whom one is in frequent personal contact.	.25
Self-Direction. Independent thought and action; choosing, creating, exploring.	.25
Universalism. Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.	.23
Hedonism. Pleasure and sensuous gratification for oneself.	.11
Tradition. Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self.	.07
Conformity. Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.	-.24
Achievement. Personal success through demonstrating competence according to social standards.	-.31
Power. Social status and prestige, control or dominance over people and resources.	-.37
Stimulation. Excitement, novelty, and challenge in life.	-.47

Source: SKDS September 2020, n = 992 (DK / NO answers are recoded as missing).

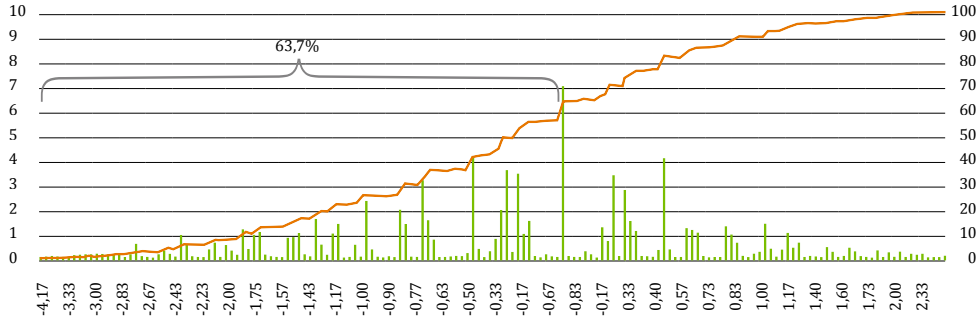
Mann-Whitney U test and Kruskal-Wallis test show statistically significant correlations between the motivational value orientation 'Security' and a range of socio-demographic parameters. The need for security, harmony, company and personal stability (national security, mutual assistance, family security, feeling of belonging, social order, health, cleanliness) is more pronounced for pensioners (M = .98), non-citizens (M = .89) the unemployed (M = .82) and middle- and low-income earners than for others. The older the age of the respondents, so the higher the proportion of respondents who have a strong need for security. However, the higher the level of education and/or autonomy, the lower the need for external security. Also, the need for external security is less pronounced for socially active respondents than for socially inactive ones (M = .50 and M = .79, respectively). The larger the number of individuals in the household, the less important the motivational value 'Security', the more insignificant this value is for top or medium level managers (M = .27). There are no statistically significant differences in this parameter between various nationality groups, levels of urbanization, regions or places of residence.



valid % cumulative %. Left axis: Respondent's score in the questionnaire.
Right axis: Percent of respondents (Cumulative Percent).Horizontal axis: Values scale.
Source: SKDS September 2020, n = 992 (DK / NO are recoded as missing).

Figure 3. Motivational value Security, scale 1 ... 6.

In the scale Conservation vs Openness to change, most of Latvians (64%) are inclined to conservative values. The scores are equal to zero and less in the scale ranging from -5 to +5 (Figure 4). In the survey sample we found no respondents with marked openness to change that corresponds to the scores above 4.



valid % cumulative %. Left axis: Respondent's score in the questionnaire. Right axis: Percent of respondents. Horizontal axis: Values scale. *Source: SKDS September 2020, n = 948 (DK / NO answers are recoded as missing).*

Figure 4. Values orientation: Conservation vs Openness to change, scale -5 ... +5.

Based on the data for various demographic groups, a Pearson's $\chi 2$ test shows a statistically significant relationship between openness to change and age ($p < .001$), marital status ($p < .001$), citizenship ($p < .001$), the employment sector ($p < .001$) and the region ($p < .001$). Young people (aged 18-24), unmarried, citizens, those working in the private sector, as well as people from Vidzeme are more open to change.

A Pearson's $\chi 2$ test reveals that openness to change is also related to a person's desire and readiness to be socially active ($p < .001$), such people feel in control of their lives ($p < .001$) and do not believe that the exogenous factors independent of them would not allow them to do what they have intended ($p < .001$).

The respondents who are open to change strongly do not trust the health care system ($p = .021$), yet there are no statistically significant differences in the attitude of conservatives towards other institutions.

Those being open to change are confident in their civic activism. In a situation where the government intends to make a legal act that would make it more difficult for such people to do business, they would have the ability and skill to bring together colleagues to formulate their opinion and together create public pressure on politicians ($p < .001$). The respondents intending to launch their own business as well as self-employed respondents demonstrate the highest openness to change while non-working respondents are the most conservative (Table 9). Kruskal-Wallis test suggests that the difference is statistically significant ($H (4) = 106.53$, $P < .001$).

Table 9. Openness to change by the employment status, means

Employment status	5% Trimmed Mean	Std. Deviation	Average age, years
Non-working	-0.745	1.27568	56
Employee	-0.272	1.07925	44
Business owner	0.135	1.11191	42
Self-employed	0.479	1.14521	44
Would-be businessman	0.543	1.14502	33

Source: SKDS, September 2021, N=1017.

Preconditions for feeling secure: the government social and business policy

What does it mean for Latvians to feel secure? We proposed respondents a list of 16 problem issues current in the political and media agenda and asked them to range the importance for their feeling secure (Table 10). Just and predictable taxation, legal framework enhancing business activity, public insurance, and accessible health services are the top four priorities chosen by most of the respondents. Feeling secure therefore can be specified as fair and predictable conditions for conducting business and provision of public insurance in case of need. Latvians are much less concerned with migration, terrorism, crime, international tensions (notably relations with Russia), and climate change. We have calculated a relative importance of these problem-issues for socio-economic categories: business owners, would-be businessmen, public and private sector employees, and non-working. Business owners and would-be businessmen demand an improvement of normative regulation of business environment and a just taxation policy above all. The largest concerns of the employees are social insurance and just taxation. The non-working population demands social insurance and healthcare accessible for all.

Table 10. Three most important problem issues the parliament, and the government should solve to increase your feeling secure, Index of importance

Problem issue	Business owners	Would-be businessmen	Private sector employees	Public sector employees	Non-working	All respondents
Social insurance	34	29	39	38	44	39
Just taxation	47	34	36	35	26	33
Improving business environment	58	41	32	28	27	32
Health care for all	21	23	26	31	38	30
Combat corruption	12	11	11	18	8	12
Social care provision for elderly and disabled	4	12	11	10	16	12
Providing public care and education for children	6	15	11	10	12	11
Improving stability of the financial system	6	5	8	8	5	6
Integration of ethnic minorities	5	4	5	6	2	5
Improving the justice system	2	3	5	5	2	4
Restricting migration from the third countries	2	2	4	4	1	3
Improving security at living place	4	4	3	5	1	3
Minimizing the negative consequences of climate change	3	2	2	6	3	3
Engaging in EU common policies	2	2	2	2	3	2
Supporting sanctions against Russia	2	0	2	2	0	1
Reducing terrorism threats	1	1	1	3	0	1

Note: The number of respondents selecting first option was multiplied by 100, second by 67, third by 33. Results were summed and divided by the number of respondents in the respective group. *Source: SKDS October 2019, N=1014.*

Evaluation of the social insurance is specified in the next survey item (Table 11). In the questionnaire we listed seven support systems asking respondents to select three most reliable of them in case of financial difficulties (e.g., illness or unemployment). Answers 'No one can be relied on' and 'Other' were included in the list too. It is remarkable that 13% of respondents do not expect and external support at all: their answer is 'No one can be relied on'. Public insurance is the first choice for 39% of respondents, while another 44% can rely on their own and family's capital in the first place. The most often selected second option is private capital too: 60% rely on their own or family savings. Other sources of social help are much less available for

Latvians: non-government organizations, municipality, church, international funds. Among the respondents who selected personal or family savings as the first option, 16% did not mention a second option. The figure points at a lack of social capital that would have involved these individuals into solidarity networks of mutual help.

Considering three choices together, business owners and would-be businessmen rely more on their personal savings and family. There is a considerable difference between private and public sector employees. Private sector tends to rely on personal savings; public insurance is much less reliable for them than for the public sector. The latter enjoys a more diversified access to support systems. Non-working people rely on family first of all followed by personal savings and public insurance. Absence of a reliable support system is reported by private sector employees more often. Not a few non-working people and businessmen lack an external support system too.

According to Pearson's $\chi 2$ test, reliance on support systems correlates with respondent's health ($p = .014$). Those who rely on personal savings tend to never think that they health constraints their agency (36%, average 29%); among those relying on family this indicator is lower (11%, average 15%). Ethnic Latvians tend to rely on public insurance more often that ethnic minorities (45% and 31% respectively); much less ethnic Latvians (10%) than minorities (17%) say that nobody can be relied on ($p = .001$). Respondents with university degree rely on personal savings more often (35%; average result 29%); less often they rely on family (11%; average result 15%); less often they say that nobody can be trusted (8%; average 13%) ($p = .015$).

Table 11. Three reliable support systems, index of importance and percent of importance ranks

Support system	Employment status, index*					Rank of choice, %		
	Business owners	Would-be businessmen	Employed in private sector	Employed in public sector	Non-working	1st choice	2nd choice	3rd choice
Public insurance	35	40	36	46	41	39%	0%	0%
Personal savings	58	46	48	49	41	29%	25%	0%
Family	49	47	42	51	45	15%	35%	22%
NGOs	1	3	3	3	2	< 1%	3%	3%
Church	1	2	1	1	2	< 1%	1%	2%
Municipality	3	6	5	6	8	< 1%	3%	10%
International funds	0	0	0	1	0	< 1%	0%	< 1%
Other	0	0	0	1	0	< 1%	0%	< 1%
No support system can be relied on	13	8	16	6	14	13%	–	–
DK/NO	6	5	3	2	2	3%	33%	64%
Number of respondents	48	87	403	166	310	1014	1014	1014

Note: * The number of respondents selecting first option was multiplied by 100, second by 67, third by 33. Results were summed and divided by the number of respondents in the respective group. *Source: SKDS October 2019, N=1014.*

The most reliable support system is family: 72% of respondents called it as first, second or third choice. More than a half (54%) can rely on personal savings. One of three Latvians (39%) relies on public insurance – it is the first chosen option always. In general, accessibility of support systems is not diversified: 35% of respondents have mentioned three accessible support systems; 16% could have not mentioned even a single option.

Those who rely on public insurance have the widest spectrum of options: in the second and third place they mention personal savings, family, and municipal help. Those relying on personal savings do rely also on family in second place, and a few respondents rely on municipality

and NGOs as the third option. Family as the support system is the first option for 15% of respondents: every fourth of them can rely on municipality or NGO in the second place, but no one of them does mention the third option. These three groups score the highest rating of feeling of belonging to Latvia.

Public insurance, NGOs, church, and municipality as support systems are open social structures. Reliance on them has positive effects on social relationship. In our survey, respondents who mentioned them as the first reliable support system scored a higher institutional trust. There is no statistically significant correlation between the reliance on any of the support systems and general trust. Table 12 suggests that the respondents relying on no one as well as those relying on social organizations (NGO, church, municipality) and family as the primary sources of support score the worst indices of well-being. Arguably, these respondents possess no financial resources to rely on personal savings. Reliance on effective public insurance system could have improved their subjective well-being.

Attitude to prescriptive altruism is similar across the groups (p = .094). Respondents tend to rather agree that more fortunate individuals should help their less fortunate relatives and friends.

Table 12. The first reliable support system, evaluation of the self and social structures, means

First reliable support system	Feeling secure (Factor 1)	Satisfaction with the living standard (Factor 2)	Confidence in the future (Factor 3)	Life meaningfulness (Factor 4)	Goal orientation (Factor 5)	Feeling of belonging (Factor 6)	Institutional trust (Factor 8)	Respect of laws (Factor 9)	Respect of social norms (Factor 10)	Prescriptive altruism (Factor 12)	General trust	Health conditions
Public insurance	3.19	7.09	3.10	3.73	4.00	3.32	5.17	4.10	7.36	3.42	5.65	3.43
Personal savings	3.30	7.27	3.24	3.82	4.11	3.40	4.77	4.08	7.31	3.33	5.60	3.45
Family	3.04	6.70	2.90	3.59	3.87	3.30	4.67	3.99	7.16	3.51	5.08	3.20
NGO, church, municipality	2.91	5.70	2.43	2.83	2.83	2.44	5.15	3.21	5.01	3.46	6.13	2.86
No one	3.04	6.26	2.72	3.00	3.70	2.77	4.14	3.61	5.86	3.28	5.44	3.35
DK / NO	3.20	6.28	2.99	3.53	3.81	2.97	5.17	3.78	7.50	3.68	5.55	3.21
Total	3.18	6.95	3.06	3.63	3.96	3.26	4.85	4.00	7.11	3.40	5.53	3.38

Notes: Feeling secure, Confidence in the future, Life meaningfulness, Goal orientation, Feeling of belonging, Respect of laws, Prescriptive altruism and Health conditions are assessed in 5-point scale. Satisfaction with the living standard, Institutional trust, Respect of social norms, and General trust are assessed in 10-point scale. Sig. p < .001 for One-way ANOVA test for the Factors 1, 2, 4, 5, 8, 9. Sig. p < .006 for One-way ANOVA test for Health conditions. Sig. P < .001 for Kruskal-Wallis test for the Factors 3, 6, 10. Sig. P < .058 for Kruskal-Wallis test for General trust. Statistically significant lower values in comparison with at least one other component of the item are put in bold.
Source: SKDS October 2019, N=1014.

Who are the respondents relying on no one? Among them more often we find ethnic minorities (17%, ethnic majority 10%, p < .001); private sector employees (15%, public sector 7%, p = .014); residents of the suburban Riga (22%), Zemgale (20%), and Latgale (16%, average 13%, p < .001); respondents with basic and high education (p = .005), widowed and divorced persons (21%, average 13%, p = .002). Respondents relying on no one possess lesser bonding social capital than other Latvians. Pearson's $\chi 2$ test reveals that much less they rely on their relatives when seeking a small financial aid (39%, average 53%, p < .001), and an assistance in case of illness (59%, average 80%, p < .001).

Pearson's $\chi 2$ test reveals that those who rely on family in the first place, possess worse agency. Poor health reduces everyday activities of these respondents considerably (14%, average 7%, p < .001), rarely they think that they can do what they want (35%, average 26%, p < .001), rarely they think they life is meaningful (21%, average 13%, p < .001). Note that the

availability of diverse support system is reduced for these respondents: only every fourth of them mentioned a second option, none of them mentioned the third one.

During the Covid-19 pandemic the reliance on public insurance increased optimism of respondents, September 2020 survey suggests. Pearson's $\chi 2$ test reveals, that those who rely on public insurance held that social solidarity increased during the lockdown (34%, average 25%, $p < .001$). Reliance on the public insurance correlates with a more positive evaluation of public governance institutions. Reliance on national government (16%, average 12%, $p = .003$), local government (17%, average 11%, $p < .001$), and belief in the state (18%, average 12%, $p < .001$) have increased among these respondents during the lockdown. They tend to rather agree that public servants are competent (37%, average 26%, $p < .001$). They tend to view themselves as a part of Latvia (33%, average 28%, $p < .001$). More optimistic they are about cooperation with others: this is the lesson drawn from the Covid-19 crisis (18%, average 15%, $p < .001$). Nevertheless, social optimism does not predict civic activism and membership in voluntary organizations ($p > .05$).

On the contrary, respondents relying on private savings, and on no one evaluated all these items pessimistically: more often they admit their reliance on national government (30% and 33% accordingly, average 25%, $p = .003$), local government (21% and 27%, average 17%, $p < .001$), and belief in the state (24% and 30%, average 19%, $p < .001$) have decreased. People relying on private savings (16%), family (13%), and no one (20%, average 12%, $p < .001$), observed a deterioration of social solidarity during the pandemic.

Post hoc multiple comparisons LSD test reveals that those respondents relying on family, NGOs, and municipality report worse health conditions than people relying on public insurance and private savings.

One-way ANOVA test suggests that international aspects of security (Factor 11) are less important for the respondents disinterested in politics. Those who say that politics does not play a very important role in their lives or does not matter at all are less aware of the threat to Latvia from the outside ($p = .001$). However, those who are not at all interested in politics are more pessimistic about economic prospects for Latvia ($p = .005$). Similarly, those respondents who reported no membership in voluntary associations tend to perceive less external threat to Latvia ($p < .001$) and to evaluate Latvia's economic perspectives pessimistically ($p < .001$). According to Mann-Whitney U test, respondent's ethnicity does not correlate with the perception of external threats ($p = .704$).

Corporate agency

In the 2019 survey the evaluation of social structures was measured using 14 questions about trustfulness, tolerance to pluralism, cooperation in business and politics, helping others. Five-point Likert scale included answer options "fully agree", "rather agree", "neither agree nor disagree", "rather disagree", "fully disagree". Statistical analysis has distinguished five factors describing the following conditions of social relationship (Table 13).

1. Social homogeneity: solidarity with similar people.
2. Prescriptive altruism: fortunate people must help those less fortunate.
3. Universalism: solidarity with dissimilar people in open social structure.
4. Benevolence: solidarity with similar people in closed social structure.
5. Self-sufficiency: family-centred relations.

Table 13. Evaluation of social relationship. Rotated Component Matrix[a]

Statement in the questionnaire	Component				
	1	2	3	4	5
In business and politics people can work together only if a strong leader controls them and takes decisions	.809				
In business and politics people can work together only if they are personally familiar for several years	.748				
In business and politics people can work together only if their duties and responsibilities formulated clearly	.714				
If members of a group hold many different opinions this group cannot last long	.647				.380
There are two categories of people: those who support justice and those who not	.613				
More fortunate people should help their less fortunate friends		.907			
More fortunate relatives should help less fortunate ones		.901			
Mostly people are helpful / ready to help others			.855		
I am ready to provide help to others without a reward			.701	.311	
Generally speaking, people can be trusted			.626	-.479	
It never cannot hurt to be careful in dealing with people				.735	
Primarily one should take of herself and family, and only then help others				.611	.332
It is acceptable to make friendship with people only because you know they might be useful for you		.395			-.707
Adult children have a responsibility to take care of their elderly parents		.476		.302	.563

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in seven iterations. *Source: SKDS October 2019, N=1014.*

Comparing the quartiles, we found the socio-demographic parameters correlating with evaluation of social structures. (1) Negative attitude to social heterogeneity correlates with lower economic status. Non-working respondents, ones with basic education, having low and average household income, low personal income, residents of small towns and of Latgale tend to prefer cooperation in their closed groups under the guidance of a strong leader. Persons of high economic status – white collars, respondents with higher education, high income, residents of Riga – tend to cooperate in open social structures recognizing social heterogeneity.

Misrecognition of social heterogeneity outlined by the factor analysis was assessed by cross-tabulating two pairs of statements about attitude to pluralism (whether group members can held different opinions), binary description of the social world (whether people are intrinsically just or unjust), functional solidarity (whether cooperation with less familiar people is possible), and authoritarianism (whether cooperation is possible only under strong leadership). Five percent of respondents disagree with the statements portraying a black and white social world consisting of people holding incompatible opinions and concepts of justice (Table 14). Ten percent of respondents disagree with the statements portraying effective cooperation between individuals as a matter of strong leadership and personal network (Table 15). In each case, every third respondent agrees with two statements adhering to a naïve notion of life and attitude to justice: social world is made of binary opposition of good and bad, and only an authoritarian leader can impose order on the population that adheres to different values orientations and concepts of good. Arguably, disrespect of pluralism makes respondents abstain from contacts with distant others whose values orientations are unknown or differ from ones accepted by the in-group. However, a considerable share of respondents is uncertain about the statements.

Respondents inclined to start their own business are much more open to functional solidarity in open social structures: they tend to disagree that personal network is necessary for the effective business relations. Kruskal-Wallis test demonstrates that would-be businessmen are predisposed to functional solidarity more that the non-working population ($P < .001$), private sector employees ($P = .005$), and public sector employees ($P = .022$).

Table 14. Social homogeneity, percent of respondents

Binary world		There are two categories of people: those who support justice and those who not				Total
Pluralism		Agree	Disagree	Neither / Nor	DK / NO	
If members of a group hold many different opinions this group cannot last long	Agree	33	4	9	3	49
	Disagree	5	5	2	1	12
	Neither / Nor	12	5	11	2	30
	DK / NO	2	0	1	6	9
Total		52	14	22	12	100

Source: SKDS September 2020, N=1003.

Table 15. Authoritarianism: attitude to functional and political solidarity, percent of respondents

Authoritarianism Functional solidarity		In business and politics people can work together only if a strong leader controls them and takes decisions				Total
		Agree	Disagree	Neither / Nor	DK/NO	
In business and politics people can work together only if they are personally familiar for several years	Agree	32	2	6	2	42
	Disagree	7	10	5	1	22
	Neither / Nor	8	1	14	1	24
	DK / NO	1	1	1	10	13
Total		48	14	25	13	100

Source: SKDS September 2020, N=1003.

(2) Prescriptive altruism correlates with basic education, non-employment, low income, residence in Riga and Vidzeme. These respondents understand normative solidarity as a duty of economically more advantageous people. (3) No statistically significant difference of evaluation of universalism across quartiles was found except a regional variation: residents of economically advanced Riga and stagnant Latgale are more inclined to universalism. (4) Benevolence is a characteristic of the age group 25-34 years, employed respondents, managers, businessmen, respondents with high income. These people are ready to help the members of in-group, but suspiciously they regard members of out-groups. In contrast to prescriptive altruism this factor does not conceive of help a normative obligation. (5) Self-sufficiency correlates with male gender, basic education. In contrast to benevolence this factor is family oriented, the respondents even disavow a possibility of the right connections with non-members of the kin.

Feeling of belonging and bonding social capital

Promoting social change, the National Development Plan maintains that feeling of belonging is the precondition of cooperative conduct indispensable for a better economic performance. Ethnic non-Latvians, rural population, Zemgalians and males compose the lowest quartile of this factor (Table 1). Last three socio-demographic categories are ethnically mixed, therefore feeling of belonging does not derive from the shared ethnic culture alone as policy-makers use to argue. Besides, the category of lonely people demonstrates that their feeling of belonging does not improve their self-assessment. Among the advantageous socio-demographic categories residents of Riga express the strongest feeling of belonging.

Feeling of belonging does not improve solidarity as it is envisaged by the policy documents. Data summarized in Tables 14 and 15 suggest that most often the respondents support closed social structures. Spearman's rho bivariate correlations reveal that only feeling of individual autonomy has very weak positive correlations with social heterogeneity (Factor 7, reversed scale) and each of the items constituting this factor (Table 16). Feeling of belonging to the

community and ethnic group foster closed social structures: Spearman's rho bivariate correlations with social heterogeneity are negative and very weak. Feeling of belonging to Latvia has a very weak correlation with functional solidarity among the ethnic majority, and negative correlation with attitude to pluralism. None of the aspects describing belonging to a group is crucial for functional solidarity. Individual autonomy correlates positively with the recognition of social heterogeneity. Feeling of belonging to the EU has a weaker but still positive effect on functional solidarity and respect of pluralism. Among ethnic minorities, feeling of belonging to the EU and feeling of individual autonomy correlate positively with tolerance to diversity. Feeling of individual autonomy correlates positively with functional solidarity and rejection of authoritarianism among both, ethnic majority and minorities.

Among business owners feeling of belonging to Latvia correlates moderately positively with institutional trust (rs = .403). General trust does not depend on feeling of belonging. General trust has a moderate correlation with functional solidarity among business owners (rs = .453). Very weak correlations between these two items exist among private and public sector employees.

Table 16. Correlations of feeling of belonging and attitude to open social structures by ethnicity

	Ethnicity	Social heterogeneity (Factor 7^)	Functional solidarity	Rejection of authoritarianism	Pluralism	World is not a binary opposition	General trust	Institutional trust
Feeling if belonging to the community	Majority	-.154**	.015	-.114*	-.152**	-.142**	-.040	.090*
	Minority	-.141**	-.060	-.141**	-.146**	-.114*	.022	.209**
Feeling of belonging to the ethnic group	Majority	-.068	.084	-.027	-.172**	-.041	.000	.057
	Minority	-.214**	-.121*	-.204**	-.143**	-.206**	-.049	.137**
Feeling of belonging to Latvia	Majority	-.035	.091*	.012	-.133**	-.017	0.34	.133**
	Minority	-.093	-.038	-.081	-.069	-.083	.015	.270**
Feeling of belonging to the EU	Majority	-.006	0.60	.078	-.003	-.077	.034	.179**
	Minority	.082	.032	-.009	.147**	.114*	0.86	.298**
Autonomous individual	Majority	.146**	.148**	.203**	.066	.067	.069	.013
	Minority	.233**	.123*	.213**	.165**	.186**	.026	.113*

Note: ^ The scale of Factor 7 is reversed in this table.
Spearman's rho bivariate correlation.
Sig. two-tailed: * p < .05, ** p < .01.

Source: SKDS October 2019, N=1014.

Questions included in the October 2020 survey suggest that feeling of belonging to the community, ethnic group and Latvia strengthen closed social structures and consequently increase bonding social capital. Bonding social capital was measured by seven statements in 5-point Likert scale (Cronbach's α = .813).

I have friends I can trust;

I know that when I get into financial troubles, my family or close friends will help me;

If the need arises, I have the family and close friends to turn to for advice;

I do not have close friends to turn to for emotional support (the scale was reversed);

No matter how difficult it is for me, my family will always support me emotionally;

My values are in line with my family values;

My closest friends share the same values as me.

Belonging to the community was assessed by two statements in 5-point Likert scale (Cronbach's α = .709).

I feel belonging to people in my place of residence;

I feel being accepted by the society'.

Spearman's rho bivariate correlations reveal some minor differences between ethnic majority and ethnic minorities (Table 17). Among ethnic Latvians, there is a weak correlation of General trust and Institutional trust with Bonding social capital, whereas apparently for the ethnic minorities it is Feeling of belonging to the community that has a larger importance for trust. Correlation between General trust and Institutional trust does not depend on respondents' ethnicity. Ethnicity is more salient correlating Feeling of belonging to the ethnic group with Feeling of belonging to Latvia: the correlation is strong among the ethnic majority and moderate among minorities. But for both categories of respondents ethnic belonging has only a very weak or no correlation with Institutional trust and General trust.

Table 17. Correlations of Bonding social capital, Feeling of belonging, Institutional trust, and General trust by respondents' ethnicity

		Feeling if belonging to the community	Feeling of belonging to the ethnic group	Feeling of belonging to Latvia	General trust	Institutional trust
Ethnic majority	Bonding social capital	.490**	.338**	.336**	.252**	.210**
	Feeling of belonging to the community	–	.406**	.417**	.067	.157**
	Feeling of belonging to the ethnic group		–	.723**	.095*	.129**
	Feeling of belonging to Latvia			–	.136**	.218**
	General trust				–	.403**
Ethnic minorities	Bonding social capital	.407**	.375**	.261**	.146**	.181**
	Feeling if belonging to the community	–	.309**	.347**	.249**	.228**
	Feeling of belonging to the ethnic group		–	.557**	.082	.175**
	Feeling of belonging to Latvia			–	.189**	.283**
	General trust				–	.417**

Note: Institutional trust is assessed by 9 items in 10-point scale. Cronbach's α = .876.
Bonding social capital is assessed by 7 items in 5-point scale. Cronbach's α = .813.
Feeling of belonging to the community is assessed by 2 items in 5-point scale. Cronbach's α = .709.
Spearman's rho bivariate correlation.
BCa, bias corrected accelerated; 1,000 bootstrap samples.
Sig. two-tailed: ** $p < .01$, * $p < .05$.
Source: SKDS September 2020, N=1003.

One-Way ANOVA test and Kruskal-Wallis H test suggest some ethnic differences by employment status. Among the non-working respondents, more often non-working ethnic minorities report that they tend to think that health (p = .037) and age (P = .033) constrain their agency. Ethnic majority respondents tend to feel belonging to the community (p = .031), Latvia (p < .001), EU (p = .010), also their institutional trust is higher (p =. 005).

In the private sector, ethnic Latvian employees are more satisfied with the living standard (p = .047), they tend to perceive life meaningful (p = .002), feel belonging to the EU (p = .029), as well as demonstrate higher institutional trust (P < .001).

In the public sector, more often ethnic Latvian employees feel belonging to Latvia (p = .002), and they express higher functional solidarity (p < .001). Whereas ethnic minorities working in public sector have a higher feeling secure (p = .005).

Private business minimizes most of ethnic difference. Ethnic Latvians planning to launch their own business tend to feel belonging to the EU more (p = .018) than minorities, also their general trust is higher (p = .045). Similarly, ethnic Latvian business owners feel belonging to the EU more often than the ethnic minority businessmen (p = .039).

Ethnic factor becomes visible comparing private and public sector employees. Ethnic Latvians employed in public sector, compared with ones working in private sector, express higher feeling of belonging to the community ($p < .001$) and Latvia ($p = .002$), they tend to be more satisfied with the living standard ($p = .045$), and respect laws ($P = .027$). Ethnic minorities employed in public sector report a better image of the self than ones working in private sector. The former have higher satisfaction with the living standard ($p = .006$), confidence in the future ($p = .017$), feeling secure ($p < .001$), institutional trust ($P = .032$), more often they are goal oriented ($p = .018$), and perceive life as meaningful ($p = .002$).

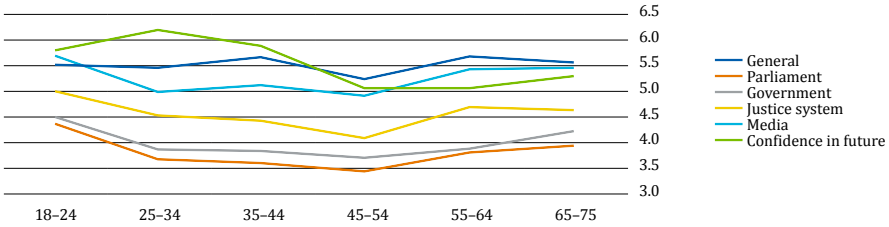
In Latvia, choral societies and folk-dance collectives are viewed as the most important corporate agency coordinating social action. Survey data suggests that these collective agents strengthen closed social structures rather than enables open ones. Among those ethnic Latvians respondents who reported membership in these amateur art collectives, 22% admitted they had organized at least one private in-group event (e.g., excursions, celebrations, mutual aid) during last year; 10% percent reported that they had organized social events for the community. Twelve percent of amateur artists agreed that in choral society or dance group they had learnt some social skills (SKDS, October 2014, N = 1014).

Trustfulness, Respect of laws, Confidence in the future, and Evaluation of public governance

Among the European Union nations, Latvians tend to express the lowest trust in the institutions. Latvia lags behind the average results of EU 27 member states: 49% of Latvians trust local public authorities (54% in EU27), 37% trust the justice system (51%), 28% trust the Government (35%), 19% trust the Parliament (36%), and only 6% trust the political parties (20%) (Eurobarometer 2019). The Standard Eurobarometer surveys measure trust in institutions with a dichotomous question "I would like to ask you a question about how much trust you have in certain institutions. For each of the following institutions, please tell me if you tend to trust it or tend not to trust it". Scholars suggest evaluating social trust which includes general and institutional trust (Rothstein and Stolle 2008; Stolle 2002). In these measurements trust is defined as a person's belief that another person or institution will act consistently with their expectations of positive behaviour (OECD 2017). This indicator is informative about the availability of corporate agency or in other words about the chance that individuals will join their efforts to articulate their shared problem issues. In this paragraph we assess institutional trust by the question "To what degree you trust the following institutions: a) the Parliament, b) the Government, c) justice system, d) news media?" The scale ranges from 1 – "I do not trust this institution at all" to 10 – "I trust this institution strongly". The question reflects the experience of and beliefs about the quality of formal institutions (Sønderskov and Dinesen 2016). General trust is assessed by the question "Generally speaking, would you say that most people can be trusted?" The scale ranges from 1 – "most people cannot be trusted" to 10 – "most people can be trusted". Results of many research attest at validity of this question: respondents from different cultures and of different ethnic background understand and interpret this question in a similar way (Dinesen 2011; Freitag and Bauer 2013). Even if it is not adapted to predicting individual conduct, it makes possible to determine the trust level in society in general. Confidence in the future is assessed by the question "Please evaluate to what degree you agree or disagree with the statement: I'm confident in my future." The scale ranges from 1 – "I do not feel confident", to 5 – "I feel confident".

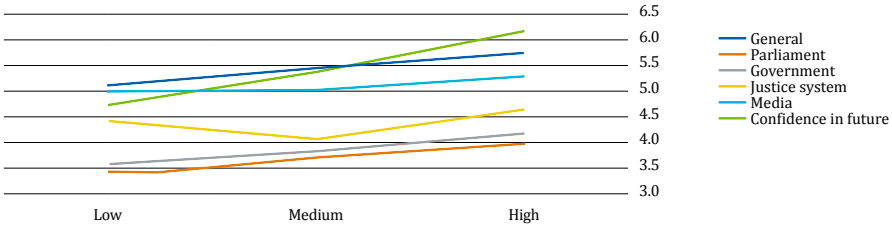
Here we are testing the indicators of trust and confidence in the future for socio-demographic parameters: age, gender, ethnicity, education (basic, secondary, higher), income (low, medium, high), and region (Riga, suburban Riga, Vidzeme, Kurzeme, Zemgale, Latgale). In scholarly literature these parameters are treated as the prognostic factors of trust (Brandt, Wetherell and Henry 2015; Laurence 2015).

Figures 5, 6 and 7 visualize the mean results of trust level and confidence in the future for three socio-demographic parameters: age, income, and education. The results are modest: the scores of all means fall between 3.5 and 6.5 points in 10 points scale. General trust and confidence in the future display higher results than institutional trust.



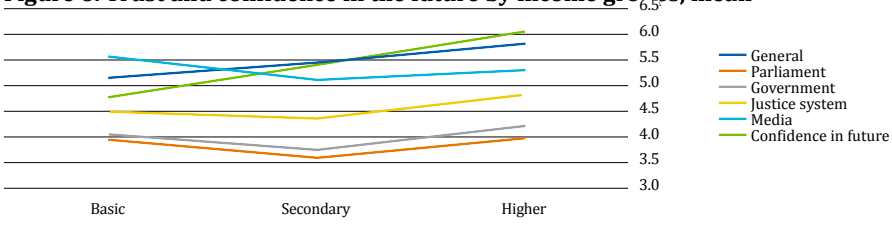
Source: SKDS October 2019, N=1014.

Figure 5. Trust and confidence in the future by age groups, mean.



Source: SKDS October 2019, N=1014.

Figure 6. Trust and confidence in the future by income groups, mean



Source: SKDS October 2019, N=1014.

Figure 7. Trust and confidence in the future by education groups, mean.

The One-way ANOVA test for trust indicators and sociodemographic parameters gives the following statistically significant results.

There is no difference between **age groups** evaluating general and institutional trust. But the age groups evaluate confidence in the future in different ways. More confident are 25–34 years young respondents, less confident are persons aged 45–64 ($p < .001$). **Gender** is not

statistically significant evaluating general trust, but as to the institutional trust female respondents trust the justice system higher ($p = .007$). Female and male respondents have similar confidence in the future. **Ethnicity** does not correlate with general trust, but ethnic Latvians trust institutions more than members of other ethnic groups ($p < .001$). Whereas ethnic minorities are more confident in the future – there is a weak statistically significant difference with ethnic Latvians and other ethnic groups ($p < .028$). **Education** correlates well with general trust ($p < .001$) and confidence in the future ($p = .005$). Weaker correlations are observed when analysing trust in the government ($p = .013$) and justice system ($p = .036$). Respondents with higher education tend to perceive trustfulness more often than ones with secondary and basic education. Higher education however does not make people to trust the parliament and the news media more than others do. **Income** has a statistically significant relation with trust too. Respondents with high income trust others more that those earning low and medium income ($p < .001$). Likewise, they tend to trust the parliament ($p < .001$), the government ($p = .002$), and express a weaker trust in the justice system ($p = .040$). But income does not predict trust in the news media. High income correlates also with higher confidence in the future ($p < .001$). **Regional** difference is observed when evaluating general trust. Residents of Latgale and suburban Riga trust other people more whereas residents of Zemgale and Kurzeme trust others less ($p < .001$). Trust in the news media does not differ by regions, but other public institutions have gained very different appreciation in regions. Residents of Vidzeme and Riga trust the parliament more, while Zemgalians less ($p = .003$). Also trust in the government displays regional diversity. Vidzeme demonstrates the highest trust, Zemgale and suburban Riga the lowest ($p < .001$). Kurzeme and Latgale show the highest trust in the justice system, whereas Zemgale the lowest one ($p = .011$). Statistically significant difference is observed regarding confidence in the future. Residents of the capital city Riga are the most confident compared to other regions ($p < .001$).

Levels of trust in each of four institutions display a high degree of consistency. Cronbach $\alpha = .844$ suggests we can refer to the institutional trust in general correlating it with other survey indicators. Institutional trust displays a weak correlation with feeling of belonging to Latvia ($r = .259$, $p < .001$), but it is not related to individual autonomy ($r = .054$, $p = .118$). Institutional trust ($r = .201$, $p < .001$) and general trust ($r = .121$, $p < .001$) have a weak and very weak positive correlation with confidence in the future. General trust correlates neither with feeling of belonging to Latvia ($r = .045$, $p = .160$), nor autonomy ($r = .057$, $p = .094$).

Keeping in mind that the socio-economic parameters correlate with institutional trust more often we will test the indicators of trustfulness and confidence in the future for the respondents' employment status. One-way ANOVA test reveals a statistically significant correlations in both cases: $p = .033$ for institutional trust and $p < .001$ for confidence in the future. Post hoc multiple comparisons LSD tests suggests that the non-working respondents are the least confident in the future. Respondents employed in private sector are less confident in the future than would-be businessmen ($p = .002$) and business owners ($p = .041$). Respondents employed in public sector demonstrate higher institutional trust than the private sector employees ($p = .011$) and business owners ($p = .009$).

We assume that a lower institutional trust among the respondents working in private sector reflects their frustration with the private business regulatory practices. Indeed, the National Development Plan admits bureaucratic inflexibility and intricated legal acts as the problem issues of public administration. In 2021 survey we assessed the factor Respect of laws by 3 statements in 5-point Likert scale: I do respect laws, Always I try to act respecting laws, I do act respecting social norms. Coefficient of internal consistency Cronbach's $\alpha = .903$. One-way

ANOVA tests suggests that the indicators of trustfulness and respect of laws differ across the employment occupation statuses (Table 18). Post hoc multiple comparisons LSD tests reveals that the business owners tend to demonstrate the lowest respect of laws compared to the non-working people ($p = .005$), private ($p = .043$) and public ($p < .001$) sector employees. Public sector employees respect laws more than all other groups except the non-working population: private sector employees ($p = .001$), would-be businessmen ($p = .003$), self-employed ($p = .016$), and business owners ($p < .001$). Public sector employees demonstrate higher institutional trust compared to the private sector employees ($p = .018$), and business owners ($p = .017$). The same trend is observed among the would-be businessmen ($p = .040$ and $p = .022$ respectively). General trust is higher among the respondents intending to start their own business compared to the non-working respondents ($p = .001$), and private sector employees ($p = .015$). Ethnic Latvians express higher institutional trust than minorities, Mann-Whitney U test reveals ($P < .001$). General trust and respect of laws do not differ across ethnicities ($P = .404$ and $P = .580$).

Table 18. Trust and Respect of laws by Employment status, means

Employment status	Institutional trust	General trust	Respect of laws
Non-working	3.84	5.00	3.89
Employed in public sector	4.20	5.28	4.03
Employed in private sector	3.77	5.23	3.77
Would-be businessman	4.21	5.81	3.72
Self-employed	4.08	5.59	3.72
Business owner	3.38	5.03	3.49
Total	3.90	5.23	3.83

Note: Institutional trust is assessed by 4 statements in 10-point scale. Cronbach's α = .870.
General trust is assessed in 10-point scale.
Respect of laws is assessed by 3 statements in 5-point scale. Cronbach's α = .903.
Sig. two-tailed p = .037 for One-way ANOVA test for Institutional trust
Sig. two-tailed p = .021 for One-way ANOVA test for General trust.
Sig. two-tailed p = .001 for One-way ANOVA test for Respect of laws.
Source: SKDS, September 2021, N=1017.

In September 2021 we asked respondents to rate the most important preconditions for starting own business in 5-point scale (Table 19). According to Paired-Samples T-test, knowledge and skills are recognized as the most important by all employment groups. Employees and non-working respondents tend to rank the availability of financial capital as the second important precondition. Whereas for the respondents intending to launch own business, self-employed and business owners appropriate character dispositions is the second most important precondition. Business supportive state policies is not among the decisive criteria, for business owners it is even the least important criterion. The respondents do not perceive the public administration as an institution supporting the business community.

Table 19. Preconditions for starting own business by employment status, means

Employment status	Appropriate character dispositions	Knowledge and skills	Availability of financial capital	Business supportive government policies
Non-working	3.17	3.31	3.21	3.15
Employed in public sector	3.67	3.87	3.80	3.71
Employed in private sector	3.36	3.61	3.46	3.33
Would-be businessman	4.19	4.35	3.70	3.48
Self-employed	4.06	4.18	3.76	3.81
Business owner	4.55	4.55	4.22	3.42

Note: Paired-Samples T-test. The statistically significant highest results for each employment status are put in bold.
Source: SKDS, September 2021, N=1017.

A positive experience of contact with the public governance enhances institutional trust and general trust. In 2020 we proposed the respondents two statements about the competence and helpfulness of civil servants.

In general, I have an impression that public governance institutions employ competent and responsible civil servants.

When I was seeking an advice from a public governance institution, civil servants helped me to solve my problems dutifully and essentially.

Every third respondent (29%) evaluates civil servants as competent. Among those respondents who turned to civil servants for advice or assistance only every fourth (24%) expressed satisfaction with the service provided. The evaluation of civil servants and trustfulness are dependent variables. Pearson's bivariate correlations are weak, but statistically significant ($p < .01$). Positive general evaluation of civil servants' competence correlates with institutional trust ($r = .387$), general trust ($r = .251$) and respect of laws ($r = .233$). Experience of positive practical interaction with civil servants correlates with institutional trust ($r = .406$), general trust ($r = .301$) and respect of laws ($r = .307$).

One-way ANOVA test reveals that women who turned to civil servants for advice or assistance evaluate them more positively ($p = .048$). No other correlations with socio-demographic parameters were found.

In September 2020 we asked respondents whether they had experienced violation of their labour rights (e.g., unpaid wages, removal without proper cause, extension of work time) during the Covid-19 lockdown in March-June 2020. Respondents whose labour rights were violated expressed a lower institutional trust than those who faced no legal challenges at work: M = 4.38 and M = 4.95 accordingly ($p < .001$). Arguably, in this case respondents were frustrated with the absence of an intermediary public institutions potentially helping to resolve labour conflicts. Feeling of belonging to Latvia was not affected ($p = .884$).

One more example demonstrating the importance of institutional trust is the intention to get vaccinated against the Covid-19. The government sponsored vaccination campaign was slow in Latvia. The intention measured in September 2021 correlates with institutional trust (Table 20).

Table 20. Attitude to the vaccination against Covid-19, agency, trust, freedom to decide for oneself and income, means

Attitude to the vaccination	General trust	Institutional trust	Freedom to decide for oneself	Respect of laws	Household income per person, monthly, EUR
1. Already vaccinated (one or two doses)	5.43	4.46	6.34	3.89	524
2. Definitely will get vaccinated	5.77	3.81	6.42	3.86	457
3. Most likely will not be vaccinated	5.52	4.07	6.30	3.69	485
4. Rather will not be vaccinated	4.99	3.30	6.05	3.85	416
5. Definitely will not be vaccinated	4.62	2.84	5.41	3.68	402
6. DK / NO	5.27	3.98	6.21	3.84	458
Total	5.23	3.90	6.13	3.83	475

Note: General trust is assessed in 10-point scale.
Institutional trust is assessed by 4 items in 10-point scale. Cronbach's α = .870.
Freedom to decide for oneself is rated in 10-point scale.
Respect of laws is assessed by 3 items in 5-point scale. Cronbach's α = .919.
Sig. two-tailed $p < .001$ for One-way ANOVA test for General trust, Freedom to decide for oneself, and Household income.
Sig. two-tailed $P < .001$ for Kruskal-Wallis test for Institutional trust.
Sig. two-tailed $P = .059$ for Kruskal-Wallis test for Respect of laws.
Statistically significant lowest values are put in bold.

Source: SKDS, September 2021, N=1017.

Pairwise comparison indicates that the definite deniers of vaccination (the fifth category in the Table 20) demonstrate the lowest institutional trust that differs significantly from the first, second, sixth categories ($p < .001$), and second category ($p = .033$). Hesitating respondents (the fourth category in the table) have a lower institutional trust than the first ($p < .001$), and the third category ($p = .007$). The definite deniers of vaccination demonstrate the lowest general trust and the lowest ranking of freedom to decide for themselves compared to the remaining categories of respondents. Besides, the definite deniers and hesitators have the lowest monthly household income per person compared to the already vaccinated respondents ($p < .001$). Respect of laws does not correlate with the vaccination behaviour.

Cross tabulating the attitude to vaccination with the employment status, again we find correlations that can be explained by the government's business policies. Pearson's χ^2 test demonstrates that the self-employed respondents refuse vaccination more often than Latvians in general (27%, average 16%, $p < .001$). Two months before the survey the revised taxation policy came into force negatively affecting the business interests of the self-employed Latvians. The parliament had amended the law ignoring the objections of the persons concerned. Three of four self-employed admit that reliance on themselves is the main lesson they have drawn from the Covid-19 crisis (79%, average 63%, $p = .016$). Also, more often they perceive an increasing social discord (67%, average 48%, $p = .034$).

Pearson's χ^2 test indicates another one category of respondents disproportionally represented among the definite deniers of vaccination. Almost one third (30%, $p = .007$) of the respondents who do not understand why their application for a financial support during the lockdown had been refused oppose the vaccination.

Solidarity

Majority of respondents believe that solidarity can exist among similar people interacting in closed social structure. The criteria cannot be met in contemporary differentiated societies. Individuals project their life trajectories pursuing their private concepts of good. Only the person herself knowns potentialities of her body and peculiarities of the surrounding natural environment. Conflicts of interests are inevitable in such conditions. Politics as an institutionalized practice is the process of seeking compromises and resolving conflicts. Institutional trust is rather low in this country, individuals are not inclined to turn to institutions for advice. The National Development Plan maintains that economic growth requires a higher general trust and institutional trust thus encouraging social relationship in open social structures. The policy makers interpret trustfulness as a trait of character and a duty of individuals (Kruk 2020: 134). The following argument implies that individuals develop their skills to trust others before their engage in social interaction. "[Social trust] increases wellbeing, life satisfaction, civic engagement and even health; and it improves opportunities for personal growth and promotes democracy. In an atmosphere of political trust the economy flourishes, security improves, justice prevails, people feel needed and responsible, which increases the common good" (National Development Plan of Latvia for 2021-2027: 12).

Cohesive and Active Civil Society Development Guidelines for 2021–2027 envisage a government sponsored program for character improvement aimed at the increase of institutional and general trust. It envisages a top-down communication of knowledge about institutions and cooperation skills as well as fostering feeling of belonging to the state. However, the survey data show a link between solidarity and trust and the respondent's place in the socio-economic structure. Primary agency correlates with general trust. In the questionnaire survey, the

respondents rated the constraints on agency on a 10-point scale as freedom to decide for oneself. Figure 8 shows that freedom to decide and choose is positively related to trust in most of the people.

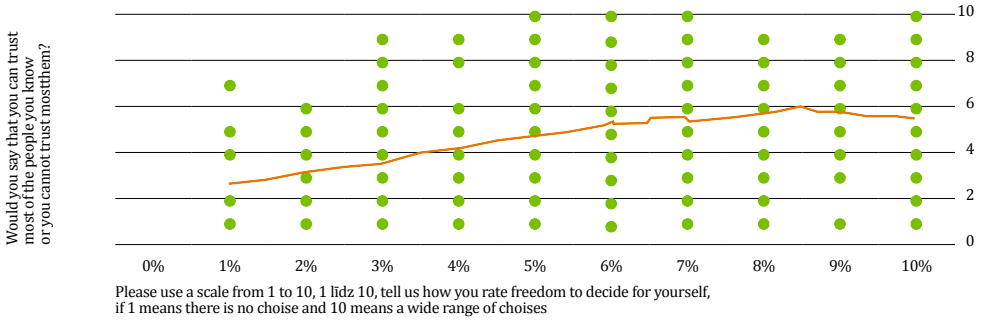


Figure 8. Correlation between agency and general trust.
Source: SKDS, September 2020, N=1003.

How do respondents imagine functionality of public governance when seeking compromises about their vested interests?

There are some indicators suggesting that reliance on the government has a positive effect on solidarity. In September 2020 we asked respondents whether the government actions during the Covid-19 lockdown changed their attitude to the public governance institutions. Another questionnaire item enquired about the respondents' predisposition to social solidarity. Pearson's χ^2 test reveals that the intention to solidary action is related to the increased or unchanged confidence in the state ($p = .006$) or reliance on the government ($p = .002$). On the contrary, decreased, or unchanged belief in the state ($p < .001$) or reliance on the government ($p = .003$) fosters respondent's self-reliance. Therefore, positive evaluation of public governance institutions fosters the disposition to cooperate with others. Nevertheless, political solidarity is not related to the increased public confidence in the state ($p = .135$), reliance on the parliament ($p = .112$) and reliance on the government ($p = .280$).

In the surveys we proposed respondents to imagine situations requiring political solidarity – defending vested group interests in decision-making (Table 21 and 22). Respondents prefer to pass the buck to journalists, or they hope to avoid the law, but they are less likely to act demonstrating political solidarity. However, more often respondents were reluctant to formulate their opinion checking 'Don't know / No opinion' answer in the questionnaire. One-way ANOVA test and Kruskal-Wallis test reveal that the hesitating respondents tend to share the lowest evaluation of the self and subjective well-being: satisfaction with the living standard ($p = .020$), life meaningfulness ($p < .001$), goal orientation ($p = .001$), confidence in the future ($p = .009$), institutional trust ($P < .001$), general trust ($p = .047$), health conditions ($p = .003$), household income ($P = .019$). Pearson's χ^2 test reveals that statistically more often residents of Vidzeme ($p > .001$) and soon-to-retire people ($p = .005$) are among the hesitating respondents. The least hesitating socio-demographic groups are people with higher education ($p = .008$), ethnic Latvians ($p = .002$), and public sector employees ($p = .040$).

Respondents expressing predisposition to collective civic action – picketing the parliament and government – do not evaluate their selves negatively. But they tend to disrespect laws ($p = .001$), they have a lower satisfaction with the living standard ($p = .043$), lower confidence in the

future (p = .012), lower general trust (p = .018). The opposite characterizes those respondents who place trust in journalists. Belief in effectiveness of the public sphere correlates with higher respect of laws (p < .001), life meaningfulness (p < .001), goal orientation (p < .001), confidence in the future (p < .001), feeling secure (p < .001), institutional trust (P = .001), satisfaction with the living standard (p = .009).

Table 21. Imagine a situation. Government decided to impose a new tax on selling mushrooms and berries collected by private persons in forests. You believe it is unjust because it bereaves the indigent people a possibility to earn money for subsistence. In your opinion, which actions would be more effective in Latvia defending the citizens' interests?

Ways to solve the problem	%
NO / DK	40
Journalists should provide solutions	30
Writing letters to editors	26
Picketing parliament, government	15
Creating an Internet support group	11
Seeking contact with majority parties	11
Seeking contact with opposition parties	5
Other	3

Source: SKDS October 2019, N=1014.

Table 22. Imagine a situation. You own a small business enterprise, and the government is to adopt a regulation encumbering your business. How would you act to solve the problem?

Ways to solve problem	%
It is futile to act because the government will ignore our opinion	55
It will be easier to avoid the law	47
Action is unlikely because businessmen are intimidated by control bodies	43
Action is unlikely because businessmen are passive	34
I could call colleagues for action	22

Source: SKDS, September 2020, N=1003.

Let us analyse the data of Table 22 in more details. Pearson's χ^2 test reveals the statistically significant differences among socio-demographic groups. Young people aged 18-34 years are more likely to undertake civic activity (p < .001), and unlikely to get around the law (p = .025). Also, they do not maintain that businessmen are passive (p = .038). Optimism decreases with aging. Almost half of 35-54 years old respondents believe that businessmen are intimidated by the regulation and control authorities (p = .022), and a majority is prone to get around the law (p = .025). Geography is another one important variable. Rigans are optimists, they do not maintain that businessmen are passive (p < .001), and they are prone to initiate and lead an action in defence of their interests (p < .001). Likewise, Latvians involved in private business (p = .018) and ones with higher education (p = .002) would act on behalf of the business community more likely.

People living in the countryside are rather pessimistic: they would abstain from action and believe that the businessmen are intimidated (p < .001). In countryside and small towns people are assured that the government would ignore their opinion, and they are prone to get around the law (p < .001). No ethnic difference was revealed, but ethnic non-Latvians are less inclined to get around the law (p = .001), and more optimistically they believe that the government would respect their opinion (p = .003).

Two-step cluster analysis has identified three clusters of disposition to civic action (Table 23). Minority of respondents compose the 1st cluster that evaluates the general conditions for civic action optimistically, but they are less inclined to take a lead organizing collective action. Respondents not predisposed to civic action are grouped in the 3rd cluster: they evaluate the conditions for civic action pessimistically. Respondents of the 2nd cluster play a waiting game: they tend to neither agree nor disagree on the statements about civic action.

Table 23. Disposition to civic action, means

Statement about civic action, 1 = disagree ... 5 = agree	Cluster 1 Optimists (11%)	Cluster 2 Waiting game (43%)	Cluster 3 Pessimists (46%)
Government will not ignore our opinion*	4.26	2.68	1.63
Businessmen are not intimidated by the control bodies*	4.38	3.09	1.84
It will be not easier to avoid the law*	4.21	2.81	1.85
Businessmen are not passive*	4.39	3.07	2.35
I could call colleagues for action	2.55	2.80	2.61

Note: * The survey statements are reversed in this table.
Two-step cluster analysis, average silhouette = 0.3, fair.
Source: SKDS, September 2020, n = 717 (DK / NO answers recoded as missing data, n = 286).

One-way ANOVA test suggests some statistically significant correlations with socio-demographic parameters. Ethnic majority is more passive, while ethnic minorities prefer to play waiting game more often ($p = .041$). Urban population prefers to play waiting game, while rural population is either more pessimistic or more optimistic ($p = .003$). Clusters do not differ across other socio-demographic parameters significantly.

Kruskal-Wallis test suggests that the pessimists have lower feeling secure ($P = .025$), lower institutional trust ($P < .001$), lower general trust ($P < .001$), lower evaluation of agency ($P = .047$), and lower household income ($P = .003$).

Pearson's χ^2 test reveals that pessimistic view on civic action correlates with a more pessimistic evaluation of living conditions during the Covid-19 pandemic. The third cluster perceives a growing social isolation, inequality, and poverty ($p < .001$). Members of this cluster admit that the crisis has taught them to rely on themselves ($p = .001$). Optimists of the 1st cluster tend to rely more on public governance institutions: they reported an increase of reliance on government ($p = .002$) and local government ($p < .001$) during the pandemic.

Latvians are sceptical about the potential of political resolution of problem issues affecting their private interests. How do they conceive of politics? In the survey we asked respondents to rank the importance of moral, personal, and instrumental characteristics of their political representatives in parliament and municipality. Morals of politicians and their adherence to the idea of common good are ranked as the most important criteria. Knowing informal and formal rules of the game are the important instrumental skills. Empathy skill is of the outmost significance as a personal characteristic. Adherence to a political program and negotiation skills are considered to be less important in politics.

Table 24. The most important characteristics of representative of your interests in the parliament and municipality, multiple choice item, percent of respondents

Characteristics of political representatives		Total, %
He/she is moral person	Moral	33
He/she knows the common good and acts accordingly	Moral	27
He/she knows informal rules of the game	Instrumental	24
He/she is not related to political scandals, corruptive deals	Moral	21
He/she is able at empathy and acts in good faith	Personal	21
He/she knows formal rules of the game	Instrumental	21

He/she has a strong will and can lead others	Personal	17
He/she can listen the sides of the case and cut corners	Instrumental	16
You are acquainted with this person and know he/she is trustful	Personal	13
He/she is a member of political party that I support	Instrumental	7

Source: SKDS October 2019, N = 907 (NA answers were recoded as missing values, n = 107).

Pearson's χ^2 test indicates a statistically significant difference of preferences among socio-demographic groups. For ethnic non-Latvians knowing informal rules of the game and common good is more important whereas ability to deal with plural interests is less important ($p < .001$). People with basic education pay more attention to personal acquaintance. Respondents with secondary education mention knowing the common good more often; party politics and moral standards is important for people with higher education ($p = .002$). Respondents working in private sector want that their political representative master informal rules of the game; non-working population demands high morals and knowing common good ($p = .001$). Rigans rely on party programs, people residing outside the capital city evaluate empathy more ($p < .001$). Pearson's χ^2 test reveals no statistically significant difference among the age groups.

On the one hand, respondents rely on the idea of common good as an objective reality to be discovered and implemented by moral politicians. On the other hand, they understand that the official policies do not respect their private interests. As the individual risks increase – like in times of economic downfall – respondents demonstrate a disbelief in common good politics preferring individual problem resolution tactics. This is the lesson drawn from the Covid-19 pandemic crisis. The respondents prefer to spent money wisely (60%), rely on themselves (54%), make savings (48%), take care of their health (42%), change themselves (30%), yet much less desire to start their own private business (4%). Collective solutions are also less popular: cooperation with others (14%), care for others (22%), improvement in public administration (15%) and the education system (14%), influence on political decision-making (5%) (SKDS, September 2020, N = 1003).

Pearson's χ^2 test results suggest that respondents do not perceive political decision-making as an institutionalized practice of seeking consensus on plural private interests. Declining reliance on institutions during the first Covid-19 lockdown correlates with increasing self-reliance. Those respondents who say that the crisis has taught them to rely on themselves report a declining reliance on government ($p < .001$), parliament ($p < .001$), local government, as well as declining belief in the state ($p = .003$).

Intention to collaborate with others resolving common problem issues correlates with a growing reliance on government ($p = .002$), parliament ($p = .003$), local government ($p = .012$), as well as increasing belief in the state ($p = .006$). A demand to improve the public governance correlates with declining reliance on parliament ($p = .024$), and declining or growing reliance on national government ($p = .002$). However, whether the respondents are satisfied with the national political institutions or not they do not intend to engage in political action influencing decision-making ($p > .050$). Only a growing reliance on local government correlates with the intention to influence political decision-making ($p = .036$).

Mostly, respondents rely on their primary agency, and they do not tend to improve the public governance institutions even if they evaluate them as less reliable. Arguably, perception of reliability of institutions can enhance cooperation among individuals resolving problems that do not require political decision-making. In this case, institutions increase general trust.

Cooperation with distant others in open social structures accrues risks but the dominant values orientation among Latvians is security. Security value orientation means that

respondents are concentrated on their own needs, but they are not concerned with the needs of others – in the first place they seek safety, harmony, and stability of society, of relationships, and of self (Rungule and Seņkāne 2018). Cooperation in this case requires an intermediary institution resolving eventual conflicts between the involved parties. Decrease of reliance on public governance institutions means not only frustration with the implementation of common good politics (whether it is formulated rightly or wrongly) but also the inability to engage in civic action to reformulate the concept of common good. Therefore, respondents are inclined to rely on themselves and closed social structure.

There is a significant statistical difference between the employment sectors. Public sector employees demonstrate a higher openness to cooperation in open social structures than ones working in private sector. We measured the difference using four survey items: participation in the last parliamentary and municipal elections; membership in voluntary associations; institutional trust; feeling of belonging.

Pearson's c^2 test reveals that more public sector employees voted at the last municipal elections (77%) than ones working in private sector (54%) ($p < .001$). Similar data are available for the last parliamentary election: 80% public sector employees and 57% private sector employees took part in it ($p < .001$).

Membership in voluntary associations is among indicators of civic activism. To assess the membership we used the following survey item.

"Have you been involved in voluntary organizations before and/or after the COVID-19 restrictions?"

1. Education, culture, sport, and amateur art NGOs.
2. Professional associations.
3. Religious and church associations.
4. Support, help associations.
5. Other voluntary associations not mentioned above.

The respondents chose the answers on a scale from 1 to 5: "Never", "Rare", "Fairly rare", "Common" and "Very common". However, since very few respondents rated their involvement in voluntary organizations on a scale of 2 to 5, their responses were categorised as 'Involved'. For statistical analysis, we used the proportions of the answers "I have never been" vs "I am involved", as they clearly allow us to track the differences. Of the total, 65% public and 80% private sector employees have never been involved in educational, cultural, sports organizations or amateur art groups, while 35% public and only 20% private sector employees have been involved from time to time ($p < .001$).

Of the total, 80% public and 92% private sector employees have never joined a professional association. Although the involvement of employees from both sectors is very low, there are also statistically significant differences ($p < .001$): more public sector employees are involved in professional associations.

Participation in religious or church organizations is also very low: 84% public and 89% private sector employees have never been involved in such organizations. However, there are no statistically significant differences in this case ($p = .315$).

Of the total, 85% public and 94% private sector employees have never bene involved in support and help organizations. Although the difference is small, it is statistically significant ($p < .001$).

There are no statistically significant differences in membership of other voluntary organizations not mentioned in the questionnaire: 86% public and 91% private sector employees have never been involved ($p = .088$).

Institutional trust was rated on a 10-point scale (Cronbach's $\alpha = .876$). The respondents rated trust in the parliament, the government, the judiciary, the news media, local governments, the police, the health care system, the state social insurance system and the education system. The institutional trust of the employees of both sectors do not differ: the institutional trust of the public sector is M = 4.89 and that of the private sector is M = 4.64. The difference is not statistically significant ($p = .081$).

The survey revealed a strong statistically significant relationship ($rs = .90$, $p = .005$) between institutional trust and involvement in educational, cultural, sports organizations or amateur art groups. Namely, the involvement in both fields also shows higher institutional trust.

The involvement in professional associations does not show a similar statistically significant relationship with institutional trust ($rs = .20$, $p = .536$). Institutional trust is also not predicted by the respondent involvement in religious or church organizations ($rs = .014$, $p = .667$). The survey has revealed that there is no statistically significant relationship ($rs = .002$, $p = .954$) between the institutional trust of public and private sector employees and their involvement in support and help organizations. However, participation in voluntary organizations not mentioned in the questionnaire is statistically significantly related ($rs = .113$, $p < .001$) to institutional trust.

The relationship between turnout in local elections and institutional trust is statistically significant but weak ($rs = .065$, $p < .041$), whereas participation in parliamentary elections is more strongly correlated with institutional trust ($rs = .107$, $p < .001$).

Let us now identify what ratings public and private sector employees give to their feeling of belonging to social groups on a five-point scale. The statement "I feel belonging to people in my place of residence" highlights statistically significant differences ($p = .001$). Half or 51% public and 46% private sector employees rather agree and another 28% public and 18% private sector employees agree that they feel belonging to people in their places of residence.

The statement "I feel being accepted by the society" also shows statistically significant differences ($p = .002$). Of the total, 52% public and 56% private sector employees rather agree and 32% public and 19% private sector employees agree that they feel being accepted by the society. The statement "I view myself as a part of Latvia" confirms another difference between the employment sectors ($p = .002$). Of the total, 46% public and 49% private sector employees rather agree and 36% public and 25% private sector employees agree that they view themselves as a part of Latvia.

Accordingly, public sector employees show slightly higher but statistically significant social solidarity. They are more likely than those from the private sector to join voluntary associations and appreciate the feeling of belonging. However, the institutional trust of public and private sector employees does not differ.

The correlation of institutional trust with involvement in educational, cultural, sports organizations and amateur art groups suggests that social capital, which is shaped in open social structures, promotes reliance on public administration institutions. However, the experience of members of professional associations and help organizations does not confirm a direct link: in this case, social capital does not contribute to institutional trust. The data suggest that the achievement of the practical objectives of professional associations and help organizations depends on interaction with public administration institutions, which might be more likely to hamper civic society activities.

Breakdown of civic activism by employment status gives a more nuanced image. Table 25 represents the share of those respondents who never participated in each of the activities

listed in the questionnaire. The statistically significant lowest shares of non-participation are put in bold. Business owners are the most active persons, they are followed by would-be businessmen (currently employed in private or public sector). Self-employed Latvians tend to join professional association and be politically active. Public sector employees tend to be involved in civic activities more than the private sector employees. The activities are related to the professional issues and helping others. Private sector employees are rather passive compared to other groups of working population. Non-working respondents are the least involved in civic activities.

Table 25. The share of respondents who never participated in civic activities before or after the Covid-19 pandemic social contact restrictions, percent

Never participated in associations and civic activities	Non-working	Public sector employees	Private sector employees	Would-be businessmen	Self-employed	Business owners	All respondents
Education, culture, sport, and amateur art NGOs	84	76	81	54	61	62	77
Professional associations	92	80	92	76	79	68	87
Religious and church associations	89	84	89	83	85	70	87
Political parties	95	93	95	90	87	79	93
Trade unions	92	84	88	83	81	76	88
Support, help associations	91	80	90	82	79	80	87
Other voluntary associations	91	87	88	77	83	76	87
Assisting others during the pandemic	90	81	86	74	77	70	84
Attending assemblies of TU, political association	94	83	90	85	83	78	89
Signing petitions, sending e-mails to public servants	90	86	79	73	75	78	82
Communicating with politicians and civil servants	92	84	89	81	79	74	87
Participating demonstrations, meetings	91	89	86	75	77	76	86

Note: Statistically significant lowest values of non-participation are put in bold.

SKDS, September 2021, N=1017.

Business ownership and a predisposition to start own business increases a chance of civic activism statistically significantly. The same trend was revealed before the Covid-19 pandemic, in September 2019 survey (Rivža *et al.* 2021). More often the business owners and would-be businessmen show willing to organize actions that they hold to be effective (12%, average 4%, $p < .001$). Besides they tend to demonstrate the highest incidence of normative solidarity helping the needy people during the pandemic ($p < .001$). Kruskal-Wallis test suggests correlations between institutional trust and normative solidarity among public sector employees ($P = .022$) and the self-employed ($P = .021$). Higher personal income tends to increase normative solidarity behaviour among public sector employees ($P = .033$) and would-be businessmen ($P = .006$), while among the business owners the correlation is negative: lower personal income predicts normative solidarity ($P = .042$). General trust does not correlate with normative solidarity in any of the employment categories. Pearson's χ^2 test reveals that statistically more often would-be businessmen say that helping others is the lesson they have drawn from the Covid-19 crisis (38%, average 25%, $p = .004$). Active engagement in politics is another lesson they have drawn (17%, average 8%, $p = .032$).

With more optimism the would-be businessmen estimate perspectives of the domestic economy measured by two statements in 4-point scale (Cronbach's $\alpha = .725$).

The economic situation in Latvia deteriorates;

No significant changes in economic development are currently observed in Latvia.

Post hoc multiple comparisons Bonferroni test suggests that the would-be businessmen are

more optimistic than the non-working respondents ($p < .001$), private sector employees ($p < .001$), and business owners ($p = .011$). More liberal Post hoc multiple comparisons LSD test reveals also that the public sector employees are more optimistic than the private sector employees ($p = .013$) and the non-working respondents ($p = .016$). Economic optimism correlates with institutional trust moderately ($rs = .418$, $p < .001$).

Understanding economic optimism of the would-be businessmen one has to keep in mind that this group is made of the youngest respondents: the average age is 33 years. Less optimistic business owners are 42 years old in average. There is no statistically significant age difference between public and private sector employees (47 and 43 years in average, $P = .544$ for Kruskal-Wallis test).

The survey data suggests that the non-working respondents and private sector employees estimate their self with more pessimism that public sector employees and respondents doing their own business or intending to start one. Let us compare the evaluation of the factors listed in Table 1 by different employment groups. Besides we will check whether ethnicity of respondents is a parameter producing statistically significant differences inside the each of the employment groups. For the comparison we have chosen the October 2019 survey data – the period before the economic troubles provoked by the Covid-19 pandemic.

One-way ANOVA test, Kruskal-Wallis test and Post hoc multiple comparisons Bonferroni test reveal that the non-working respondents score the lowest indicators of confidence in the future, feeling secure, goal orientation, meaningfulness of life and estimation of health conditions compared to the remaining employment groups ($p < .001$). Also, the non-working respondents have the lowest personal income and household income per person ($p < .001$). Satisfaction with the living standards is lower among the non-working as compared to public sector employees and business owners ($P < .001$). Ethnic difference is not strongly pronounced: the non-working ethnic Latvians demonstrate higher institutional trust ($p = .005$), feeling of belonging ($p = .010$), and evaluation of health ($p = .002$) than the non-working ethnic minorities.

Doing private business or intention to start own business minimizes ethnic difference too. One-way ANOVA test and Post hoc multiple comparisons Bonferroni test reveal only one statistically significant difference between ethnic majority and minority: the ethnic Latvian business owners demonstrate higher feeling of belonging than the ethnic minorities wishing to launch own business ($p = .006$).

Much more statistically significant differences were found among the private sector employees. They respect social norms less than would-be businessmen ($P = .027$), public sector employees ($P < .001$), and non-working respondents ($p = .008$); they feel less secure than the public sector employees ($P = .007$), less satisfied with the living standards than public sector ($P = .003$) and business owners ($P = .001$), less goal oriented than public sector employees ($P = .010$) and business owners ($P = .002$), the score of estimation of life meaningfulness is lower than one of public sector employees ($P = .003$), would-be businessmen ($P = .004$), and business owners ($P = .039$).

Let us compare now how ethnic majority and minority respondents employed in private and public sector estimate their selves and social structures (Table 26). Despite the absence of statistically significant difference of personal ($p = .674$) and household income ($p = .545$), as well as self-estimation of health conditions ($p = .343$) the public sector employees tend to demonstrate higher scores on most of the analysed factors.

Table 26. Evaluation of the self and social structures, private and public sector employees, ethnicity, means

	Private sector employees		Public sector employees		Total	Sig.
	Majority	Minority	Majority	Minority		
Feeling secure (Factor 1)	3.22	3.20	3.31	3.54	3.26	p < .001
Satisfaction with the living standard (Factor 2)	7.03	6.71	7.37	7.46	7.03	p = .001
Confidence in the future (Factor 3)	3.14	3.03	3.11	3.37	3.12	p = .111
Life meaningfulness (Factor 4)	3.74	3.47	3.88	3.89	3.70	P < .001
Goal orientation (Factor 5)	3.97	3.94	4.11	4.19	4.01	p = .015
Feeling of belonging (Factor 6)	3.20	3.13	3.42	3.19	3.22	p = .001
Social heterogeneity (Factor 7)	2.34	2.28	2.36	2.15	2.31	p = .300
Institutional trust (Factor 8)	5.03	4.28	5.17	4.86	4.81	p < .001
Respect of laws (Factor 9)	3.95	3.98	4.11	4.15	4.01	p = .060
Respect of social norms (Factor 10)	7.15	6.55	7.70	7.31	7.09	P < .001
General trust	5.62	5.23	5.79	5.85	5.55	p = .059
Personal income, EUR	701	661	674	649	678	p = .674
Household income, EUR	528	500	525	465	513	p = .545
Number of respondents	221	181	118	48	568	

Note: Satisfaction with the living standard, Job satisfaction and Institutional trust were assessed in 10-point scale.
Feeling secure, Life meaningfulness, Goal orientation, Respect of laws, Feeling of belonging were assessed in 5-point scale.
Source: SKDS, September 2019, n =568 (employed in private and public sector).

Post hoc multiple comparisons Bonferroni test reveals that satisfaction with the living standards, life meaningfulness, and institutional trust are the lowest among the ethnic minority private sector employees. Pearson's χ^2 test reveals that this group of respondents relies much less on public insurance that the ethnic Latvians employed in the private sector (29% and 42%, $p = .004$); more often they say that nobody can be relied on (19% and 13%, $p = .004$).

A detailed analysis of the employment structure suggests an unequal distribution of jobs among ethnicities. Pearson's χ^2 test reveals that the ethnic Latvians occupy prestigious managerial positions in the private and public sector more often than ethnic minorities; there are less ethnic minority white collars in the public sector whereas predominantly they are employed as blue collars in both sectors ($p < .001$). Ethnic minority private sector employees tend to admit that the social insurance system does not provide them feeling secure more often than their ethnic majority colleagues (27% and 13%, $p = .029$). Likewise, they say that their job rather does not provide them feeling secure (27% and 16%, $p < .001$), especially the difference is pronounced in Riga (26% and 6%, $p < .003$). Ethnic minorities experience more difficulties finding a job: 14% percent of ethnic minority private sector employees were jobless more than 12 month for three years prior the survey (6% of ethnic Latvian private employees, $p = .002$).

Feeling secure is the highest among the ethnic minority public sector employees. Feeling of belonging and respect of social norms are the highest among the ethnic majority public sector employees compared to both ethnic majority and minority private sector employees. In the private sector, ethnic majority employees tend to respect social norms more than their ethnic minority colleagues. The assessment of social heterogeneity ($p = .300$), respect of laws ($p = .060$), general trust ($p = .059$), and confidence in the future ($p = .111$) does not differ across these groups of respondents.

The latest Policy documents – National Development Plan and Cohesive and Active Civil Society Development Guidelines – treat solidarity as a character disposition that can be improved in the state managed educative process. The empirical data suggest however that solidarity correlates with the socio-economic position of respondents. Private business ownership and predisposition to launch own business increases social, political and normative solidarity. Nine percent of the surveyed respondents belong to this socio-economic group (Table 2). Public

sector employees tend to demonstrate a higher evaluation of the self, social and normative solidarity than the respondents employed in private sector. The least active are the non-working respondents. Discontent with the existing normative regulation and a higher personal income correlate with political solidarity. Social activities implying social solidarity correlate with higher estimation of the self that on its turn correlates with socio-economic position of respondents.

Table 27 summarizes the factors correlating with various forms of civic activism. The statistically significant results were obtained using One-Way ANOVA test, Mann-Whitney U test, Kruskal-Wallis test. The following survey questions and statements were used.

1. Do you work for a voluntary/community organization? (Yes / No answers for each association listed in the survey);
2. How often have you participated in the specified activity in the last 12 months? (Answers 'Almost every day', 'At least once in a week', '1-3 times in a month', 'Rarer' were recoded as 'Participated', and compared with the answers 'Never participated' and 'DK / NO');
3. Have you participated in the specified activity in the last 12 months? (Yes / No Answers).
4. To what extent would you be willing to participate in the activities that you consider effective? (Answers 'I am available to organize such action', 'I would participate such actions but not as an organizer', 'I support such actions but would not participate' were recoded as 'Support actions', answer 'I do not support such actions' were not recoded, answers 'Other answer', 'DK / NO' were recorded as missing data).

Mostly, civic activity depends on open social structure that is operationalized as the recognition of social heterogeneity, institutional trust, general trust, feeling of belonging to the European Union and individual autonomy, as well as higher household and personal income, and satisfaction with the living standard. Feeling of belonging to the community, ethnic group and Latvia tend to predict social solidarity, i.e. social activities which do not imply resolution of conflicts of interests. Positive evaluation of the self tends to increase social solidarity too (Factors 1, 3, 4, and 5). Political solidarity that implies articulation of plural interests and searching consensus correlates with a lower respect of laws and social norms (Factors 9 and 10).

Table 27. Factors predicting civic activism

	Household income per person	Personal income	General trust	Feeling of individual autonomy	Feeling of belong to the EU	Feeling of belonging to ethnicity	Feeling of belong to Latvia
Religious, church associations	-.076*					.103**	.099**
Religious activities							
Culture and education NGOs				.074*	.124**		
Cultural activities	.189**	.180**	.112**	.097**	.196**	.072*	.105**
Sports, recreation clubs	.139**	.119**			.174**	.085**	.084**
Doing sport activities	.269**	.282**		.153*	.237*		
Community activities	.140**	.151**	.111**		.126**		
Professional associations	.119**	.104**	.102**				
Activities of professional associations	.167**	.228**	.138**	.078*	.119**		-.068*
Support, help associations							-.067*
Health protection associations				.075*			
Cultural monuments, environment, animal rights protection associations	.071*						
Youth associations	.079*						
Activities of social associations	.116**	.099**	.091**	.071*	.123**		
Trade unions	.082*	.093**				-.072*	
Attending TU or political assemblies		.087*					
Political parties							
Political decision-making	.078*		.094**	.074*	.078*		
Protest actions		.092**				.086**	.096**
Signing petitions	.143**	.148**			.090**		
Communication with politicians	.088*				.101**		
Commenting on political or social problems on social media	.125**	.179**					
Boycotting products, services	.089*	.095**		.073*			
None of the voluntary associations	-.085*	.073*	-.082**		-.125**		-.076*
None of adult education courses	-.213**	-.263**	-.116**		-.126**		
None of the political activities	-.212**	-.218**	-.097**	-.106**	-.102**		
Will not support any civic action	-.090*	-.119**					

Note: Spearman's rho bivariate correlation. Sig. two-tailed: * p < .05, ** p < .01. *Source: SKDS October 2019, N=1014.*

The same trend is manifested analysing responses to the question 'To what extent would you be ready to participate the activities that you hold being effective?' (the last item in Table 27). Majority of 80% would participate or support an action organized by somebody else. Those respondents who could organize civic actions score the lowest indicator of respect of laws ($P <$ .001), Kruskal-Wallis test reveals. Mostly business owners and would-be businessmen are available as potential organizers of civic actions (11%, average 4%, $p <$ .001). According to Kruskal-Wallis test and One-way ANOVA test, the strongest opponents of civic actions are the respondents with the lowest evaluation of the self and subjective well-being: personal income (p = .012), health conditions (P = .017), goal orientation ($P <$ .001), feeling secure ($P <$ .011), life meaningfulness ($p <$ .001), confidence in the future ($p <$ .001), satisfaction with the living standard (p = .007). Thus, the most disadvantageous people do not believe in political solidarity. Such an attitude to civic action is shared by 15% of respondents, but it is not limited to the non-working population: the employees of public and private sector are represented in equal proportions among the definite opponents of civic actions. General trust (p = .710) has no significant role shaping political solidarity.

	Feeling secure (Factor 1)	Satisfaction with the living standard (Factor 2)	Confidence in the future (Factor 3)	Life meaningfulness (Factor 4)	Goal orientation (Factor 5)	Social heterogeneity (Factor 7)	Institutional trust (Factor 8)	Respect of laws (Factor 9)	Respect of social norms (Factor 10)
							.067*		.076*
		-.067*							
	.079*	.093**	.089**			.103**	.122**		.063*
	.087**	.107**	.159**	.207**	.122**		.130**		
	.120**	.090**	.141**	.104**	.116**				
	.197**	.096**	.224**	.283**	.157**	.115*	.147**		-.066*
	.098**	.113**	.110**	.095**	.093**	.151**	.087**		
	.103**	.066*	.092**	.104**	.096**	.104**	.071*	-.081*	-.102**
						.067*		-.064*	-.077*
						.088**		-.095**	
	.063*	.064*	.073*			.066*	.088**		
						.154**	.098**	-.096**	-.072*
								-.065*	
						.069*	.073*		-.080*
								-.063*	
		.105**				.143**			
			.072*			.065*			-.110**
						.109**			
	-.063*	-.067*	-.089**			-.117**	-.136**		
	-.108**	-.080*	-.163**	-.162**	-.129**	-.135**	-.117**		-.072*
			-.063*			-.182**			-.129**
	-.110**	-.123**	-.156**	-.227**	-.184**		-.092*	-.152**	-.093*

Conclusions

The National Development Plan contends that the future of national economy depends on manufacturing science-intensive high added value products. The government incites businessmen and employees to take greater risks exploring new economic opportunities. However, in general Latvians are not open to change demonstrating cautious economic behaviour: they value security most, spend prudently, avoid risks entailed by cooperation in open social structures. Those nine percent of respondents intending to launch their own business demonstrate higher general and institutional trust than other respondents, optimistically they evaluate the perspectives of economic growth in this country, and they appreciate helpfulness of civil servants. Average age of this group is 33 years. Average age of business owners and self-employed is 42 and 44 years respectively and they responses suggest that the practical experience of running own business diminishes optimism. Top it all, the private sector employees have worse social insurance guarantees than ones working in public sector: the latter evaluate their selves more positively. Treating openness to change as a character disposition the government proposes a program of moral education that is expected to strengthen feeling of belonging to the

culture-bound community and improve skills to trust other people and public governance institutions. The aim is improvement of social solidarity conceived of as cultural homogeneity that on its turn is believed to develop cooperation in open social structures. Nevertheless, the empirical data does not demonstrate a correlation between cultural socialization (e.g., feeling of belonging to community, participation in artistic and cultural NGOs) and political and functional solidarity. Empirical data suggest that positive evaluation of the self, agency and social structures is related to the respondent's positioning in the system of distribution of resources. The non-working respondents and the private sector employees (especially of ethnic minority) score the worst evaluation. Arguably, in this case the public sector guarantees social insurance that increases the feeling secure. Doing own business and intention to start own business correlate with higher scores of normative, functional and social solidarity.

The evidence now suggests the correlation between solidarity and evaluation of public governance institutions. Institutions set the rules of the game which constrain and enable individual agents (Popper 1957, 1966). Public institutions can offer universal criteria necessary for trustful relations (Hardin 2002, 2006; Luhmann 1979). Closed social structures maintain person-oriented trust based in emotion and judgement about the character of familiar fellows. Interacting in open social structures individuals do not have time to develop a good rapport with less familiar people and share deep emotions. Robert Hardin's (2006) concept of 'encapsulated interest' envisages a calculation of interest related risks and this requires some certainty in trust building process. System-oriented trust based upon the institutions provides some universal criteria for maintaining relationship in open social structures because institutions can guarantee the procedures necessary for trustful relations. Institutionalized procedures provide reassurance in honest conduct of others facilitating establishment of relations with less familiar people. Latvian respondents are dissatisfied with the public governance, they tend to perceive them not as enablement of private business activity. Interaction in open social structures increases the risks that the individuals cannot afford due to the lack of appropriate resources. As a result, reliance on closed social structures is pronounced in Latvia.

What Latvians expect from the public governance institutions? To feel secure, majority of respondents request a clear business environment and efficient social security and health system. Predictable and reasonable legal framework and efficient public insurance system could help individuals to manage future related risks. Respondents recognize that their vested interests are not represented in political agenda, but they do not use democracy instruments to influence decision makers. Low score of universalism value orientation and misrecognition of social heterogeneity impedes the development of corporate agency conducive to political solidarity.

Two problem issues stem from the current analysis of the surveys data: 1) the legal enablements and constraints for running small and medium business enterprises, 2) public social insurance system as an instrument minimizing individual risks. We maintain that the resolution of these problem issues can improve the socio-economic position of Latvians.

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Annex 2
Digitalization tools for business support. Overview of the regional forums

From 19 February to 26 August 2020, a **series of regional forums on digitalization for business support** was held within the project Interframe-LV under the national research programme (NRP) Latvian Heritage and Future Challenges for the Sustainability of the State. The **Zemgale Forum** was the first one held at the shop Craftsmen House (Amatnieku sēta) on 19 February in Jelgava. The second forum was held during the **Vidzeme** Innovation Week in Valmiera at Vidzeme University of Applied Sciences (ViA) on February 26; the **Latgale** Forum was held remotely by Rezekne Academy of Technologies (RTA) on June 29 due to the Covid-19 pandemic; on August 14, the **Kurzeme** Forum was also held remotely by the University of Liepaja (LiepU); and the series of forums ended with the **Pieriga** forum held remotely by the Latvian Academy of Sciences (LAS) on August 26.

Researchers from Latvia University of Life Sciences and Technologies (LLU) worked on the problem of digitalization within the LAS-led project Interframe-LV, and therefore each forum was begun with a presentation by LLU professor Baiba Rivža on the digital environment, the characteristics and the business opportunities, incl. a comparison of the performance of Latvia with that of the EU and the other Baltic States according to the Digital Economy and Society Index (DESI). In each forum, Professor Pēteris Rivža additionally gave an insight into the trends in artificial intelligence (AI) and its use in business.

Judging by the forum audience's large interest in apparently new information, it was concluded that there was a need for much broader and more intensive education on technologies, as well as that the 4th Industrial Revolution or Industry 4.0 created needs in the fields of education, the labour market, skills and competences, and principles of the Green Deal and the circular economy.

Zemgale Forum

Technological infrastructure developed by Latvia needs to be used more efficiently in business

Līga Lonerte, the executive director of the local government of Jelgava municipality, emphasized in the introduction that both the production of a product and the supply chain for it are significantly affected by inter-institutional cooperation between, e.g. LLU scientists, the Jelgava Business Incubator of the Investment and Development Agency of Latvia (LIAA) and local governments with their structures for business support.

Baiba Rivža, the director of Interframe-LV, described the current digital environment as follows: we are still at the 1st stage of the 4th Industrial Revolution (according to Klaus Martin Schwab), which is characterized by sensors, drones, big data storage, robots, the Internet of Things etc. The way we live and work (and will live and work) changes dramatically, the boundaries between the physical, digital and biological spheres disappear. Humans are still the main determinant everywhere, yet at stage 2 robots will make crucial decisions in many areas. Some

professions will disappear and new ones will emerge. It will be more difficult to employ robots in industries that require human support and warmth of heart (services, especially leisure services), while doing physical work will be the responsibility of artificial intelligence. A new type of workforce needs to be prepared and trained.

The EU Common Agricultural Policy (2021-2027) emphasizes access to technologies for small and medium farms and the full integration of farmers and rural areas into the digital economy. Progress in technology and digitalization make it possible to rapidly increase resource efficiency while promoting environmentally and climate-wise agriculture. For the time being, the introduction of new technologies in agriculture is unbalanced in the EU.

According to the DESI report 2019 (European Commission) (the situation has not changed in 2020 as well), connectivity and digital public services were the most developed area in Latvia (above the European average), whereas the use of digital technologies in companies or the digitalization of business lagged behind, incl. Internet usage for e-commerce (below the European average), as well as there was a lack of human capital (too few trained specialists).

Artificial intelligence: many companies in Latvia have virtual assistants

Pēteris Rivža, giving an insight into the trends in AI, as well as the historical evolution of AI – the concept of artificial intelligence turned out to have been introduced by John McCarty in 1956. However, it took a long time for AI to become better known to the public – in 1997 when the chess machine Deep Blue defeated world chess champion Gary Kasparov. However, AI has developed the fastest in recent years due to advanced technology and a large increase in data. There are 3 types of AI: weak AI or narrow AI – at present it is machine intelligence using natural language processing, e.g. Google Translate, bots with chatting skills to interact with humans in a personalized, natural way. At the next stage – general AI –, which should be as capable as a human; while super AI should already outperform the human in everything, including decision-making and emotional relationships, and this possibility seems unlikely. However, AI is based on artificial neurons with few inputs, whereas the human biological neural system is much more capable with thousands of inputs and incomparably more active communication abilities.

An action plan stipulating that public sector investments in AI should reach EUR 25 million until 2030 has been drawn up by the government of Latvia. Proposals need to be developed for launching a national research programme in the field of ICT, which includes the AI component, while national or sectoral policy documents and municipal development plans should include an assessment of introducing automation and applying AI.

The current applications of AI: machine translation – company Tilde translations correspond to 64.9% human translation, 52.1% for Google translations, which is a high rate in both cases. A virtual assistant (chat bot or bot) – the company needs to assess whether the flow of customers and incoming questions is so large that a virtual assistant would be needed; however, at a certain number of questions, it provides large savings in working hours and, over time, financial savings; image analysis; robotics; analysis of big data and forecasting based on the data; decision-making automation and support.

In Latvia, ten companies already have virtual assistants, e.g. the State Revenue Service – the assistant called Toms, the Rural Support Service – Varis, Tele 2 Ltd – Ieva etc. The Cultural Information Systems Centre (KISC) provides an innovative platform for sharing virtual assistants for public administrations. The project uses the tools and resources of the public administration language technology platform Hugo.lv. Accordingly, each institution does not have to create its own virtual assistant from the very beginning.

The advantages of a virtual assistant are the capability to distribute call traffic, and companies can reduce their call centre personnel even many fold. This is particularly useful for companies with a large proportion of customers abroad, including in other time zones, and companies with a young target audience because they want to ask questions in writing and expect quick answers. The most popular virtual assistant in the world is Sofia, while the most beautiful one is Erika.

Several master and bachelor theses on AI have been produced at LLU, e.g. use of deep machine learning methods for the detection of timber damage and the development of a prototype of a facial recognition system.

It is advised not to be credulous, not spread unnecessary information and verify the information received

Ina Gudele, the chairwoman of the Board of the Latvian Internet Association, draw the attention of the audience to the use of technologies so that the technologies would not start using their users, namely, daily data security, mentioning about twenty threats. One of them is that with technology, the potential level of privacy in our lives has decreased dramatically (it is like walking naked down the street – that is what we are in the digital environment!), while the other threat is that because of our ignorance, carelessness, forgetfulness and credulity, we give our "keys" to our bedrooms and even bathrooms.

Individuals daily distribute a lot of information about themselves in the digital environment, including their geolocation, personal data and photos, and the digital tools themselves send information to the digital environment instead of the host. Unfortunately, the information is also misused and endangers financial resources and property. The Internet of Things (smart meters, video surveillance, data sensors) and social media are the largest threats to the human factor.

Not seven times, but many more times, you need to consider what photos to put in the digital environment, as they will no longer seem "cool" when emerging from the depths of the Internet at the most inopportune moment, i.e. when you want to become a leader or a parliament member. However, securing a smart device such as a surveillance camera with a manufacturer password and not changing it to a personalized data security password means allowing hundreds of owners to monitor the same cameras with the same manufacturer password. A video surveillance camera that has not been turned off after watching a babysitter or a pet left at home during the day can show you yourself in any situation to a wide range of observers. An unchanged password for a smart TV set also allows others to see the TV user's home – not only you watch TV but also the TV set watches you.

Computer passwords need to be also original, and the originality pays off as security and protection against hacking and blackmail. There is only one piece of advice against fake messages about inheritance or love fraudsters – do not be credulous and verify the information you receive. Companies need to train their employees in these seemingly elementary wisdoms. Technology can be a good helper in business if using it wisely and cautiously.

A small business owner also needs a digital platform to avoid stagnation

Jānis Erno, a chief specialist of the Education Department of Jelgava municipality in lifelong learning, introduced digital opportunities in the municipality and business. In 2015, the National and Local Government Unified Customer Service Centre was established in Jelgava

municipality, which has 14 reception points in 13 rural territories and at the administrative building at 37 Pasta Street in Jelgava; advice and practical assistance are provided closer to the place of residence. Approximately half a thousand electronic applications, more than a thousand electronically signed documents and more than a thousand electronic documents are received from the population per year, thereby reducing the flow of paper documents.

Municipal support for business: an opportunity to participate in exhibitions of various scales; craftsmen workshops established within projects; competitions for an annual award "Entrepreneur of the Year" and "Entrepreneur in Jelgava Municipality"; creation and development of the trademark "Local Producer – the Pride of the Municipality"; provision of commercial equipment; fairs; seminars, training, incl. to build up digital skills, experience exchange trips held by the municipality etc.

During the discussion at the forum, which was also attended by entrepreneurs Daiga Latkovska and Ināra Mālkalne, it was acknowledged that for small businesses, caring about their core business is still more important than implementing digital trends in practice. However, a digital platform is also necessary for small businesses to avoid stagnation or even company liquidation.

The forum provided new information not only to small businesses but also to numerous LLU students who attended it. In the end, shiitake mushroom grower Jānis Volksons from the farm Trubenieki (Lielplatone village) held a tasting of mushroom bread with mushroom butter for the forum participants.

Vidzeme Forum

The forum was opened by ViA Rector Gatis Krūmiņš and Vidzeme planning region administration representative Laila Gercāne, who familiarized the participants with the idea of the Vidzeme Innovation Week and especially thanked ViA for promoting innovation in Vidzeme region, thereby raising a spirit of innovation in entrepreneurs and students.

Young individuals' digital habits: scientists need to change or adapt to the habits

In his lecture, G.Krūmiņš addressed the issue of establishing WhatsApp groups and their role in bringing up children. Research on school-age children's digital habits, their reactions and actions made various new findings. Children take the digital environment for granted, where they feel "like a fish in water". Young people are also great at dealing with the situation that the language of most gadget applications is English. G.Krūmiņš stressed a challenge to the education system and educators: how could young people be supported during this digitalization process, and what opportunities and what help could be provided to them?

The current research focuses on three priorities: strategic recommendations for the development of society in the country, scientific communication methods and the international positioning of Latvian science. The main finding regarding the first priority is the positioning and narrative of Latvian science and the associated strategic communication abroad, while domestically it is the marketing of Latvian science and the associated strategic communication. The second priority is values in action: the development of a responsible, secure and educated civic society through research and the development of action patterns. Influencing actions through strategic communication and defining actions through policy documents (e.g. the NDP) are important in this case. The third priority – the international positioning of science – created the

slogan Value Through Knowledge and four narratives: the European agenda, integrated science, value creation and a knowledge society.

The latest research study has analysed the public's overall attitude towards science and scientists. The further research has identified scientists, decision-makers and influencers, active entrepreneurs, young people (including teachers) and the economically active Latvian diaspora as target groups. Among young people, the research focused on secondary school students who spend the most time online. Half of the respondents did not indicate that they read books. Young people still appreciated TV as a source of information, and much less radio. A conclusion could be made: young people perceive much better illustrative than textual information. It is the best way to reach young people and communicate with them at school.

Digitalization in municipal administration – advantages for the whole society

Kristīne Melece, the head of the Brand Management and Public Relations Department of the local government of Valmiera city, spoke about the latest digital solutions, as well as how to foster their use. These are digital systems, information systems and information platforms used by municipal employees in their daily lives. The purpose of digitalization in the municipality is to streamline and speed up daily work to have time for other important responsibilities.

In relation to customers, it is planned how to meet the needs of the population faster and more optimally. Digital transformation is a continuous and never-ending process of change. Valmiera residents know that the big digital "explosion" began with Vidzeme University of Applied Sciences, as after it was established, the Internet appeared in the city and became increasing available.

The advantages of digitalization are process automation, optimization, efficiency, autonomy, service flexibility, individual product development, faster communication, customer involvement and cooperation. The main risks in digitalization are insufficient infrastructure, ownership, stability, relatively expensive maintenance, problems with population habits, the requirements of the General Data Protection Regulation (GDPR) and the price and quality of services.

New channels of communication are increasingly used. Among the population, the most popular one is the municipal website. All kinds of visual communication are also useful, especially infographics (several examples of successful data visualization were demonstrated and discussed at the forum). The local government of Valmiera have established the Operational Information Centre 8484, introduced the mobile application My Valmiera (Mana Valmiera), the management of heating and ventilation systems, intelligent video surveillance, traffic and pedestrian traffic monitoring, smart screens and cloud services. It also uses various self-developed and state-provided management systems and environments. The services available through the application My Valmiera need to be improved, and many more improvements are planned.

Paper documents are used less

In a panel discussion moderated by ViA Professor and Interframe-LV researcher Maira Leščevica, Jūlija Kukele (Scania Latvia Ltd, Scania Baltics) emphasized that people were exposed to a huge amount of information and data that needed to be collected and processed

daily by using various technologies. Earlier, it used to take a lot more time and effort. Santa Sīpola from the MEPRD said that she had participated in the introduction of e-signatures in Latvia and was closely connected with the introduction of digitalization into public administration services. The national portal Latvija.lv was created. This was a great challenge and test for the personnel of the ministry. Already in 2009, it was acknowledged that the population used digital services too little, and therefore the ministry held a campaign – the Digital Skills Week. More active use of digital services began, and today it progresses at such a pace that the systems do not keep up. Employees also use less paper, thereby becoming more environmentally friendly. Client service centres (CAC) had been established in municipalities for more passive and less active users of the advantages of digitalization. The CACs provide support for the use and promotion of digital services.

Laila Gricāne admitted that a lot could be achieved if "stressful" circumstances arise. For example, many years ago, employees of the Vidzeme Planning Region Administration realized that using postal services was extremely expensive, and switched to more modern forms of document flow. Even today, most communication with customers and business partners is done via the Internet. Communication expert Inese Zariņa (Tet Ltd) shared her experience with the flow of documents in digital format both within the company and with clients. New needs and wishes of clients are studied in depth by the company. In parallel, Agile methods are being used for rapid prototyping of customers to offer customer stories about how easy and convenient it is to use such digital services. Tet Ltd has also introduced an artificial intelligence assistant Anete. Work is underway to improve the "data lake" by supplementing it with voice text, and a synthesized voice module is provided to companies for daily use. With progress in technology, it is possible to provide the customer with what s/he really needs.

Latgale Forum

Opening the first forum held remotely, RTA Rector Iveta Mietule emphasized the significant objectives of Latgale region in the field of information and communication technologies – to ensure universal mobile network coverage and the transition of institutions to the digital environment. The representatives of the region familiarized the participants with the trends in digitalization in Rezekne municipality and in Latgale region as a whole.

Electronic service systems develop the digital mindset in the population

In his presentation, Eduards Medvedevs, an information technology project coordinator of the Development Planning Department of the local government of Rezekne municipality, very illustratively demonstrated the information systems usable and widely used in Rezekne municipality. Currently, the priority is to provide residents with services without focusing on economic benefits and profits, which require innovative solutions that might emerge over time. The services provided by the administration of Rezekne municipality relate: to the place of residence, including purchase and sale of property; personal rights, incl. also public consultations; business (permits, approvals, retail trade, rental of premises and equipment); property and taxes; construction; social services (benefits, social assistance); family (birth, death, marriage); education (interest-related education, pre-school education); the environment and tourism (fishing permits, permits for quarrying of common minerals; rental of water bodies; allocation of fishing limits; felling of trees outside forest areas); utilities.

The National Information System Integrator (VISS) with approximately 130 services available on the portal Latvija.lv, as well as the ZZ Dats Unified Local Government System (VPS) are used. There is a link with the State Unified Computerized Land Register, the Library Information System etc. Eduards Medvedevs emphasized the role of unified data availability and exchange in the field of education (State Education Information System, VIIS; E-class) – information is available about a child from pre-school to university. Overall, the mentioned electronic service systems change public attitudes and develop the digital mindset in residents in a constructive way, as the technologies perform very practical and useful functions. The plans of Rezekne municipality in the field of digital service development involve: establishing a unified service provision system with feedback and statistics or a "one-stop shop", creating a new website with a modern fast and intuitive design: e-service, questionnaires and other public documents; joint business cards for rural territories and other institutions with the same design and format; achieving more active public participation in municipal decision-making, inter alia by providing an opportunity to ask questions, follow council meetings and other events online.

From digital competences to open science

RTA Vice-Rector for Studies and Science Associate Professor Angelika Juško-Štekele shared information about and experience with digitalization opportunities in the learning process in the context of Europe, the country and higher education. Higher education is a sector governed by European guidelines for digitalization: the EU Digital Strategy for a Europe Fit for the Digital Age (2019) and the European Commission's Digital Education Action Plan, which provides for 11 activities to promote the use of technology and the development of digital competences in education, incl. in higher education. Activity No. 4 aims to: improve the quality of teaching and learning; increase access to higher education; build bridges between higher education institutions, research institutions, employers and the general public. The latter objective relates to activity No. 5 regarding open scientific skills: access to open access data, open and fair governance and informing the public about research achievements.

Angelika Juško-Štekele emphasized that in Latvia unified strategic planning is definitely needed in order to develop an effective policy for the faster development of digitalization. In Latvia, several documents and activities pertain to digitalization in higher education, incl. the Conceptual Report on Changing the Internal Management Model of Higher Education Institutions by the MoES. It states that investments in the digitalization of higher education need to focus on building common platforms and creating common content; it is required to create a unified e-solution for the student admission system, establish a register of diplomas qualified to meet the requirements for international automatic diploma recognition as well as a consortium(s) for the joint subscription of databases and library resources for the creation, maintenance and use of open educational resources and open science resources. The maintenance of a scientific infrastructure of national significance requires a special support programme, and it is necessary to adapt the financing schemes for international infrastructure sharing in order to promote the systematic use of the resources at national level. The forum raised concerns that the diverse digital resources already developed by universities might need to be transformed or even re-created.

Open science became the subject of special attention and discussion at the forum. The Ministry of Education and Science has published a study on open science and the development of an action policy roadmap. The study defines the concept of open science, examines the issues of open access publications, citizen science initiatives, as well as describes the potential of

Latvia for involvement in the European Open Science Cloud (EOSC) and other international open science initiatives. It is recommended to design a legal framework that would ensure the openness of publicly funded research papers and data on a national and international scale and the dissemination of publicly funded research findings. A practical step in this direction is also the audio broadcast created by the Latvian Science Council or the so-called podcast Signs of Science, in which one of the recordings is about open science.

The RTA strategy sets the university's priority in the acquisition, application and development of various tools (including digital) for technology transfer, smart resource management and innovative entrepreneurship, as well as the objective of developing and implementing an open access policy in the coming years. However, scientific resources are already available to the public, e.g. free reading. In the future, it is necessary to create an open database of student research papers, in which companies could commission students to research their specific problems in their papers.

Iveta Mietule presented her survey Digital Challenges from the Perspective of Young People: Today and in the Future, emphasizing the period when it was done – January 2020. Because of the changes caused by the pandemic, more than 300 respondents (18 to 30 years old) might already have changed their minds towards a higher rating of digital opportunities. As regards an opportunity to start doing business in the digital environment, 45% rated it as medium, 29% as good and only 12% as very good. The most frequent answer to a question about the factors that contributed to having a job was the desire to work, while digital skills were rated much lower. The opinions were divided on what would improve the financial situation and quality of life, as the most respondents hoped for improvement in the overall economic situation, personal initiative, improvement in the economic situation in Latgale, positive thinking and success, public support (including family and local government support), and slightly over half of them saw very good opportunities if developing their personal digital skills. Given that 78% were ready to learn new skills for their future, the importance of digital skills could increase in their eyes. In any case, it would be important to continue the survey and identify the opinions under the new circumstances caused by the pandemic.

E-tools give a new perspective on production processes

Nikolajs Pušņakovs, the chairman of the Executive Board of Midis Ltd – a company from the Rezekne Special Economic Zone –, spoke about digital solutions to business management and how technological transformations changed the business culture and values when technologies were integrated into all areas and activities. The 5 Ks of digital transformation are as follows: customer, communication, channels, company and culture, while the latest trends were as follows: consolidation and personalization of customer experience, data-based business, cloud computing, business performance improvement by means of the data collection platform API/IoT etc.

The business management system Odoo, used by Midis Ltd itself and suitable for small and medium enterprises, was analysed in detail. This system manages all business processes, including designing websites and e-commerce sites, as well as sales, warehouse monitoring, inventorying various resources and personnel. Odoo can be adapted to the needs of companies in any industry.

The forum reinforced the conviction that the development and use of digital solutions requires extensive further cooperation between entrepreneurs, municipal employees, scientists and academics in the region.

Kurzeme Forum

Specific tools for the development and wider use of digitalization skills

The forum was organized and moderated by Lilita Ābele, the director of the Circular Economy Centre of Liepaja University. Rita Vītola-Lapiņa, a researcher from the Latvian Association of Information and Communication Technologies (LIKTA), presented the international partnership project Women 4IT supported by Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund, which developed labour market-needed digital competences and skills in today's women, thus promoting their involvement in ICT professions. The priorities of the project in the European context pertain to the following problems: youth unemployment, a lack of ICT professionals in Europe and the low participation of women and young people in ICT professions.

In Latvia, the project aims to inform 100-120 young women at risk (18-29-year-old unemployed women with completed or incomplete general education, women on parental leave), assess their competences, train them and then employ them in at least 70 digital jobs, helping them to find and begin the jobs. The project has developed tools to achieve its goals, e.g. job profiles developed in cooperation with employers, a job proficiency test, a digital proficiency test and various guides ranging from recommendations for employers and jobseekers to specific training programmes.

Unemployed women without special education are not the category that employers would prefer to hire; therefore, it is very important to give them a new idea of their usefulness in the labour market upon completing the training (160-hour programme). In Latvia, this project offeres women 6 job profiles: a customer service specialist, a project coordinator, a digital media practitioner, an information systems tester (the most popular), a data protection specialist and a data analyst. The interest of women in the project exceeded expectations, the majority of them were from Riga, yet individuals from the regions were also given opportunities to undergo training and get employed (it was possible to work remotely). Unlike other projects, women were assigned a mentor after completing a digital skills test, who was available until the conclusion of their employment contracts.

LIKTA researcher Andra Krasavina informed the participants about the results and findings of the Interreg project Promoting the Digital Transformation of Enterprises in the Baltic Sea Region. The project was implemented in Latvia by LIKTA and the MEPRD in cooperation with the Ministry of Economics. A study by the digital innovation network DIGINNO on the trends in digital transformation of companies in the Baltic Sea region has already been carried out, policy recommendations have been developed, as well as an online tool for digital self-assessment of companies has been created according to the methodology Smart Latvia, which represents a digital maturity test, by means of which a company can evaluate itself, compare itself with others and get real recommendations. The emphasis was placed on the digitalization of SMEs over a five-year period. The project involved producing a digital best practice and digitalization guide for companies and establishing a network of active cross-sectoral digitalization partnerships in the Baltic Sea Region.

The DIGINNO study included 140 companies from the Baltic States, Finland, Sweden, Denmark and Poland to assess the current level of development of SMEs, their potential for expansion and their importance over a five-year period. The project chose mechanical engineering and metalworking as an industry to be studied in all the countries involved. The main

prerequisites for the digitalization of the industry are as follows: a skilled workforce, successful cross-sectoral cooperation, and the company management's understanding of the advantages of digitalization.

The online self-assessment tool for SMEs – the digital maturity test – was the first step to take if a company is interested in digitalization. The manager of the company needs to answer the questions of the test. After determining the digital maturity, the company can compare itself with other companies of its size, receive recommendations on the implementation of IT solutions, and the company manager can complete an in-depth version of the test. Approximately 60% companies/business leaders have a vision of implementing IT solutions or improvements over 3-5 years, while only 15% have a detailed plan for what IT solutions or improvements are implemented in the coming year.

It is very important that the effective free tool – the digital maturity test – becomes popular and is used. In addition, it is useful in any professional field. Besides, several participants of the forum were not aware of this test to date, and there was a discussion about the flow of information and the issues of digitalization of businesses.

Distance learning as a sustainable normal and not a temporary exception

A representative of Magnetic Professional Ltd, Ieva Brence, shared her experience with professional development courses for employees and distance learning opportunities and challenges based on her involvement in the EU-funded adult education project Enhancement of Professional Competences in Employed Persons. The purpose of enhancing professional competences is to eliminate the mismatch between the qualifications of the labour force and the needs of the labour market and increase both the competitiveness of employees and labour productivity. Distance learning has become relevant during the pandemic, yet it has great potential for sustainability and is part of the modern digital transformation – the respondents expressed a desire to learn and work remotely after the end of the Covid-19 pandemic.

The project Enhancement of Professional Competences in Employed Persons and professional development courses for employees were funded by the European Social Fund and the national government investing almost EUR 47 million and covering 90% training costs, while 10% needed to be paid by the employee. Since 2017, there have been four application rounds, and more than 26 thousand employees began training, and by 2023 it is planned to involve 53 thousand employees. There are more than 200 programmes for 11 industries of the economy implemented by 23 educational institutions. More than 11000 individuals have applied for distance learning, and almost all of them met the admission requirements, except for a few hundred (who were aged under 25 and employed).

The distance learning round faced a number of challenges related not only to the classes delivered during this project, and the solutions could be useful for the whole distance learning process. In addition to technical support, distance learning methods and approaches needed to be developed to make the learning process more interesting and to help the learners to memorize the subject matter. In the interactive environment, the attention span was shorter, as the learning took place in the evening after work.

When meeting in person, it is possible to speak more and longer, while the maximum length of a digital lecture was 45 minutes. On the positive side, the learner could watch the video on the second day while holding the baby on the lap.

Zemgale forum in Jelgava

Experience is shared scientists, teachers, entrepreneurs, municipal representatives.

Baiba Rivža, project manager of Interframe-LV (from left) and the leader of the forum Jelgava municipality Executive Director Līga Lonerte.

Jānis Erno, the municipality's chief specialist in lifelong learning, introduces with digital opportunities in local government and business.

Students also take part in the forum.

At the forum, it was the issues of distance learning methods and approaches that provoked the most discussion. There was also a view that learners themselves should also be interested in reaping the full benefits of learning and try not to drop out of such a European project and not to miss the opportunities it gives. Co-financing certainly played a disciplining role. However, the biggest challenge for the educator was to get all the participants involved in the training so that they were interested in building their skills. It also means constant learning for the educator him/herself. It is a feature of this period that everyone needs to learn, and distance learning is a modern tool for it.

Ina Gudele, the chairwoman of the Board of the Latvian Internet Association, described the most up-to-date and convenient digital tools for remote work and learning. The sites Zoom, Microsoft Team, Google Meet and Google Classroom are suitable for group communication. Interactive tools for work and training are characterized by suitability for certain functions, e.g. Doodle - for coordinating schedules by large groups; Mentimeter - for short surveys, voting, presentations; Google Sheets - for surveys, quizzes and tests; Kahoot - for tests, quizzes and educational game creation.

During the pandemic, e-signatures have become significantly more popular. Everyday life is facilitated by telemetry solutions: electricity, water and heat metering, transport monitoring. Even a beehive could be monitored remotely. Companies work with scientists on new solutions that provide remote communication, conventional communication and cooperation. However, population groups need to be educated about using the latest solutions in their daily lives, work and education. Individuals have to learn to communicate remotely, as this process involves logic and etiquette.

Pieriga Forum
Digital intelligence and digital discipline need to be learnt as digital skills

The Pieriga forum was held and moderated by Ligita Āzena, a researcher of the Interframe-LV project. Ilze Linkuma, the head of the Ogre Business Incubator of the Investment and Development Agency of Latvia, expanded the usual notion of what digital skills entail in relation to the needs of today's business. In addition to the use of tools, social media and e-mail, it also includes the use of national and municipal services, the creation of digital content, programming, and many other categories, including learning digital intelligence and digital discipline. A survey of experienced entrepreneurs has revealed what changes were occurring during the pandemic and what issues needed further attention. One of the main conclusions was that the view on digital skills needed to be broadened.

Interviews with entrepreneurs involved in corporate communication have revealed that at companies usually any day was planned incorrectly and meetings follow each other without pauses, creating stress. At the same time, new tools are learned, e.g. Microsoft Teams; the more independent decisions are made, the less it is possible to consult others; it is necessary to deal with the feeling that nothing seems to be happening because the employees are not in front of the eyes; the way meetings are held has changed, different presentations should be created to replace the possible facial expressions, gestures; e-signatures need to be introduced etc. Questions about the acceptable and appropriate appearance in front of the camera and whether an office will be needed in the future have also been raised.

The second group of the entrepreneurs interviewed was the heads of international production process certification bodies; their conclusions: distance learning will continue after the

pandemic, there are savings on business trips, participation in virtual exhibitions provides additional profit opportunities, Europe has become more accessible and the situation is acceptable. However, auditors cannot be trained digitally and allow for "cheating". There are differences in the quality of the Internet across countries. The peculiarities of the mentality affect the retention of attention; it is required to create a culture of digital behaviour, e.g. understand the need to eliminate external noise that disturbs others; technical support and skills in the use of it are required as well.

The representatives of the information technology companies surveyed mentioned faster reporting opportunities for a larger number of people as an advantage, whereas disadvantages were as follows: difficult demonstration of new projects and customer service, not all cooperation partners have the necessary computer knowledge and skills, which would not be an obstacle if meeting in person; a lack of immediate feedback and emotions of questions asked; there is no digital intuition yet. But fortunately, everything will never be digital!

The combination of face-to-face and distance learning is the most effective approach

In her scientific and academic work, Daina Vasilevska, the Vice-Rector of Turiba University, shared the findings of a study on remote work and learning by means of digital tools. Not surprisingly, a significant number of respondents (40%) wanted face-to-face lectures, as any person is a social being who needs personal contacts. However, there were more individuals who were satisfied with a mixed form of learning: face-to-face and distance learning in similar parts or if one of them slightly dominated. But about 10% respondents preferred only distance learning.

In today's reality, the most effective way is to combine face-to-face and distance learning, which is delivered both synchronously – students participate simultaneously –, for example in an online webinar, and asynchronously – students learn the same material at different times and places, considering their different communication, socialization, timing, financial and other needs. However, it is also necessary to take into account hybrid-style lectures when the educator works simultaneously with the audience in person and those who are remotely connected online, as they cannot be present, for example due to being ill. There are various online learning management systems that need to provide assessment opportunities, tracking student progress, ease of access, socialization and so on. One of them is the open source online learning management system Moodle.

The application Classflow could also be used to manage the educational process, which provides a possibility to design tests having automated feedback, prepare lessons, share a whiteboard, send materials to students etc. For higher education, there is a customizable application and web platform – ClassDojo –; the educator can write announcements, create activities, provide feedback, post pictures and videos, communicate privately with each student, and each student can create their own e-portfolio. ClassDojo provides the possibility to create a common authority account that includes all student groups.

Tools such as Mentimeter, Padlet, Kahoot and Tricider are useful for engaging the audience in group discussions. Google's Jamboard allows students to create a visual solution together or respond to what an educator does. There is a wide range of tools for diversifying learning assignments, creating infographics, crossword puzzles, comics etc.

For video conferencing, in addition to Zoom and Google Meet, Webex is also recognized as an effective tool. Paid (mostly if individuals want to take an exam and get a certificate) and free

open access online courses (MOOC - Massive Open Online Course) become increasingly popular, which also allows educators to enhance their competencies. Latvian higher education institutions are among the providers of such courses. One of the best course finders is the website https://www.classcentral.com/. The summary of digital tools made by the study also contains links to plagiarism testing: Copyleaks https://copyleaks.com/; Plag https://www.plag.lv/; Grammarly https://ej.uz/1tu9.

A unique product has been created in Latvia – the first virtual classroom for economics

Edgars Čerkovskis, an economist and an educator at the Riga Distance Learning Secondary School, familiarized the participants with virtual reality used in distance learning. He is the author of an innovative idea – the first virtual classroom for economics in Latvia. It was created in cooperation with the EKA University of Applied Sciences (technical developer Ēriks Līsmanis and graphic developer Armands Millers) and presented in July 2020. It is important that educators and students can download and use this product for the learning process free of charge.

The product requires a smartphone (not older than 5 years) and virtual glasses. There are 8 topics available when moving around the room (in your room, in the classroom). There is also a manual to use the virtual reality goggles correctly and not run into a bookshelf or step on the cat's tail. In such a room, the learning of economic terms "comes to life", and the product is also focused on children with special needs. Moreover, it is not just economics that can be learnt in this way. For example, in Estonia, experiments in chemistry are performed in virtual reality.

Virtual reality is one of the priorities of digital technology in the delivery of learning, while the others are as follows: augmented virtual reality, podcasting, cloud computing, AI, simulation games and applications, social media and platforms. Five years ago, the virtual space still had to be created by itself, now there are computer programs that allow to "inhabit" an already created space by purposefully collected objects. In virtual reality, it is also possible to restore everything that was once lost or lost over time – the "Lost Latvia" could be created.

The "advanced brain" priority needs to be maintained

The researcher and the representative of Magnetic Professional Ltd, Ina Gudele, stressed the serious preparation for remotely delivered professional development courses for those involved in the EU-funded adult education project Enhancement of Professional Competences in Employed Persons. Relevant research studies and literature on digital transformation and distance learning have been reviewed, i.e. how individuals can eliminate their incompatibility with the labour market remotely. The educators have completed courses and learnt new digital tools – always there needs to be a backup option and no one cannot rely on just one technical solution; teaching methods that are at least partially different from those used when meeting face-to-face need to be further developed. One of the challenges is to integrate assignments into the distance learning process that give new products (similar to the current practice in student training and manufacturing companies, business incubators and universities). Not everyone, incl. companies, accept the digital transformation in this period, as it requires knowledge and investment. But in the long term, it pays off. In addition, it must be borne in mind that our country's main resource is smart people or "advanced brains", and this trend needs to be continued.

Conclusions

- Digital solutions are introduced to facilitate and speed up processes, rather than completely replace human communication, process management and goal achievement.
- Currently, the 1st stage of the so-called 4th Industrial Revolution (as formulated by Klaus Martin Schwab) is characterised by sensors, drones, large-scale data storage, robots, the Internet of Things and other technological solutions. The way of life and work changes dramatically, the boundaries between the physical, digital and biological spheres disappeared. At stage 2 of the Industrial Revolution, robots will make crucial decisions in many areas. Some professions will disappear and new ones will emerge.
- Artificial intelligence plays an important role in making people's lives easier. There are 3 types of AI: weak AI or narrow AI – at present it is machine intelligence using natural language processing –; general AI, which should be as capable as a human; while super AI should already outperform the human in everything, including decision-making and emotional relationships, and this possibility seems unlikely.
- All innovative digital solutions need to be designed to meet specific needs, not created by chance. Digital solutions are expensive if they are not designed and created for the specific needs of the company and are difficult to connect. It would be important not to spend so much time on the general implementation of the solution but on its specific adaptation to specific needs using the service design method.
- Young people – a generation that will run businesses and institutions over time –, set new rules for the digitalization of services and processes, and they need to be prepared for it. Educational institutions need to help young people to acquire critical thinking skills, but based on knowledge. Competence-based education will not develop without specific knowledge, logical reasoning and human relationships.
- A particular problem is the freedom of an individual and the ability of technology to track the individual. Security risks need to be reduced, i.e. users are advised not to be credulous, not spread unnecessary information and verify the information received.
- For small businesses, although caring about their core business is still more important than implementing digital trends in practice, a digital platform is also inevitable for the small businesses in order not to stand still or stay in business.

Proposals

- There is a need for much broader and more intensive education of the population on technologies, as well as that the 4th Industrial Revolution or Industry 4.0 created needs in the fields of education, the labour market, skills and competences, and principles of the Green Deal and the circular economy.
- A new type of workforce needs to be prepared and trained, digital tools in the learning process needs to be used and digital competences need to be developed. There is a need to build a generation of new leaders and skilled professionals; education and training programmes should equip graduates with the knowledge and skills to implement sustainable economic and social development.
- The development and use of digital solutions in the regions require extensive further cooperation between entrepreneurs, municipal employees, scientists and academics.
- Population groups need to be educated about using the latest solutions in their daily lives, work and education. Individuals have to learn to communicate remotely, as this process involves logic and etiquette.
- Distance learning methods and approaches need to be enhanced.

Ausma Mukāne, Maira Leščevica

Annex 3
Programme of Social Sciences and Humanities for National Sustainability Mid-term conference

At a virtual mid-term conference on the national research programme (NRP) **Latvian Heritage and Future Challenges for the Sustainability of the State** (2019-2022) held by the Latvian Council of Science on 27 October 2020, the achievements of all five projects of the NRP were presented. The project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) implemented by the Latvian Academy of Sciences (LAS) was among them. President Egils Levits and Prime Minister Krišjānis Kariņš sent online wishes for productive work.

Conclusions for policies and public opinion

As former President Vaira Vīķe-Freiberga emphasized in her online address, the country has also understood the role of social sciences and humanities in sustainable development and has purposefully invested in them. Only by nurturing researchers (all project supervisors stressed the large number of doctoral dissertations defended during the NRP and the number of internationally indexed research papers produced – human capital development and knowledge base creation were among the goals of the NRP), as well as researching historical documents and modern social and economic processes in an international context, Latvia is able to cope with international competition. It is this difficult time of the pandemic that has highlighted the role of national science and the national economy.

Dmitrijs Stepanovs, director of the Department of Higher Education, Science and Innovation of the Ministry of Education and Science (MES), gave a general insight into the NRP at the opening of the conference: 112 scientists and 53 doctoral students from 5 research institutions were involved in 5 interdisciplinary research groups. The NRP had the following 5 thematic fields: 1) origins of the idea of statehood in Latvia, the cultural and historical preconditions in the common historical process – the project was implemented by the University of Latvia (LU) and Daugavpils University (DU) (supervisor Professor Guntis Zemītis); 2) Latvian state values, the functioning of areas of public administration – Vidzeme University of Applied Sciences (ViA), Riga Stradins University (RSU) (supervisor – Rector of ViA Gatis Krūmiņš); 3) diverse cultural and historical processes of Latvia – the National Library of Latvia (LNL), ViA (supervisor Professor Vija Daukšte); 4) demographic and migration challenges for Latvia – LU, Rezekne Academy of Technologies (RTA), Latvia University of Life Sciences and Technologies (LLU) (supervisor Professor Zaiga Krišjāne); 5) research on the already mentioned international context of national development within the project Interframe-LV – the LAS implemented it in cooperation with LLU, LU and RSU (supervisor Professor Baiba Rivža).

The common denominator for the various thematic fields was the sustainable development of Latvia, and historical and cultural research focused on today's problems represented by the

following keywords: identity, European values and Latvia as their bearer, a sense of belongingness, social cohesion and inclusive growth, regional revitalization and national economic and social resilience, which was also facilitated by strong internationally integrated human capital needed for the research etc. The conclusions made by the conference and the findings of discussions are valuable not only for policy-making but also for educating the public and shaping public opinion. It should be emphasized that in a situation where it was not possible to meet in person and researchers had to sit and discuss at a virtual table, a digitally skilled and supportive leader, such as Artis Ozoliņš, the moderator of the conference, was of great importance.

History has a direct association with a culture of long-term thinking

A separate conference session was dedicated to each thematic field, in which the project participants presented their research results, both making a mutual discussion and answering questions asked by the audience. But before that, in a panel discussion, the project supervisors briefly outlined the nature of the projects they administered by a cross-cutting question of what and how science could help society. The supervisors mentioned, inter alia, the following key findings: first, science-based recommendations; second, the research aimed to develop a culture of long-term thinking both at national and individual level. It would also help to deal with the impacts of Covid-19.

Guntis Zemītis (LU), who supervised the project Interaction of the Individual, Society and the State in the Overall Process of the History of Latvia: Conflicts of Values and the Formation of Common Values in Historical Turning Points, focused on European values at historical turning points in Latvia. With regard to the whole project, he explained that it applied an approach to look at history as the history of the individual, which was closely linked to identity, all the way to European identity. The emphasis was placed on minorities - Livs, Jews, the interwar Russian minority, whose identity was different from Soviet identity. In general, each generation needs to review its history and new research is needed into what has long been known. The history of Latvia has also been written differently – Baltic German historians shaped it as the history of the land, in the interwar period it was written as the history of the people, today the history of Latvia is part of European history. It needs to be understood that we are part of Christian civilization, and Christian values are part of European civilization and Western values.

According to Samuel Huntington, Western values are as follows: the rule of law (in other civilizations it is less important), equal rights for all, parliamentarism, pluralism, as well as individualism and the right to individual choice. Latvia has been in the Western area since the 13th century, and even as part of the Russian Empire, the connection with Western Europe has not disappeared. Latvia represents the eastern border of Western civilization. The proclamation of Latvia as a democratic state was based on two important components: the Latvian nation, as Latvia was established within ethnographic borders, and if there were no Latvians, it would be another country; as well as European values, as a democratic republic has been established in which sovereign power belongs to the people. For this reason, Europe should not be perceived in Latvia as something foreign – as "we" and "they". Both national and European identities need to be strengthened.

Anita Čerpinska (LU), reporting on to topic concerning the centre and the periphery – political, social and cultural communication in the 16th-20th centuries (from the Livonian period to the establishment of the state of Latvia) – stressed that the territory of Latvia was usually on

the peripheries of other states, and it was necessary to develop ways of communicating with the centre and defending national interests, yet there have always been links with Europe. Irēna Saleniece (DU) reported on the research study of the history of Eastern Latvia, which was also based on oral history sources found during expeditions, and the purpose of this example was to reveal and show how local and ethnic identity developed into Latvian national identity in the 20th century. A collection of oral history sources created by DU contains the life stories of 1200 individuals from Eastern Latvia. Professor Alexander Ivanov and Dr. Henrihs Soms worked on a monograph dedicated to the 2017 Latgale Congress, in which relevant documents had been completely compiled for the first time. In her presentation on the relations between the individual, society and the state under various regimes and their control mechanisms, Dana Bleiere (LU) emphasized that this research had aroused great interest among foreign scientists as well. Vladislavs Volkovs (LU) spoke about the role, place and self-understanding of ethnic groups in Latvia in the 20th century.

Values in action and as a paradigm of statehood

Gatis Krūmiņš (ViA), reporting on the project "Values in Action: the Development of a Responsible, Secure and Educated Civic Society through Research and Designing Action Models" implemented by RSU, emphasized that values could be viewed in a historical context, as they are shaped over a long period of time – not within one or two years. Since a national state was already part of the value system of Latvia, it was easier to regain independence. Within the project, values were viewed as a paradigm of statehood.

One of the most important concepts of value at the national and the European levels is that great ideas must be brought to the level of individuals in order for the individuals to perceive them. In connection with the 30th anniversary of the adoption of the Declaration of Independence of 4 May 1990, the project published the book "Founders and Restorers of the Republic of Latvia", which is a collection of biographies, giving an opportunity to get to know everyone who participated in the creation and rebirth of Latvia. If not talking abstractly about historical events and values, it is possible to reach the level of individuals. One of the mid-term hypotheses of the project has been that history needs to be personified to a larger extent, incl. also helping people to realize that their family history is part of national history and thus bringing them closer to an understanding of the values of statehood. A challenge for the values of democracy in the future is how to keep them highly competitive alongside many other value systems in the world. History is a broad range of sources for shaping future policies on the values of democracy and statehood.

The research problems were examined in detail in the relevant context: Liene Ločmele (ViA) examined whether we all lived in the same democracy (society is often perceived as the masses, yet it is necessary to go into the diversity of society and a sense of security by various social groups in order to help them, not to stress them out); Armands Astukevičs (ViA) – residents' trust in public administration (trust is slowly consolidating, yet in order to achieve active participation, the political process must not only be transparent but also understandable); Anna Broka (ViA) – civic self-activity at community level (citizens are able to influence local decision-making, yet often this participation takes the form of elitism – the richest, most educated, more enlightened are better able to influence local governments, while low-income, minority groups make minimal influence); a question is whether we would take into account only the most capable and strongest segment of the society and ignore the high rate of poverty in the country, incl. families with children); Māris Andžāns (RSU) – Europeanisation of values:

Latvian political parties and political groups in the European Parliament (EP political groups do not make a significant influence on the values of Latvian political parties – the parties in Latvia and the EP have an opportunity to live in their own "bubbles").

How to bridge the gap between different kinds of social and political bubbles, different value systems? The first step is to accept the diversity of views and examine in detail why someone thinks differently. A culture of discussion needs to be created – the ability to communicate in a balanced way with different individuals, without perceiving everything personally; respect for each other's views needs to be maintained; there is a need to acquire the skill of debate, which is focused on clarification rather than victory. Respectful attitudes are embedded in various legal documents, yet individuals need to learn to implement them without weakening democracy by not being able to communicate.

Ancient testimonies of heritage become available to society

Vija Daukšte (LNB) began giving her insight into the project Role of Documentary Heritage Research in Creating Synergies between Research and Society philosophically, referring to the familiar Latin saying "I carry everything I own" (Omnia mea mecum porto), and what else could be carried instead of knowledge that strengthens and helps to make decisions. The National Library of Latvia stores such unique collections of evidence of Latvian history that have been used little or not at all. Manuscripts in German, Low German, Latin and Gothic could only be deciphered by specialists, and at the first stage of the project the materials were identified, translated and transcribed. Creating a historical context for them, making them widely understood and communicating them to the public was the second stage of the project because only then did this ancient evidence become a legacy. Owing to the multifunctional specifics of the library, the research findings could be brought to the attention of the public fairly quickly, and the public obtained, which was very important, reliable information.

The monograph entitled The Invisible Library. The 14 Historical Collections of the National Library of Latvia by Kristīne Zaļuma includes research findings on former manor libraries and personal libraries in Latvia, and an exhibition has been held as well. Researchers from ViA Juris Smaļinskis, Agita Līviņa and others have done a lot to popularize the materials. At the conference, Oskars Java and Anda Arkliņa (ViA) presented the documentary legacy as "opening the treasure chest to the public"; Grigorijs Salnits (ViA) demonstrated the form of traveling school for informing the public. Reinis Vāvers (LNB) presented the research work done together with Anda Juta Zālīte on cartographic heritage as a geographical and historical source in Latvia; Katrīna Teivāne-Korpa (LNB) gave insight into an LNB art collection as a resource for researching visual culture; in the context of documentary heritage, Mārtiņš Mintaurs (LNB) reported on a collection of rare books and manuscripts made by A.Apīnis that is available in the LNB Reading Room.

Is it true for people that "a bird in the hand is worth two in the bush"?

Zaiga Krišjāne (LU) emphasized cooperation between industries and institutions in the implementation of the project Development of a Sustainable and Cohesive Society in Latvia: Solutions to the Challenges of Demography and Migration" ("DemoMig") – the core team was comprised of LU researchers from various fields (geography, sociology, economics) and regional partners from Latgale (RTA) and Zemgale (LLU), who researched the impacts of culture on

the revitalization of the regions. One of the objectives was to examine demographic trends and the impacts of migration on social sustainability and inclusive growth. Together with the administrations of planning regions, six regional workshops were held (this was done before the pandemic in Latvia). In each workshop venue, it was possible to communicate not only with employees of local governments and national institutions but also with representatives of various other social groups, thereby obtaining direct unique information that could be used further in policy-making. As explained by Māris Bērziņš (LU), the discussions with regional think tanks, for whom summary materials were published, were held by applying the method of a world café, which involved a participatory approach and effective group work to discuss various topics.

Juris Krūmiņš (LU) analysed regional demographic trends in Latvia in the new 42 municipalities established after the administrative and territorial reform, focusing on demographic forecasts for the statistical regions of Latvia. Because of international migration, the population has decreased in all the municipalities, whereas internal migration has increased it in several municipalities: Adazi, Marupe, Saulkrasti etc. A demographic forecast for EU Member States for 2050 shows that only France and Ireland are expected to experience population growth both naturally and through immigration. The most favourable demographic situation in Latvia is expected to be in and around the capital city. Baiba Bela and Inta Mieriņa (LU), examining the return of former emigrants to the regions, found that the most people from abroad returned to the mentioned part of Latvia, e.g. in 2019 it was about 1/3 of 5114 emigrants. It also relates to the so-called talent migration – it is possible to make better use of high qualifications in the central part of the country, and employers appreciate it, as well as remuneration is more adequate there. It is a hopeful fact that the majority of former emigrants returning to Latvia, including to rural areas, do it because of emotional factors (they long for home, do it because of their children so that they do not lose their Latvian language skills, have better opportunities for interest-related education than abroad, green lifestyle etc. ("a bird in the hand"?) rather than ("two in the bush"?). Ženija Krūzmētra (LLU) analysed examples of good practice in "bringing life back" to rural areas by means of local development strategies rooted in culture.

Latvia faces the same challenges as the rest of Europe

Baiba Rivža (LAS, LLU) in her presentation of the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) focused on digitalization prompted by the pandemic, which was one of the project research problems (LLU as the leading institution), as well as five regional forums held both face-to-face and online (extensively covered by the newspaper "Zinātnes Vēstnesis" (Science Herald) and the regional press) on digitalization in business, education and governance. In 2019, according to the Digital Economy and Society Index (DESI) developed by the European Commission, Latvia had a relatively highly developed digital environment, which was not sufficiently used, especially for the integration of technologies in business, modernization and raising productivity. As suggested by Ina Gudele, SMEs that cannot afford to use global technology solutions could come up with local solutions. Digital technologies need to be used even more in lifelong learning, as well as to create new incentives for citizens to engage in entrepreneurship and ensure a more inclusive flow of information, for example, public authorities need to communicate with potential service users in such a way that they themselves come up with some solutions, not just meet the demand for digital services by the population. A representative of a municipality, Līga Lonerte, shared her experience on how to work in this field.

Latvia faces the same challenges as the rest of Europe, and the challenges are aggravated by other ones: population aging and stratification (mostly LU researchers worked on it, emphasizing the role of education and social entrepreneurship in raising living standards; geographical stratification with emphasis on participatory research); radicalization of society (RSU, influences of personality and social structure factors on agency and views on security); negative economic consequences of populism). Among the project researchers, there were many doctoral students (3 doctoral dissertations had already been defended, 5 were submitted for review), 39 research papers had been produced and indexed by Ebsco, Scopus and Web of Science, placing emphasis on open access journals, although publication costs were higher. The project researchers had participated in 34 international scientific conferences that were held online in the last six months. At the end of October, LLU, in cooperation with the Warsaw University of Life Sciences (Poland), held a conference "Trends in Regional Development in the EU Countries 2020" with the participation of Interframe-LV researchers.

Professor Inna Šteinbuka (LU) analysed the negative economic consequences of radicalizaо tion and populism, based on the significant rise in populism after the 2008 crisis and the influx of migrants (there were fears that populists could win EP elections): Italy, Greece and the United States (trade wars). Populists use people's dissatisfaction, as well as make a lot of unfulfillable promises. Populism could lead to expansionary fiscal policies, protectionism and other negative events. To some extent, this led to Brexit. Covid-19 has given rise to populism – the society needs to be careful. Examining individualism and spontaneous cooperation, Professor Sergei Kruk (RSU) described the way people solved problems themselves if the authorities ignored them. Ritma Rungule (RSU) summed up that sometimes it was the crisis that helped to get the people listened to and create optimal solutions. The key is to do so, and even if circumstances cannot be change as in this crisis caused by the pandemic, we need to adapt and continue working. Scientists have demonstrated this through their work in this national research program.

Annex 4
A Green, Digital and Knowledge-based Economy of the Future

The Institute of Economics (EI) of the Latvian Academy of Sciences (LAS) in cooperation with the project Interframe-LV held the IV International Economic Forum (EF) **"FUTURE ECONOMY: Challenges of Globalization for Europe and the Baltics in the 21st Century"**, which took place on 17 September 2021 at the LAS. At the opening of the event, the participants were greeted online by the President of Latvia, Egils Levits, through his adviser Ieva Siliņa, emphasizing the urgency for economic progress and cooperation between scientists, entrepreneurs and politicians aimed at developing a circular, digital etc. economy; Prime Minister Dr. Krišjānis Kariņš referred to exportable products as the backbone of the economy. Before making a visit to Cesis municipality, the Minister of Education and Science, Anita Muižniece, addressed the EF participants in person, emphasizing the need for high-quality human capital, research excellence and open science. The Minister of Agriculture, Kaspars Gerhards, was represented by his adviser Edvards Ratnieks, who stated that the governance of and management in the industry is based on the latest technologies, the "train of the bioeconomy is moving" and large and small farms should not be confronted. Raimonds Aleksejenko, Deputy State Secretary of the Ministry of Economics, emphasized the need for the Baltic States to cooperate and specialize more in their respective areas of strength, as well as reduce uncertainty and risks based on scientific research.

Before the plenary sessions, the LAS President, Dr. Ivars Kalviņš, signed two memoranda of cooperation: between the LAS, the Estonian Academy of Sciences, represented by its President Dr. Tarmo Soomere and the Lithuanian Academy of Sciences, represented by Dr. Jūras Banys, as well as between the LAS and the Latvian Telecommunications Association (LTA), represented by its President Pēteris Šmidre. As figuratively explained by the president of LTA, science, education and the economy form a triangle, yet the triangle cannot roll, and innovation connects everything and makes development possible, while telecommunications ensure the physical basis for this movement. He also mentioned barriers to development such as a distorted financial and banking system or "poor blood circulation" for business, an underestimation of the efficiency of private business and insufficient support to public corporations.

In addition to the neighbouring countries of Latvia in the Baltics and Scandinavia, the Central Asian region was also represented at the forum. The Ambassador Extraordinary and Plenipotentiary of Uzbekistan to Latvia, Lithuania, Estonia and Finland, Kadambay Sultanov, shared his experience in strengthening Eurasian connectivity in recent years and the integration of Uzbekistan into the global logistics network, wishing cooperation to expand and everyone to benefit from it. A representative of the National Academy of Sciences of Kazakhstan, Dr. Abdraim Bakitjan, presented a success story – the Astana International Financial Centre –, which was among the 35 best such centres in the world as an ambassador for innovative approaches. A unique model was designed for the creation of an ecosystem to attract investment (already USD 50 million), based on the English legal system, in particular by training specialists in a number of international programmes and by setting up an arbitration centre. However, a businessman and scientist from India, Dr. Kannan Vishwanatth, whose report focused on the impacts of the pandemic on international business, pharmacy and healthcare, was unable to leave his country in time to get to the forum because of Covid-19.

In the afternoon, the forum took place in three parallel sections on: 1) challenges for the Latvian state and society and the solutions in international context – the project Interframe-LV implemented under the national research program (NRP) Latvian Heritage and Future Challenges for the Sustainability of the State; section moderators were project supervisor Dr. Baiba Rivža and EI researcher Dr. Tatjana Boikova; 2) the circular economy and social entrepreneurship; moderators: EI researcher Dr. Jeļena Titko and European Commission expert in macro and regional economics Edgars Čerkovskis; 3) national competitiveness: the systemic approach; moderators: EI leading researcher Dr. Jānis Vanags and EI Director Dr. Ņina Linde who also moderated the whole event. The main supporters of the forum: Latvijas Mobilais Telefons Ltd (LMT), the Latvian Chamber of Commerce and Industry (LCCI), JSC RERE Grupa etc.

Restructuring in the national economy is inevitable

A member of the European Parliament (EP) and a member of the Committee on Economic and Monetary Affairs, as well as a participant in all four Economic Forums, Inese Vaidere, outlined the future of the economy through three priority focuses in the European Union (EU). The first is the green economy resulting from a number of objective processes: air pollution, rising temperatures, rising sea levels, devastating floods, depletion of fossil resources etc. That is why the Green Deal has been made with the aim of achieving climate neutrality by 2050 (55% by 2030) – a zero impact of human activities on the environment. In addition, the EU is not "moving ahead" of others, the United States and China also prepare for the green economy, and the first will be the most successful.

The green economy includes also the circular economy, which means not only investment but also income. We need to shift from the production of durable goods to the creation of repairable, shared and recyclable products. Solar batteries and wind energy must be used in energy efficiency solutions, while the renovation of both residential and public buildings is especially important; in Latvia, only less than a thousand residential buildings have been renovated to data. The benefits of renovation: lower bills, a higher value of property, use of local knowledge and labour, funds remain in the economy, while at the same time contributing to achieving climate goals.

Difficulties are expected with the implementation of the European Green Deal; therefore, a new financial instrument for cohesion policy – the Fair Restructuring Fund (FRF) – was established to support the transition to climate neutrality during socio-economic difficulties, thereby mitigating the impacts of change, funding the diversification and modernization of the economy and reducing the negative impacts on employment. The FRF supports investment in areas such as digital connectivity, clean energy technologies, emission reduction, industrial area regeneration, employee retraining and technical assistance. The support is also intended for the population most affected or subject to risk of energy poverty or having poor mobility opportunities, and the funding from the FRF should not go to the rich population; therefore, Inese Vaidere is not in favour of supporting the purchase of electric cars.

The second priority focus of the future economy is technological and digital progress. Latvia has relatively good infrastructure, yet the problem is insufficient digital skills for about half of the population (overall below the EU average). The third priority focus is an economy based on knowledge and highly-qualified labour. This involves high-tech manufacturing and knowledge-intensive services, as well as education and science that drive innovation. However, in Latvia expenditure on science is only 0.6% of gross domestic product (GDP), and private sector investment in research is also very low; therefore, it is high time to increase investment in the main resource in our country – individuals' minds. Inese Vaidere also drew attention to the

The IV International Economic Forum "Future Economy: Challenges of Globalization for Europe and the Baltics in the 21st Century"

Project Interframe-LV, working group.

Forum participants in the final discussion.

The forum is chaired by EI Director Ņina Linde.

President of Latvijas Mobilais telefons Juris Binde and Minister of Education and Science Anita Muižniece.

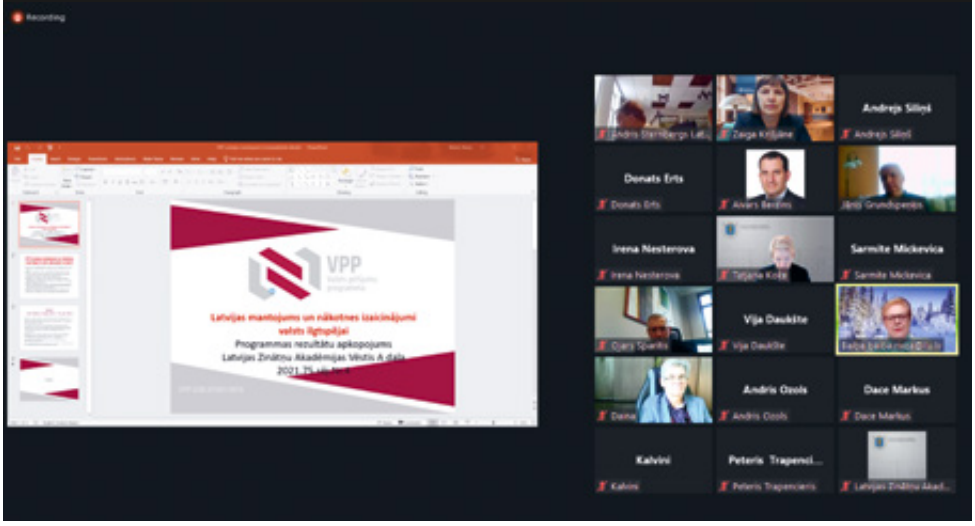
Member of the European Parliament Inese Vaidere.

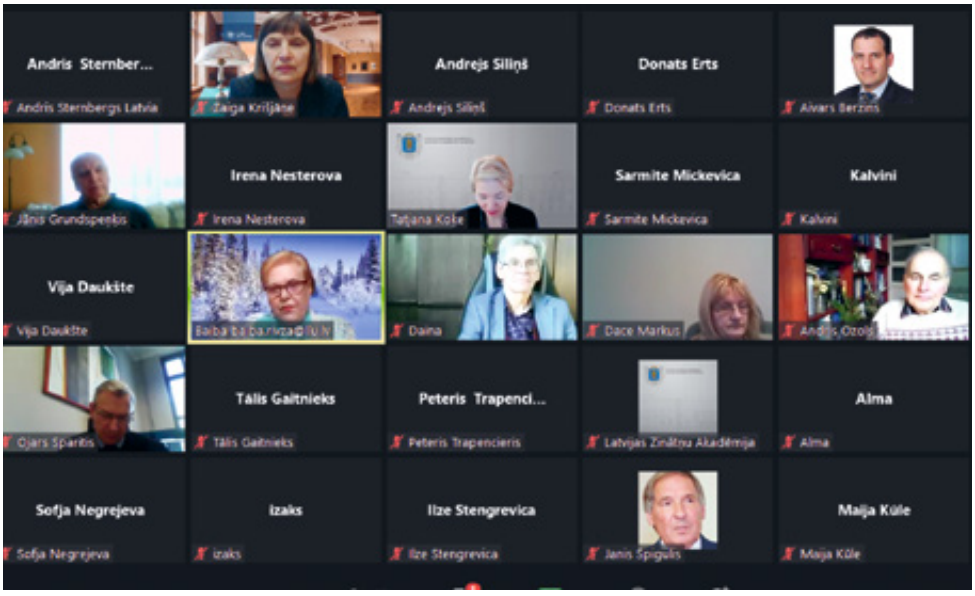
In the foreground the working group moderator and project manager Baiba Rivža and professor of Riga Stradins University Sergei Kruk.

Memorandum of Cooperation between the Baltic Academies of Sciences signed by their president (from left): Jūras Banis, Lithuania; Ivars Kalviņš, Latvia; Tarmo Somere, Estonia.

Memorandum between the Latvian Academy of Sciences and the Latvian Telecommunications Association is signed by the presidents of the organizations (from left) Ivars Kalviņš and Pēteris Šmidre.

A summary of the results achieved by the NRP Latvian Heritage and Future Challenges for the Sustainability of the State that was reported in Part A of the magazine LZA Vēstis (LAS News) was discussed at a meeting of the LAS Senate.





EU research and innovation support programme Horizon during the new programming period in addition to the large amount of funding available for Latvia from various EU Funds; Horizon funding could be acquired on a competitive basis, and researchers need to find co-funding to participate in such projects.

Shift in the paradigm under Industry 4.0

The president and the chairman of the Executive Board of LMT, as well as a participant of all the four EFs, Dr. Juris Binde, outlined the necessary change in the paradigm or conceptual framework and the problem-solving and solution pattern in the context of Industry 4.0 (we are still at the early stage). Any production process has been extended up to disposal or recycling, and fast and flexible response has become more important than planning, as decision-making is based on data from modern technologies, not just experience. The flow of information needs to be fast and effective, logistics and feedback, data availability and analysis, security and authentication are important as well.

In many cases, the problem is an interpretation of results of data processing, as the so-called human factor is involved, as well as situation forecasting and decision-making, which is attributable to the public administration and its decisions made in relation to Covid-19. Under Industry 4.0, as artificial intelligence (AI) progresses, its involvement in decision-making will increase. In addition, AI will increasingly allow getting rid of dirty, boring and dangerous work, while increasing the demand for a skilled, proactive and creative workforce. It is important to benchmark ourselves against strong cooperation partners, competitors and even opponents at the international level – "you can no longer play in the same league". A forecast on prospects need to be based on a balanced approach to digitalization, innovation and competitiveness, only then something fundamentally new is going to occur. We ourselves must be the driving force. On the positive side, now many more entrepreneurs than five years ago recognize the need to invest in research.

Based on several research studies, Dr. Jānis Vanags, put forward a hypothesis that Latvia could reach the socio-economic level of Scandinavia by 2050. But provided that governance is reformed, as the country as a social system functions in accordance with the decisions made by the government, and Latvia is currently the third poorest country in the EU; more support needs to be received from the EU to reduce disparities between the Member States, as the large number of people leaving Latvia contributes to the growth of other European countries; a legal awareness of the population needs to be improved through contributing to the prevention of tax evasion and parasitism at the expense of tax payers in the country; a waste tax needs to be introduced that could reduce consumption, at least partially reduce the depletion of global resources, and much more needs to be done. Overall, a shift is needed from a mechanical approach to a systemic approach, taking into account that elements of one system make an impact on other systems and their elements. This occurs both nationally and globally.

The president of the LCCI, Dr. Aigars Rostovskis, emphasized the need for the country to shift from a redistributive economy to a creative and profitable economy. Covid-19 crisis management has revealed that "the face of the virus is the face of economic governance", as well as a lack of greater unity in the crisis management and a seemingly separate approach to the overall process. As regards the green economy, Aigars Rostovskis expressed a concern that many businesses that need to shift to green processes could lose competitiveness in the short term and do not expect long-term benefits.

In relation to the innovative production ecosystem, Dr. Björn Fagerström from Lund

University in Sweden mentioned categories such as innovation capacity, the small and medium enterprise (SME) dimension, production growth and the mission. Even a very small enterprise could be a driver of innovation, yet the SME dimension is often ignored by various public policies, including by those in Sweden where it is not easy to raise funds to set up a business (it is easier to raise capital in the capital city, but "if you are not in Stockholm, you do not exist" – the attitude of the banking sector to inexperienced entrepreneurs tends to be described this way in Sweden). Access to the knowledge base and knowledge transfer opportunities for SMEs to innovate also needs to be improved. Small firms need a different ecosystem, yet everywhere the key factor is employees. The ability to innovate means that innovations need to be present everywhere, in every process, including the competences of employees. But everything has to begin with the government, and it has to be like a beacon – it has to ensure structures, training and feedback and follow the situation to see whether innovations tend to increase or not. To introduce new technologies and products into production, the capability of the production system to respond to the necessary changes is important. Cross-border cooperation is particularly important for small countries, and the EU's mission is to promote it, the Baltics and Scandinavia need to work together (small countries, by the way, have a higher percentage of people with higher education), cooperate on real, meaningful projects. For example: Switzerland is in the forefront of innovation in Europe, followed by Sweden, whereas Latvia is in 36th place.

We need to do without mutual insults and act constructively

In his report on scientific advice, Dr. Tarmo Soomere emphasized the need to improve the knowledge transfer mechanism, connect knowledge to administrative systems and provide feedback in the form of innovative growth as a pillar of future economic development. A research study was conducted five years ago, revealing that GDP growth in Estonia could even double if scientific research results were used properly, and this could be attributed to a larger scale. Better performing scientific advice is needed in most European countries and in the EU as a whole. Information sharing needs to be improved, although various structures are already variable, which is also a value for disseminating scientific information across various countries and industries. One piece of advice is as follows: governments need not only populist criticism, but advice! At the same time, during the Covid-19 pandemic, governments begin to appreciate the importance of public trust and the role of successful information exchange among the public. Social science research shows that the denial of official information is a consequence of a lack of trust in public administration. There was also such a strong conclusion that scientists are a privileged community who should strengthen trust in public administration. Accountability and transparency are important in scientific advice, and it is only about giving shape to a process or a public policy, but not making a decision.

The closing discussion, chaired by Austrian businessman Gerald Hopstetter, also focused on knowledge transfer and cooperation between scientists, businesses, governments and politicians. Communicating, listening and hearing is not an easy process, and much more needs to be done to improve it for everyone, including scientists, because blaming each other disrupts constructive conversation and cooperation. A lot depends on scientific findings, the quality of analyses, the scientists' ability to formulate an idea in an understandable way and make others interested in it. It is important that this does not happen in secret, but becomes known to the general public, which is the growing trend of open science. An increase in the number of researcher telephone numbers in the telephones of politicians and businesspersons would be a good sign of cooperation.

Annex 5
The number of newcomers to rural areas tends to increase

5th Parliament of Latvian Rural Communities

The researchers of the project Interframe-LV under the national research programme Latvian Heritage and Future Challenges for the Sustainability of the State have repeatedly participated in forums held by the Parliament of Latvian Rural Communities on the viability of rural areas in Latvia (to a large extent this means the viability of the country) both by participating in discussions and by surveying the participants and coming up with suggestions for future activities. The central venue for a **forum held by the 5th Parliament of Latvian Rural Communities on 16-18 June 2021** was the village of Stameriena in Gulbene municipality. The forum focused on the matters and problems of newcomers to rural areas, with most of the participants joining and following the event remotely due to the Covid-19 pandemic.

The forum stressed the trend of recent years, which was very hopeful for the viability of rural areas in Latvia – townspeople massively chose the countryside not only as a place of rest but also as a permanent place to live and work. In addition, the newcomers to rural areas who deliberately move to the regions and get involved in community life gradually shape a new perspective for the local population, namely that rural life is not a "bad destiny" or fate, but has opportunities and various advantages (beautiful nature, unpolluted air, healthy food, less stress etc.); however, everyone has to work because nothing comes for free. In economics, this process of increasing rural viability could be called the polycentric development of the country.

The interesting form of the forum and the positive atmosphere at it

It should be emphasized that the organizers[1] of the 5th Parliament of Latvian Rural Communities had not only found a deep meaning but also an attractive and creative form. This is also evidenced by the intriguing names of the working groups for sharing experience among the residents of various regions: the Secret of Doing, the Powerful Legacy, the Fulfilment of Return, the Passionate Creation Place and the Amazing Discovery. The topics of discussion proposed by the working groups together with experts on experience gained, challenges faced and responses needed were also interesting, e.g. Friends, it will be all right: a sailing school in pandemic waves (ability to adapt to new conditions); Identity labyrinths in the rake of the system (power of communities to defend their values and identities); A cat in the bag – use of participatory methods in rural areas (meaningful involvement of the population in local decision-making); Believe it or not – you can live in the countryside! Newcomers (changes caused by the return of people to rural areas); Enrichment of the lawn of rural life (socio-cultural environment in rural areas from the perspectives of belongingness to the place, education, culture and the local community); Standing still is moving back. Smart villages (encouraging local people and exploiting resources for the smart development of communities); Click and screen jungle.

1 A rural network has been established in each Member State of the European Union to involve the public in rural development. The functions of the Secretariat of the Rural Network of Latvia are performed by the Latvian Rural Advisory and Training Centre (LLKC)

Digital skills advantages (digital skills for new opportunities, services and information); Deep waters of green public food procurement (inclusion of local food in menus at municipal institutions); Pedalling for alternative energy production (individual and community-based renewable energy sources for local consumption); Yields on policies and financial investment. What seeds still need to be purchased? (rural filter for policy making and the European semester for rural investment as new tools for policy coordination).

Communication is based on hope rather than a depressed mood, which would be a basis for talking about unresolved rural problems for many years, while keeping a strong backbone on improving rural infrastructure and other fields and demonstrating that demands could be made in a respectful and constructive way without any stress and hostility. A resolution by the 5th Parliament of Latvian Rural Communities has been written with patriotism (see at the end). However, the background on all these three-day activities represented the fact that Latvia had one of the highest levels of regional inequality in the European Union.

Experience of newcomers

Dozens of experience stories told both the encouragement of living in rural areas and the warnings that those who still planned to move outside cities would face. A cardinal change of the place of residence as well as the lifestyle has allowed many individuals to get new insights and even make discoveries not only about rural life but also about themselves and their families. They might discover, for example, that children "need to be made jump in puddles" because they sit inside the home and do not know what to do outside during the first months after moving; that an urban resident could get tired of fresh air and an unusual amount of oxygen. It is necessary to get used to those living around, who are mostly divided into two groups, depending on attitudes – supportive and suspicious. Some of them admitted that if someone had given advice (if they had asked for it), it would have been much better.

Some important recommendations for future newcomers to rural areas. First, it is necessary to find a viable idea for a job and a source of income (not everyone is an IT specialist or another professional doing work remotely), and this needs to be done before moving, and there are limited opportunities to find paid work in rural areas. Infrastructure, educational opportunities etc. need also to be considered. As long as there is no financial stability, at least one family member should have a job in the city to earn a living and cover the expenses of moving. Second, some spare time is needed for equipping the new home, as unpredicted obstacles might be encountered, for example, there was a case where a large amount of waste that had to be disposed of was buried in the land purchased and delayed other activities. Local handymen, if the newcomers manage to find them, do not always follow the terms and conditions of an agreement made to do some work; however, if cleaning, e.g. chimneys themselves, they happen to fall off the roof – that would be the harsh practice as opposed to romanticism. If someone has spent thirty or forty years in the city, it takes two years to adapt to the countryside. However, if the decision to move is made, it is not advised to procrastinate for a long time because vacant properties in the countryside tend to run out, and it is more difficult to find a vacant property, as well as they become more expensive over time. Another very important recommendation is to use national and municipal support programmes for the development of both individual businesses and the community as a whole, which mainly involves writing and submitting project proposals for funding.

Caring about rural development from the EU level to the local community level

The forum discussions with various level officials considered ways (largely contained in the resolution), alongside the movement of newcomers that see great potential for rural areas, how to develop various areas in the regions or, in other words, to make the rural areas ready for new residents. The discussions launched by the European Union on how to achieve further EU integration at the economic, political and social levels, as well as the EU policy on equalization of living standards across the Member States, incl. between urban and rural areas, focused on the mentioned problems. The purpose of the new administrative and territorial reform in Latvia was to also provide equal opportunities for all residents, regardless of their places of residence. The roadmap for the way the rural areas should change (EU-level internet platform) should consider the needs of Latvia, while at the national level, wishes need to be expressed and initiatives need to be proposed to community associations and individuals. A comparison of the surveys conducted by the Interframe-LV researchers in various years revealed a positive trend – the proportion of the population who were aware of their influence on the life and development of their communities tended to increase, and there were fewer those believing "nothing depends on me, I am not able to influence processes". The initiatives expressed by some individuals provide a basis for defending the interests of Latvia in "big negotiations" abroad.

The problems that should be on the agenda for politicians, the national and local governments as well as various ministries in relation to rural development are as follows: a safe environment for living; availability of services, incl. education, with lifelong learning being widely supplied as well as funded; availability of digital solutions from both the technical and the knowledge perspectives; availability of housing for young specialists; change in attitudes and availability of new opportunities; support for also small farms (a comment in connection with large farms and large producers: "The ears of grain are waving in the fields, yet there is no more life in the fields!"); a support system with the legal framework; comfort of rural life; spread of best practices; a rural community is not a lying stone, but a watermill that generates energy.

The research started should be continued to identify how to build a knowledge society and a knowledge economy by means of digital transformation, economic diversification, education, incl. lifelong learning, the development and supply of a new kind of workforce in rural areas, thereby reducing regional disparities. The newcomers to rural areas are the messengers of change.

Resolution of the 5th Parliament of Latvian Rural Communities

RESILIENT rural areas

It is necessary to review the housing policy by developing national and municipal support programmes for the availability of quality housing in rural areas, e.g. through providing access to finances for land and housing acquisition, housing renovation and property ownership registration and solving other problems.

It is required to support the diversification of the rural economy, including economic activities outside the primary sector, including opportunities for teleworking and co-creation, as well as stimulate structural change in the rural economy through support programmes for small and medium enterprises, in particular those fostering youth employment and providing services to socio-economically excluded groups and in remote and sparsely populated areas.

SMART rural areas

It is needed to recognize the role of local initiatives – smart villages – and stimulate targeted community mobilization and cooperation by promoting the introduction and use of social and technological innovations in rural areas.

It is necessary to implement community development planning based on values, knowledge, experience and needs at the village level, including the development and implementation of municipal development programmes and policy documents, as well as to provide support for community-building and local development initiatives at both the municipal and the national levels.

It is needed to make high-quality communication infrastructure available outside cities, identify digital literacy in rural areas and provide the necessary support, incl. teachers and mentors for competence build-up, ensure equal access to public and private e-services throughout the territory of Latvia by adapting them for the rural population.

LIVING rural areas

Review housing policy by developing state and municipal support programs for the provision of quality housing in rural areas, for example, ensuring access to finance for land and housing acquisition, renovation, property rights and other issues.

Supporting the diversification of the rural economy, including strengthening forms of entrepreneurship outside the primary sector, including opportunities for teleworking and co-creation. Stimulate structural change in the rural economy through support programs for small and medium-sized enterprises, in particular entrepreneurship, which promotes youth employment and provides services to socio-economically excluded groups, as well as in remote and sparsely populated areas.

GREEN rural areas

It is needed to develop and strengthen a sustainable and strategic food system in Latvia through supporting cooperation between local producers and providing access to the local market and consumers, stimulate short food supply chains and local initiatives for the local food supply chain, as well as consumer demand for high-quality locally sourced food.

It is necessary to identify, promote and encourage individual and community-based renewable energy practices, including creating synergies between research and practice, thereby shifting to efficient and independent generation of alternative sources of energy for local consumption.

Author Annexes 3–5 Ausma Mukāne

Annex 6
Doctoral theses developed within the project Interframe-LV

The multi-annual projects implemented under national research programmes give doctoral students an opportunity to produce and defend their doctoral theses during their research – 8 doctoral theses for acquiring the Doctoral degree (Ph. D.) have been developed within the project Interframe-LV. Extensive cooperation with public authorities and the nongovernmental sector during the implementation of the projects provided an opportunity for new researchers to deliver research findings and recommendations to the relevant institutions and policy makers. Next, the annex gives a concise insight into the novelties, scientific and economic significance of the doctoral theses defended, as well as recommendations for solving problems in the respective fields.

Ina Gudele

Analysis of Electronic Commerce Use Factors in the Sector of Regional Small and Medium Sized Enterprises in Latvia – the doctoral thesis was produced at LLU; scientific supervisor professor Dr. habil. oec. Baiba Rivža. The findings of the research have been published in 14 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. 8 indexed by Scopus and 6 by Web of Science, and presented at 25 international scientific conferences and scientific seminars.

Relevance of the research. In the early 1990s, a new term emerged throughout the world – electronic commerce. E-commerce, in a broader sense – e-business – completely changed the traditions of business operations and development, thereby giving opportunities to sell, buy, supply and receive goods and services, provide information and support remotely without the need for the business parties to meet, while ensuring efficient supply and delivery as well as cash flow. The most important thing is that companies, including those in Latvia, are able to adapt to the new conditions and get the benefits of the new ecosystem.

Scientific significance and novelties of the research. A set of factors influencing the development of the digital environment and e-commerce and their impacts on business were identified. The legal framework that governs the use of e-commerce in business was analysed, the factors influencing the development of e-commerce in SMEs in the regions of Latvia were identified and analysed; scenarios for e-commerce development were designed based on the identified factors promoting e-commerce and their impacts on business; recommendations for the national and local governments and non-governmental organizations on measures promoting the use of e-commerce, which would contribute to the economic development of the regional SME sector, were developed.

Economic significance of the research. The research results of the doctoral thesis could be used by public administrations and in regional planning; they are important for SMEs for their business and exports, as well as for universities in designing their study programmes and for enterprises involved in the development of human resources for the labour market.

Main problems and proposals for solving them. (1) The SME sector of Latvia insufficiently uses the solutions provided by the latest technologies for the promotion and distribution of goods and services and is less competitive in the European and global markets, while current and potential consumers in Latvia cooperate with global companies; **therefore**, *in the programming period 2021-2027, the Ministry of Economics needs to initiate and the Investment and Development Agency of Latvia needs to implement a Digital Transformation Programme for SMEs to co-fund e-commerce solutions implemented by the enterprises, giving priority status to regional SMEs; the Ministry of Economics in cooperation with the Ministry of Environmental Protection and Regional Development, the Planning Region Development Councils and regional universities should conduct information campaigns and hold hackathons dedicated to SME problems.* **(2)** Although amendments have been made in the national legal framework for e-commerce, there are still several legal acts that do not specify the protection of consumer rights and the rights of businesspersons (the European Union has not designed a common tax policy in the field of e-commerce, which discourages SMEs in particular); **therefore**, *the Consumer Rights Protection Centre (CRPC) needs to design legal documents on supervision activities, considering consumer rights and the interests of producers of goods, sellers of goods and service providers without restricting them in operation and imposing additional administrative burdens, thereby fulfilling consumer rights to receive quality goods and services; the State Revenue Service needs to produce explanatory informative materials on commercial activities in the digital environment, tax policies and the movement of goods and services in the global digital market.* **(3)** Although there is well-developed broadband communications infrastructure for Internet use in Latvia, there are still some areas where the Internet is not available or is of poor quality for business development. The problem of developing the "last mile" sections of Internet access in Latvia is still unsolved; **therefore**, *the Ministry of Transport and the Latvian Radio and Television Centre, in cooperation with the Planning Region Development Councils and particular municipalities, need to launch a Broadband Network Implementation Project as soon as possible, placing emphasis on finishing the "last miles" of Internet access for current and potential enterprises.* **(4)** SME managers and employees do not have enough knowledge to use e-commerce and other digital solutions for business development, which hinders the enterprises from increasing their competitiveness; **therefore**, *until the end of 2023, the Ministry of Education and Science needs to design adult continuing education and professional development programmes within the European Social Fund project Enhancement of Professional Competences of Employed Persons, announcing admission to the training programmes at least twice a year and providing especially distance learning, which give training opportunities for regional enterprise managers and employees; national educational institutions delivering programmes in economics and business at any education level need to include courses Digital Economics, E-Commerce and Digital Marketing in their programmes.*

Zaiga Oborenko

Analysis of Factors Influencing the Employment of People with Disabilities in Latvia – the doctoral thesis was produced at LLU; scientific supervisor professor Dr. habil. oec. Baiba Rivža. The findings of the research have been published in 9 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. 7 indexed by Ebsco and Web of Science, and presented at 18 international scientific conferences and scientific seminars.

Relevance of the research. Promoting employment is one of the key objectives of EU social policy. Studies by the World Bank, the International Labour Organization and OECD have identified that excluding people with disabilities from the labour market is a significant loss of potential, resulting in an estimated loss of GDP of between 3 and 7 percent annually. The long-term strategy of the EU is aimed at providing equal opportunities, giving people with disabilities the right to live in dignity and independence, equal treatment and participation in the labour market and society. The employment of people with disabilities is also a topical issue for the labour market of Latvia.

Scientific significance and novelties of the research. Factors influencing the employment of people with disabilities in Latvia, incl. the most important meso-level factors have been examined and grouped; an estimate of the lost GDP due to unemployment of people with disabilities was made for the period 2010-2020; an equation for calculating the lost GDP due to unemployment of working-age people with disabilities was developed and calculations of the lost GDP were done for Latvia for the period 2017-2019; factors in disability management in a company were identified, analysed and assessed; stakeholders and their interests in promoting the employment of people with disabilities were identified; scenarios for cooperation between the stakeholders aimed at the promotion of employment of people with disabilities and their inclusion in the labour market in Latvia were developed and assessed.

Economic significance of the research. The research is important for local governments and the Association of Local and Regional Governments, the State Employment Agency, the Social Integration State Agency, the Ministry of Welfare, the Ministry of Culture, the Ministry of Education and Science, the Ministry of Environmental Protection and Regional Development (MEPRD), NGOs and employers for more effective development of employment policies and measures and long-term inter-institutional cooperation to promote the integration of persons with disabilities into the labour market. The research results help employers to understand the complex and complex factors in disability management in their organizations in order to establish an inclusive working environment and contribute to socially responsible employment.

Main problems and proposals for solving them. **(1)** Latvia has not designed a disability strategy in the field of employment, yet unemployment issues are incorporated in various policy documents for the implementation of the UN Convention on the Rights of Persons with Disabilities (2010); various ministries and institutions having no coordinated mutual communication are responsible for services and activities for persons with disabilities; **therefore**, *the Ministry of Welfare needs to design an employment strategy for persons with disabilities and specific policy-based solutions.* **(2)** Stereotypes and prejudices about disability are one of the main hindering factors in employment of people with disabilities. The general public have a little understanding of the environmental and social barriers that prevent people with disabilities from living full and active lives; **therefore**, *the discourse on disability both in national and local government institutions and the documents produced by them, as well as in media communication needs to be shifted from the medical to the social model of disability, incl. the Ministry of Welfare and the Ministry of Justice should develop and propose amendments to the Disability Law dominated by the medical disability model approach and its evaluation criteria: in Latvia, disability is determined according to the individual's incapacity for work instead of what s/he is capable of.* **(3)** Entrepreneurs and businesspersons are reluctant to hire people with disabilities because their main goal is to make profits and increase profitability and productivity, as well as lack knowledge and resources to manage disability in their enterprises; **therefore**, *the Ministry of Welfare and the Ministry of Finance needs to design a supportive and stimulating tax policy and establish a supportive quota system with a government-funded support programme for entrepreneurs and a*

government-funded mentor institution. **(4)** Due to regional disparities in economic activity, the inclusion of people with disabilities in the labour market is less possible due to a smaller number of economically active business entities operating in municipalities; **therefore**, *local governments, the MEPRD, the Ministry of Transport and NGOs should contribute to the development of business infrastructure through interregional cooperation, the supply and mobility of human resources, reduce unemployment by designing socially innovative solutions for reorganizing business functions and adapting them to teleworking.* **(5)** Municipalities have not exploited their resources and have not identified opportunities for promoting the employment of people with disabilities and have not identified working-age people with disabilities; therefore, the problem of employment of many disabled people who are not registered as unemployed or job seekers under the Support for Unemployed Persons and Persons Seeking Employment Law (2002) but who want to find a job is not tackled; **therefore**, *municipalities need to introduce a support service for people with disabilities who want to find a job; the MEPRD should include aspects of promoting the employment of people with disabilities in strategic development and policy documents, emphasizing the social and economic advantages of it.* **(6)** People with disabilities are not provided with universal environmental design so that everyone could equally receive services and integrate into the social and working life (different types of disability require different adaptation measures); **therefore**, the Ministry of Welfare needs to provide explanatory information to all ministries and responsible institutions on the principles of universal design and requirements for an accessible environment.

Dace Štefenberga

Innovative Entrepreneurship in the Economy of a Region **–** the doctoral thesis was produced at LLU; scientific supervisor professor Dr. habil. oec. Baiba Rivža and University of Latvia professor Dr. oec. Biruta Sloka. The findings of the research have been published in 16 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. one indexed by Scopus and one by Ebsco, and presented at 27 international scientific conferences and scientific seminars.

Relevance of the research. In recent decades, entrepreneurship has been perceived not only as a way to gain individual benefits and profit but also as an instrument for creativity and sustainability in the context of global challenges, as high levels of entrepreneurship innovation create a significant domino effect across the economy. In addition, it is necessary to promote not only technological innovations but also non-technological innovations, a continuous process of learning and research on new forms of organization and new markets. A new knowledge is an important source of business opportunities. National institutions influence the ability of potential businesspersons to use the available knowledge to create and develop innovative entrepreneurship. Polycentric development is the only essential conception of spatial development that contributes to meeting the needs of all stakeholders, yet Latvia is still dominated by monocentric development.

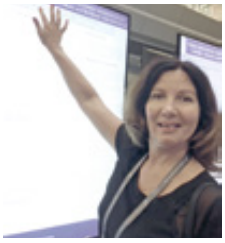
Scientific significance and novelties of the research. The doctoral thesis complements national research with a new scientific summary on innovation theory, its role in a regional economy, emphasizing the role of innovation as change. The systems approach model developed emphasizes the role of cooperation in introducing innovations at the individual and

institutional levels on various scales from the micro to the mundo level. The model was tested in a regional context in Kurzeme region. Factors influencing regional entrepreneurship were identified: the geographical proximity of companies and cooperation between the components of the regional innovation system. The research papers produced for testing the research results gave an insight into the research problems and supplemented international databases.

Economic significance of the research. The research results could be practically used for planning regional economic development and drawing up recommendations for promoting cooperation between the individual and institutional levels. An analysis of the largest companies and the sectors they represented in 2020 based on data from the Lursoft database allowed making new findings for Kurzeme region and relevant findings on the process of economic transformation. Surveys of entrepreneurs conducted in the region in different periods and their analysis gave an opportunity to identify the challenges and opportunities to deal with them in the future, as well as develop recommendations for the development of regional entrepreneurship (including innovative) and the region.

Main problems and proposals for solving them. **(1)** Numerical indicators were used to assess innovation at the macro level and in a global context, which poorly revealed the situation at the regional level and at the micro level; **therefore**, *global organizations (the World Bank, the IMF etc.) need to enhance ranking methodologies to obtain more complete data and identify the situation, which would involve qualitative assessment, thus addressing gaps in current models and systems; however, when changing the methodologies, it is recommended to use data interpretation methods allowing for multi-year data comparison; the MoE, the MoES and LIAA need to additionally motivate entrepreneurs, non-governmental organizations and other actors involved in innovation to get engaged in designing this policy, as the EU Smart Specialization Strategy is based on knowledge, research and innovation; however, the entrepreneurs are not sufficiently engaged in innovation policy-making*. **(2)** Strategic policy documents and regulation at all institutional levels for regional development and innovation are not implemented as planned, and the stakeholders are not sufficiently engaged in this process. **therefore**, *public administration institutions, local governments and local communities need to be involved in the development and implementation of a cooperation model appropriate to the specifics of the region in order to promote the development of innovative entrepreneurship and the knowledge economy; national development priorities need to include the improvement and sustainability of the business environment, even after the end of the period of availability of public funding, in order to foster polycentric national development and reduce the risk of depopulation; the MoES needs to contribute to the availability of education and science in the regions as the basis of intellectual capital for the needs of the national economy, the involvement of students in active learning through engaging in business while at the same time acquiring theoretical knowledge at university to meet the need for human resources skills projected for the world in 2025; education and science policies need to promote the introduction of new teaching methods to build up the ability to perceive and take advantage of change in a dynamic environment before it occurs; the MoF needs to consider tax relief for entrepreneurs introducing innovations in the companies, cooperation with research institutions and involvement in regional clusters.* **(3)** There is insufficient cooperation at the institutional and individual levels in creating innovations; **therefore**, *the legal framework set by the MoE needs to increase the opportunities for clusters to increase their cooperation; research needs to be funded from the MoES budget to the extent of 100%, incl. in cooperation with the private sector, thereby facilitating the prerequisites for hiring researchers to solve business problems; regional universities, entrepreneurs and municipalities need to increase their cooperation in order to commission/use research on efficient use of local resources: territory, population, business opportunity etc.* **(4)** There is insufficient interest

in implementing innovations at the micro level; **therefore**, *regional administrations, in cooperation with local governments and higher education institutions, need to contribute to the factors conducive to innovation for the foundation and development of new enterprises (in Kurzeme region, several municipalities specializing in industry provide the following resources: infrastructure for living and working, including for young specialists, and professional development); the LCCI, regional business incubators, business support institutions and sectoral organizations in cooperation with the MoE need to provide information, advice and support to companies in developing innovative ideas; the systems approach model developed and presented in the doctoral thesis could be used for the implementation of cooperation at the micro-regional-macro level.*



Ligita Āzena

Territorial Competitiveness for Smart Business Development In Pieriga Region – the doctoral thesis was produced at LLU; scientific supervisor professor Dr. habil. oec. Baiba Rivža. The findings of the research have been published in 21 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. 2 indexed by Scopus and 2 by Web of Science, and presented at 22 international scientific conferences and scientific seminars.

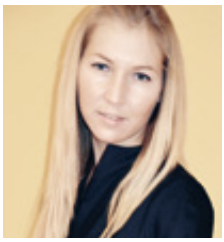
Relevance of the research. Territorial competitiveness involves a range of specific activities from an assessment of the potential of the territory through to achieving a high and sustainable standard of living and growth in the respective region. Today in the world and in Latvia, several regions are facilitators of knowledge, these are the regions with a higher population density and strong and steady trends in growth of information and communication technologies (ICT). Such regions often include large cities and nearby economically developed territories, and convergence with regional centres and the formation of specialized regional and urban territories occurs there. As centres of knowledge and ICT, such cities and regions are open to international activities, provide the best career opportunities, attract skilled and talented labour, link labour supply and demand, have a high quality of life and attract businesspersons and investors. An important objective for regional administrations is to increase competitiveness by cooperating with all municipalities of Pieriga region and also involving the city of Riga and exploiting its potential to raise the international competitiveness of the whole region.

Scientific significance and novelties of the research. The main criteria for territorial competitiveness and their connection with the development of smart business have been established; the factors affecting the development of smart business in Pieriga region have been developed, grouped and clearly demonstrated based on the theoretical and practical research; an analysis of smart economy and smart business development indicators for Pieriga region has been performed; the most appropriate evaluation criteria for the development of smart business have been identified and, based on them, the competitiveness of Pieriga region has been determined; a competitiveness assessment matrix and proposals for the development of smart business in Pieriga region have been developed.

Economic significance of the research. The research is relevant for Pieriga region municipalities and businesspersons to design smart business development guidelines in accordance with the region's competitive advantages and the relevant regional development policy documents, considering the economic indicators, resources and opportunities of the territory, as well as the priorities for development set by the NDP 2027. As a result of the research, a

competitiveness assessment matrix and proposals for raising competitiveness have been developed with the aim of promoting the development of smart business in Pieriga region.

Main problems and proposals for solving them. **(1)** Territorial administrations do not contribute to the competitiveness of their territories and do not develop measures for attracting certain target market groups: residents and smart enterprises; **therefore**, *the territorial administrations should contribute to the competitiveness of their territories both locally and internationally, thereby creating an attractive environment for business and investment through: developing a marketing plan to attract a specific target market group (residents and smart enterprises), addressing a number of key challenges: social development, environmental protection, competitiveness and long-term strategic planning, providing their residents and businesspersons with equal opportunities based on their specific territorial and local potential, taking support measures for businesspersons and focusing on specific kinds of economic activity or products, i.e. specializations in certain areas*. **(2)** The municipalities of Pieriga region do not develop measures to promote high value-added business and efficient and creative use of local resources; **therefore**, *the municipalities of Pieriga region need to: contribute to appropriate and suitable development and cooperation for smart business in the region and a suitable infrastructure and supply of services, as well as implement joint activities in cooperation with the Riga Association of Local Governments "Riga Metropolis"*. **(3)** Measures are not developed to increase the territorial competitiveness of the whole Pieriga region and each municipality individually in relation to the development of smart business; **therefore**, *the municipalities of Pieriga region in cooperation with the Riga Association of Local Governments "Riga Metropolis" need to: strengthen the competitiveness of Pieriga region in compliance with 6 prerequisites for the development of smart business, the sequence of which was determined by the expert evaluation (transport and mobility, strengthening both the regional and international competitiveness of the region, coordinated development of environmental protection infrastructure in the region, the development of a circular economy, development of an innovative business and knowledge-intensive product sector, public services), use the results of clustering of Pieriga region municipalities according to the basic development indicators proposed by the author for the implementation of measures to increase the competitiveness of a territory as well as the municipalities of Pieriga region need to cooperate with sectoral ministries (MEPRD, MoES, MoE, MoT etc.) to jointly design development plans and measures.*



Ilze Priževoite

***Remuneration and Performance of Teachers of General Education Institutions in the Regions of Latvia* –** the doctoral thesis was produced at LLU; scientific supervisor professor Dr. oec. Gunta Grīnberga-Zālīte. The findings of the research have been published in 7 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. one indexed by Scopus and 6 by Ebsco and Web of Science, and presented at 7 international scientific conferences and scientific seminars.

Relevance of the research. The teacher profession has long been in the public spotlight, highlighting challenges to education system reforms, the need to raise the quality of education and the efficiency of the education system. One of the most important issues in this discourse is remuneration, quality and performance. Requirements for the teacher profession grow and become more complex. In contrast, financial remuneration is not adequate in view of current

economic changes. This problem is especially pronounced in the schools located in the regions of Latvia. Since 2009, when the remuneration of teachers was set according to the funding principle "Money follows the educatee", there has been a large differentiation in teacher remuneration rates between educational institutions with large, medium and small numbers of educatees. The teacher remuneration system does not ensure a motivating and fair salary for a full-time equivalent workload. Teachers tend to go on strike and picket to express their dissatisfaction with their low remuneration. However, the government demands to increase the quality of education along with any increase in remuneration, so that the remuneration is always linked with the quality of education. As the dissatisfaction of teachers increases, the consequences might cause a threat not only to the education sector but also to the economic and public sectors in Latvia in the future.

Scientific significance and novelties of the research. The national theoretical research basis has been supplemented with the problems of labour demand and supply at macro, micro and regional level; an original and detailed research study on the factors influencing the performance of teachers broken down by region of Latvia has been carried out; factors influencing the procedure of remuneration of teachers in Latvia have been identified, grouped and presented, incl. broken down by region, based on theoretical and practical research studies; economic and social problems in the regions of Latvia after introducing the teacher remuneration principle "Money follows the educatee" were identified; a link between remuneration and performance was identified, proving that the remuneration of teachers was a motivating or demotivating factor in their performance, as well as other factors that motivated/demotivates teachers to perform better were summarized.

Economic significance of the research. The research identified the ways how to attract and retain qualified and competitive education professionals in the regions of Latvia; the procedure of remuneration of teachers improved by the MoES was significantly supplemented, and mechanisms for increasing the performance of teachers were designed; the research findings were submitted to the Latvian Trade Union of Education and Science Employees (LIZDA) for defending and arguing the economic, social and professional interests of teachers; practically usable findings for local governments and principals of educational institutions in the regions of Latvia were made to develop mechanisms for increasing the performance of teachers; practically usable findings were also provided to other ministries of the Republic of Latvia, which reveal the factors contributing to the performance of those employed in the respective fields.

Main problems and proposals for solving them. **(1)** In the scientific literature and daily communication in the fields of economics and management, incl. in MoES communication with teachers, the terms "remuneration" and "wage or salary" are often interpreted ambiguously and are considered synonymous; **therefore**, *the Parliamentary Committee for Social and Labour Affairs needs to submit a draft law "Amendments to the Labour Law" to the Parliament so that at the national policy-making level, there is a unified and clear understanding of the term remuneration; the terms "salary", "wage" and "remuneration" need to be specified in the courses Microeconomics and Macroeconomics at all levels of education.* **(2)** At present, there are shortcomings and contradictions in ensuring the succession of policy documents of the Republic of Latvia; **therefore**, *the Cross-Sectoral Coordination Centre needs to ensure that the relevant legal framework does not contradict both the provisions of international documents and the provisions of national policy documents.* **(3)** The funding model "Money follows the educatee" often fails to ensure fair and motivating remuneration in general education institutions across the regions of Latvia; **therefore**, *the MoES needs to significantly improve the teacher remuneration principle "Money follows the educatee": a teacher full-time equivalent workload needs to be set at 40 working*

hours per week, the lowest monthly salary rate needs to be increased to EUR 1 053, the term "lowest monthly salary rate" needs to be replaced with the term "lowest monthly salary", the number of contact and working hours for extra responsibilities needs to be set, additional funding from the government is needed to increase the lowest monthly salary rate, the lowest salary rates need to be set (levels of quality of professional activity need to be aligned with one of the rates), it is required to increase the number of coefficients, considering the density of educatees in cities of national significance and municipalities, and set a coefficient of 1.25 only for educational institutions located in municipalities with a low number of educatees per square kilometre, as well as submit to the government for approval a motivation system plan developed together with the social and cooperation partners; once a year (until 15 November), LIZDA needs to analyse data on teacher full-time equivalents, test the improved procedure for funding teacher remuneration, as well as more actively use various information channels for the civic participation of teachers and their involvement in the development of their profession; local governments need to make sure that teacher remuneration is set based on the principles of equality; school principals need to hold a general meeting of teachers once a year (before the approval of teacher remuneration by the educational institution) to inform them about the procedure of distribution of available funding. **(4)** In Latvia, the mechanisms for increasing the performance of teachers are not sufficiently motivating and should be improved to contribute to the performance of teachers; **therefore**, *policy makers need to more inform the public about the achievements of the education system and explain the importance of the teacher's work in the mass media and social media; the MoES needs to request additional funding from the government so that educational institutions dealing with educatees with special needs have the necessary support personnel, as well as identify, forecast and monitor the future needs of educational institutions for relevant job vacancies, and identify teacher professional retraining needs throughout Latvia; local governments need to allocate additional funding for rewarding teachers for personal contributions under the line item "salary fund" when drafting their annual budgets, at meetings of the councils of cities of national significance and of municipalities, it is needed to discuss the issue of applying the Law on Remuneration of Officials and Employees of State and Local Government Authorities also to teachers, municipal deputies need to meet with teachers twice a year, school principals need to hold general meetings of teachers twice a year, thus enabling the teachers to express themselves freely, as well as listen to them and answer their questions and jointly plan potential activities in the team to take care of a good microclimate.*

Eduards Lielpēters

***Opportunities and Limitations of Digital Democracy in Latvia* –** the doctoral thesis was produced at the University of Latvia; scientific supervisor professor Dr. oec. Biruta Sloka. The findings of the research have been published in 11 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. one indexed by Web of Science and 4 by Ebsco, and presented at 3 national and 20 international scientific conferences.

Relevance of the research. Resident participation in decision-making helps to improve the decisions made by public administrations, and there is a wide range of fields where this is possible. In Latvia, only a small segment of the population personally participates in the decision making of public administrations. Consequently, decisions that affect the lives of all residents, i.e. both individuals and businesses, are taken with the participation of only a small

number of stakeholders representing the public and the business community. The situation where the majority of the population does not actively participate in decision-making becomes a problem if the residents question the decisions made and do not trust the public administration. Such a problem currently exists in Latvia; therefore, there is a need to promote resident participation. This could be done through actively informing the public about available opportunities for participation or developing new methods of encouraging participation that can attract the interest of a larger segment of the public.

Scientific significance and novelties of the research. The opportunities and limitations of improving the business environment have been analysed, taking into account the advantages of digital democracy in expanding the representation of stakeholders in addition to the usual non-governmental and lobbying organizations represented, thus fostering also the individual participation of residents in decision-making. The doctoral thesis gives a detailed rationale for why public administrations need to change the current top-down and informative form of communication to more open and two-way communication so that the business environment could be improved by means of the participation of the population. An analysis of the content of more than 3000 posts on the ministries of Latvia published on Facebook over a 6-month period gives an overview of the current situation, which is objectively incomprehensible to a daily social media follower. The analysis of the research results provides a clear understanding of how the institutions currently reflect on and promote resident participation.

Economic significance of the research. The methodology developed for promoting digital participation gives an opportunity to improve the pattern of current participation of the population in Latvia, encouraging improvements that are modern and in line with the interests of the population, thus helping to create a digital environment in which individual residents are motivated and able to participate in the decision making of public administrations. The methodology represents a practical solution for public administrations, which can help to increase cooperation with the population and thus jointly improve the business environment in Latvia. The proposed solution encourages Latvia to become a model of digital democracy for other countries. This is in line with current views in the European Union on digital transformation, as well as the need to increase resident participation and develop a resident-centred business environment.

Main problems and proposals for solving them. **(1)** Low trust rates in public institutions and low participation rates in decision-making are considered to be a crisis – a problem that needs to be addressed in Latvia as soon as possible; **therefore**, *it is necessary to raise awareness that good relations between residents and public administrations are a fundamental value. Implementing it, the public administration needs to play a leading role, thus stopping the current expectations, as the institutions hope that the situation will be improved by someone else - the non-governmental sector, educational institutions, the mass media or the residents themselves. Digital solutions provide faster, more convenient and relatively cheaper solutions for communication and cooperation with residents - opportunities that did not exist before, but could now be used to increase resident participation and public confidence in public authorities.* **(2)** National public administration institutions have different views and habits on how to use the digital environment for stakeholder participation, and two-way communication opportunities are underused; **therefore**, *the institutions need not only to plan more carefully what content is distributed and through which communication channels but also to be more active in promoting the digital environment as a place where residents can access public administrations, e.g. by emphasizing that it is a formal, reliable and expeditious way of obtaining information from and communicating with public authorities. At the same time, first of all, one needs to be able to publish content that is engaging*

and interesting to residents, as the residents do not want to follow a social media account that publishes superficial content or is arrogant towards the followers, perceiving them as simple recipients or ignoring their communication efforts in the sections of comments and direct communication. **(3)** In Latvia, a relatively small segment of the population participates in the decision making of public administrations and the current participation mechanisms are not always easily accessible to individual residents; **therefore**, *the methodology for promoting digital participation in Latvia needs to be introduced at three stages: at the first level, public authorities educate the population about the participation process and current matters; at the second level, institutions give residents digital opportunities to participate in decision-making. The third level provides a long-term link and a reliable environment for cooperation between the public administration and the population, achieving the goal by providing feedback and maintaining two-way communication, as well as indicating how the residents' opinion was used in decision-making and the result was achieved.* **(4)** Although the population of Latvia is active in the digital environment and public administration institutions are increasingly represented on social media, companies and influencers usually have more followers on social media than the institutions; **therefore**, *it is necessary to create a digital map of all social media accounts and other digital solutions used by national institutions and their subordinate bodies. This would help the institutions to be more active in promoting the content created by their colleagues. Public access to such a digital map would increase the population's knowledge of the digital activities of national institutions and increase the number of followers of institutional accounts, thereby also increasing the number of residents who are ready to communicate with the national institutions in the digital environment. The creation of such a digital map is a relatively easy and quick task and does not require large additional costs, so it could serve as a useful step towards increasing the digital presence of public administrations.*

Aija Pilvere

Stock Market Improvement Opportunities for the Development of the Baltic States **–** the doctoral thesis was produced at LLU; scientific supervisor professor Dr. habil. oec. Baiba Rivža. The findings of the research have been published in 12 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. 4 indexed by Scopus, 2 by Web of Science and one by ERIH PLUS, and presented at 13 international scientific conferences, one international scientific forum and one scientific seminar.

Relevance of the research. The financial system is an important and significant component of the economy of every country or region as well as the whole world that consists of banks and other financial intermediaries that ensure the functioning of the capital and stock markets. Insufficient access to finances and financial capital is considered to be one of the main barriers to the successful development of the financial market. More integrated and better synchronized stock markets are needed to stimulate economic growth and stability. If a company's shares are listed on a stock exchange to raise the necessary financial capital, the stock market increases in size and becomes more attractive to investors and other companies that want to raise financial capital by issuing shares or bonds as an alternative to bank financing. Companies use this kind of finance to expand and consequently contribute to economic growth and development in the country and region in which they operate. Over the last two decades in Europe, the banking sector and the stock market have been significantly affected by several global

crises; therefore, measures have been taken to create a dynamic stock market in Europe and thus stimulate economic growth.

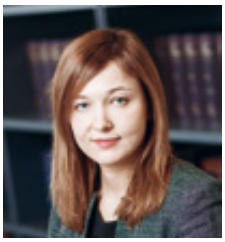
Scientific significance and novelties of the research. The doctoral thesis provides both theoretical and empirical scientific and economic novelty. The analysis performed and the proposals developed suggest how to improve a scientific examination of the financial performance and capital structure of listed companies. The stock markets of the Baltic States were compared with the performance of companies listed on the stock exchanges of the Nordic EU Member States. The macroeconomic indicators of the Baltic States and the performance indicators of their companies were compared with those of the Nordic EU Member States and their listed companies. The scientific aspects of financial capital for the period since the beginning of the 20th century were examined, as well as companies listed on the stock markets of the Baltic States were empirically analysed and compared with companies listed on the stock exchanges of the Nordic EU Member States, as their capital structures have changed significantly over the last decade. The financial performance and capital structures of listed companies in the Baltic States, their changes were analysed and compared with those of listed companies in the Nordic EU Member States. None of the theories on capital structure, except an attempt to identify an optimal capital structure or key factors, has conducted detailed research on and done analyses of a large number of companies, thereby linking capital structure factors to all three components of corporate financial reporting: a) a balance sheet, b) a profit or loss account, c) a cash flow statement.

Economic significance of the research. The comparative analyses of the performance of the financial system in the Baltic States have so far been incomplete. Therefore, a combined assessment of the stock markets of the Baltic States and its comparison with the performance of companies listed in the Nordic EU Member States could provide new information to national institutions, researchers and other stakeholders to assess the need for further analyses and be able to learn from successful cases that would foster growth and long-term development in the other Baltic States. A new term "capitalization gap" was developed and the stock market capitalization gap for the Baltic States was estimated for the period 2008-2018, establishing that the stock market capitalization gap has emerged mostly in Latvia, where the largest decrease in the number of listed companies and their market capitalization value was reported by the stock exchange. Companies would benefit from the financial profiles of listed companies in the Baltic States and the Nordic EU Member States calculated by the author, as they could compare their performance before listing, while researchers could use the research results for further research on business and capital markets. The financial profiles of listed companies were developed by analysing the absolute and relative financial performances of 50 listed companies in the Baltic States and 510 in the Nordic EU Member States for a 15-year period from 2004 to 2018. The author examined and calculated the financial performance indicators of Ltds and JSCs registered in Latvia and compared them with the financial profiles of listed companies in the Baltic States and the Nordic EU Member States in order to identify their potential for listing on the stock exchange. The calculations allowed deriving 5 universal conversion factors from the financial performance indicators of listed companies in the Baltic States and the Nordic EU Member States, which could be applied to identify the average values of companies not listed on the stock exchanges of Estonia, Lithuania and other countries. By using the conversion factors calculated, the author examined the Ltds registered in Latvia that could change their status to JSCs in the future, as well as the potential of JSCs to list their shares on the stock exchange, and designed and evaluated three scenarios. It was assessed whether the stock market of Latvia could reach the level reported in the neighbouring countries and the Nordic EU Member States

as well as the EU average in terms of stock market capitalization as a percentage of GDP.

Main problems and proposals for solving them. (1) As a result of historical evolution, the stock market of Latvia is the smallest among the Baltic States both in terms of number of listed companies and capitalization and has decreased significantly in the period 2004-2018, while Lithuania and Estonia have experienced moderate growth since the global financial crisis. In Latvia, the national support programme for companies to be listed on the stock exchange targets inappropriate companies, as the companies for which the support instruments are intended are significantly smaller in size than listed companies; **therefore**, *the MoE, the MoF and Nasdaq Baltics need to develop the stock market of Latvia within 5-10 years, implementing the minimum scenario designed by the author; as a result, it would be necessary to list at least 26-51 new companies on the stock exchange. Their market capitalization would range from EUR 1.6 to 3.2 bln., thereby fostering growth in the stock market and the national economy in the other Baltic States. Therefore, it is necessary to examine the possibilities of improving support instruments and EU and other support programmes, targeting also large companies to be potentially listed on the stock exchange, as well as easing eligibility criteria for medium companies to apply for the support. It is necessary to develop a legal framework that would focus on attracting financing from small and medium investors in Latvia, as large investors have ample opportunities on the stock market, reduce the share capital requirement for the establishment of joint stock companies to EUR 25000 and provide an opportunity for companies to conditionally increase their equity capital just like in Estonia, create a favourable business environment and provide a stable macroeconomic situation in order to contribute to the establishment of new companies and the development and growth of existing ones, so that they can list their shares on the stock exchange, as well as examine and interview companies registered in Latvia about their potential readiness to list their shares on the stock exchange, identify the reasons that deter the companies from listing their shares and encourage individually and interest medium and large companies in beginning listing their shares in Latvia.* **(2)** In order for a company to begin listing its shares on any of the stock exchanges of the Baltic States, it needs to become familiarized with and meet different eligibility criteria in each country, which is a complex, slow and different process that creates significant costs for the company when both beginning listing and being listed on the stock exchange; **therefore**, *the MoE, the MoF and Nasdaq Baltics need to agree to establish a common Baltic stock exchange platform. Thus, the listing of a company on a stock exchange could be carried out in accordance with the harmonized and uniform rules of all the Baltic States, which is similar to the operation of the single Central Depository. It is necessary to consider the possibility of simplifying the listing process and relevant documents, so that a company's employees can prepare the documentation for listing on the stock exchange themselves and buy the services of consultants only in case of more complicated situations, thereby reducing listing costs. The stock exchanges also need to be enhanced and merged to reduce fixed costs.* **(3)** Information on banks and listed companies is available in various databases: on the websites of Nasdaq Baltic, the Bank of Latvia, the Financial and Capital Market Commission of Latvia, the Central Statistical Bureau, the Register of Enterprises, the Bank of Lithuania and the Bank of Estonia. This does not make it easy and quick to acquire information for research, the information is fragmented and incomplete. It is necessary not only to obtain and analyse information but also continue research studies on the development of the stock market; **therefore**, *the Bank of Latvia and the Financial and Capital Market Commission, as well as the Central Statistical Bureau and the Register of Enterprises need to coordinate activities in relation to obtaining and collecting information in order to make the information available and comprehensible; it is necessary to: improve and simplify the information on commercial banks included in the database, cooperate with the statistical offices of Lithuania and Estonia, so that their reports*

and the indicators included in them are more comparable, and investors, policy makers and researchers can more accurately analyse and compare the indicators of the Baltic States and companies. Scientists interested in this field need to: research in depth the financial performance of listed companies and further analyse the financial performance of companies registered in Lithuania and Estonia as potential for the development of the stock markets of the Baltic States, as well as examine whether the situation in the bond market is similar to that in the stock market and whether the average profiles of companies are in line with the target profile of nationally supported companies in the bond markets.



Natālija Kostrikova

Opportunities for Blockchain Technology Adoption in the Economy of Latvia in the Context of Baltic States Region – the doctoral thesis was produced at LLU; scientific supervisor professor Dr. oec. Gunta Grīnberga-Zālīte. The findings of the research have been published in 5 papers in international journals and in national journals recognized by the Latvian Council of Science, incl. 3 indexed by Web of Science, one by Scopus and one by Ebsco, and presented at 9 international scientific conferences and scientific seminars.

Relevance of the research. Blockchain is the technology of the medium-term future, which is gradually being implemented in many countries around the world, both in private and public projects, and is shaping the Internet of future - Web 3.0, which will implement blockchain-based protocols for decentralized data and decision-making. Current studies on blockchain adoption factors are limited to particular use cases, such as crypto-currencies, supply chain solutions and payments. Therefore, it is necessary to apply a more holistic approach in order to study blockchain technology adoption within a national economy. In order to investigate factors and assess potential directions for blockchain technology adoption in Latvia, it is necessary to analyse global and local technological trends, blockchain solutions and regulatory developments globally and regionally and investigate interconnections between blockchain up-take and preceding measures by highlighting the factors that drive blockchain technology adoption by stakeholders and subsequently foster development and adoption of blockchain solutions in various application areas.

Scientific significance and novelties of the research. The conducted research is the first scientific research on the topic of blockchain technologies in Latvia and complements not only the Latvian but also the international research basis with a unique scientific work on blockchain technology adoption factors in the context of economic development and definition of possible blockchain innovation and adoption directions in the national economy. Scientific research papers developed and published to test the results of the research complement international scientific databases, where available research mainly studies blockchain adoption factors on micro-level and in specialized blockchain technology application areas.

Economic significance of the research. The results of the PhD thesis are practically applicable for facilitating blockchain technology adoption in the economy of Latvia as well as for identification of development areas requiring particular focus. The results of the research would be particularly useful for the Ministry of Economics in development of policies and actions to strengthen blockchain innovation systems in Latvia, the Ministry of Environmental Protection and Regional Development to justify the applications of blockchain technology to

promote the priorities set in the national digital transformation policy and the Ministry of Finance to evaluate and define the extent of Latvia's crypto-friendliness and regulation.

Main problems and proposals for solving them. (1) There is a need for developing blockchain innovation system in Latvia; **therefore**, *the MoE needs to develop a national blockchain strategy, identify the priority areas for blockchain solution piloting, establish support mechanisms and infrastructure for development of blockchain solutions in the identified areas and visible public communication about supported measures for blockchain technology innovation in Latvia; the MEPRD needs to include blockchain technology into priority areas of the National Digital Transformation Guidelines for 2021-2027, undertake activities to strengthen technical skills of government and private partner employees in blockchain innovation and adoption and promote cooperation between public and private partners.* **(2)** There is a need for strengthening the regulatory framework for blockchain solutions in crypto space and the financial services industry in Latvia; **therefore**, *the MoF should consider conducting a joint research study with the MoE on economic benefits and associated risks from activities of virtual asset service providers in Latvia and define further steps to facilitate and efficiently supervise their activities, as well as develop a specialized vision, regulation and/or licensing regime for virtual asset service providers; the State Revenue Service in collaboration with the FCMC and/ or CRPC should consider developing either in-house or collaborative solutions to supervise activities of virtual asset service providers, specifically in the AML/CFT area.* **(3)** There is the need for strengthening a blockchain governance framework in Latvia; **therefore**, *the MEPRD should consider developing a digital backbone for public administration functions and services, set technical standards and cyber security safeguards, facilitate blockchain adoption by the private sector through providing opportunities for interoperability with public services, establish a specialized blockchain governance association comprised of public and private partners, which would address various governance issues in the blockchain ecosystem ensuring relevant oversight.* **(4)** There is a lack of market opportunities in Latvia for development of blockchain technology solutions; **therefore**, *blockchain technology developers, project promoters, as well as academia and consultants should consider joint collaborations in researching and organising informative activities, e.g. industry specific publications in the press, seminars and/ or workshops on the topic of application of blockchain solutions in various areas, with hands-on demonstrations of blockchain benefits over existing solutions and their applicability to systems and business models in Latvia; the FCMC is encouraged to extend the applicability of fintech sandbox environment to possible blockchain solutions.* **(5)** There is a lack of Latvia's visibility in the international blockchain landscape; **therefore**, the MoE should consider conducting international branding activities by means of the Investment and Development Agency of Latvia targeted at improving Latvia's image in international blockchain landscape; however, before performing those activities, it is crucial to address the above-mentioned problems.

Annex 7
Achievement of the horizontal objectives of the project in 2019–2022

Results achieved*	Result in numerical terms	
	Unit of measurement	Number
1. To establish and develop groups of individual scientists in the thematic areas of the programmes	Scientist group	10
2. To establish and develop interdisciplinary internationally competitive groups of scientists who apply the latest research methods and technologies in their scientific research activities	Cooperation with international organizations and universities: the Nordic Association for Agricultural Science and the Standing Committee on Agricultural Research (SCAR), Germany, Finland, Slovakia, Belarus, Norway, Lithuania, Estonia, universities of life sciences of the Nordic and Baltic countries	11
3. To develop cooperation between research groups and the respective industry of the economy, including to train specialists needed for the industry	Produced and defended: master theses doctoral theses	 11 8
4. To participate in the educational process through providing work placements and job opportunities for students, developing master and doctoral programmes related to the research programme	Doctoral students: Latvian Academy of Sciences (LAS) LLU RSU LU Master students: LU Programme development by universities	 2 3 4 2 1 3
5. To participate in international networks and consortia, as well as implement projects under European Union framework programmes and other international programmes	Participation in international projects: the European Training Foundation; RSU in cooperation with the University of Tartu, Kaunas University of Technology and the University of Stavanger; Ventspils University of Applied Sciences and the LAS in cooperation with the Norwegian Institute of Bioeconomy Research, the Estonian University of Life Sciences and Vytautas Magnus University (Lithuania); International cooperation within the Interreg Baltic Sea Region project "Baltic Blue Growth"; the international project "Innovation Tourism Manager Divina Designer under ERASMUS +"; a joint project of Lithuania, Latvia and Taiwan "Memory of Cultural Heritage as a Cultural Identity for the Development of Creative SMEs for Tourism in Lithuania, Latvia and Taiwan"	6
1. To foster knowledge transfer through involving the public and raising the public's awareness of the role of research in and the contribution to addressing societal challenges, as well as involving relevant target audiences	Regional and discussion forums	13
2. To foster knowledge transfer through designing action policies and assessing the implementation	Contracts concluded to transfer intellectual property	4
To ensure the implementation of the programme, the project implementers cooperate in joint activities (for example, original research articles, public awareness events, conferences and seminars)	Research papers Conference plenary session reports Conference section reports Research project seminar, meeting and session reports	78 (incl., 2 in Q1 and Q2 journals, 2 in OPEN ACCESS, 13 in SCOPUS and 4 in EBSCO databases) 10 119 21

Abbreviations used in the monograph

HEI	Higher education institution (augstākās izglītības institūcija)
AI	Artificial Intelligence (mākslīgais intelekts)
AHP	Analytic Hierarchy Process (hierarhiju analīzes metode)
AML/CFT	Anti-Money Laundering/Combating the Financing of Terrorism (Noziedzīgi iegūtu līdzekļu legalizācijas novēršana / Terorisma finansēšanas apkarošana)
RRF ANM	Recovery and Resilience Facility (Eiropas Atveseļošanas un noturības mehānisms, ANM)
UN	United Nations (Apvienoto Nāciju organizācija, ANO)
UN SDG	United Nations Sustainable Development Goals (Apvienoto Nāciju Organizācijas Ilgtspējīgas attīstības mērķi, ANO IAM)
ASGS	European Parliament Annual Sustainable Growth Strategy (Eiropas Komisijas ikgadējā ilgtspējīgas izaugsmes stratēģija)
BE	Bioeconomy (bioekonomika)
BDT	Big data technology (lielo datu tehnoloģijas)
BSR	Baltic Sea Region (Baltijas jūras reģions, BJR)
CE	Circular economy (aprites ekonomika)
CETA	Comprehensive Economic and Trade Agreement (Visaptverošais ekonomikas un tirdzniecības līgums)
CFI	LU Cietvielu fizikas institūts (Institute of Solid State Physics of the University of Latvia)
CRII	Coronavirus Response Investment Initiative (Investīciju iniciatīva reaģēšanai uz koronavīrusu)
CSB	Central Statistical Bureau of the Republic of Latvia (LR Centrālā statistikas pārvalde, CSP)
DAGR	Defense Advanced GPS Receiver (Datu izplatīšanas un pārvaldības platforma)
DESI	Digital Economy and Society Index (Digitālās ekonomikas un sabiedrības indekss)
MFF	Multiannual Financial Framework (daudzgadu finanšu shēma, DFS)
DP	Doctoral programme (doktora studiju programma)
EBIT	Earnings Before Interest and Taxes (peļņa pirms procentu un nodokļu nomaksas)
EEAC	European Environment and Sustainable Development Advisory Councils (Eiropas Vides un ilgtspējīgas attīstības konsultatīvā padome)
EIB	European Investment Bank (Eiropas Investīciju banka)
EIAH	European Investment Advisory Hub (Eiropas Investīciju konsultāciju centrs)
EIS	European Innovation Scoreb European Innovation Scoreboard (Eiropas inovāciju progresa ziņojums)
EMFF	European Maritime and Fisheries Fund (Eiropas Jūrlietu un zivsaimniecības fonds)
EC	European Commision (Eiropas Komisija, EK)
ECF	European Cohesion Fund (Eiropas Kohēzijas fonds, EKF)
EMU	Economic and Monetary Union (Ekonomikas un monetārā savienība, EMS)
CE	Council of Europe (Eiropas Padome, EP)
EP	European Parliament (Eiropas Parlaments)
ERA	European Research Area (Eiropas Pētniecības telpa)
ERDF	European Regional Development Fund (Eiropas Reģionālās attīstības fonds, ERAF)
EU	European Union (Eiropas Savienība, ES)
EFSI	European Fund for Strategic Investments (Eiropas Stratēģisko investīciju fonds, ESIF)
ESF	European Social Fund (Eiropas Sociālais fonds, ESF)
EAFRD	European Agricultural Fund for Rural Development (Eiropas Lauksaimniecības fonds lauku attīstībai, ELFLA)
EU SDS	European Union Sustainable Development Strategy (Eiropas Savienības Ilgtspējīgas attīstības stratēģija, ES IAS)
EUR	euro
Eurostat	Statistical Office of European Communities (Eiropas Komisijas statistikas birojs)
EUSBSR	European Union Strategy for the Baltic Sea region (Baltijas jūras reģiona dalībvalstu stratēģija)
GE	Green economy (zaļā ekonomika)
FM	Finanšu ministrija (Ministry of Finance)
TS	Teaching sustainability (Izglītošana ilgtspējīgas attīstības jautājumos, IIAJ)
GDP	Gross domestic product (iekšzemes kopprodukts, IKP)
SEQS	State Education Quality Service (Izglītības kvalitātes valsts dienests, IKVD)
ISCED	International Standard Classification of Education (Starptautiskā izglītības standarta klasifikācija)
IKT	Information and communication technologies (informācijas un komunikācijas tehnoloģijas)
IoT	Internet of Things (lietu internets)
IZM	Ministry of Education and Science (Izglītības un zinātnes ministrija)
GCI	Global Competitiveness Index (Globālais konkurētspējas indekss)
FCMC	Financial and Capital Market Commission) (Finanšu un kapitāla tirgus komisija, FKTK)
HT	High technology (augstās tehnoloģijas)
HESI	Higher Education Sustainability Initiative (Augstākās izglītības ilgtspējas iniciatīva)
CSC	Customer Service Center (klientu apkalpošanas centrs, KAC)
KIS	Knowledge-intensive services (zināšanu ietilpīgie pakalpojumi)

CISC	Culture Information Systems Center (Kultūras informācijas sistēmu centrs, KISC)
KBE	Knowledge-based Economy (uz zināšanām balstīta ekonomika)
KM	Ministry of Culture (Kultūras ministrija)
LAPA	Latvian Association of Professors of Higher Education Institutions (Latvijas Augstskolu profesoru asociācija)
LDDK	Employers' Confederation of Latvia (Latvijas Darba devēju konfederācija)
LIBRA	Latvian Bioeconomy Strategy 2030 (Latvijas Bioekonomikas stratēģija 2030)
LIIA	Investment and Development Agency of Latvia (Latvijas Investīciju un attīstības aģentūra, LIIA)
LIKTA	Latvian Information and communications technology association (Latvijas Informācijas un komunikācijas tehnoloģiju asociācija)
LIZDA	Latvian Trade Union of Education and Science Employees (Latvijas Izglītības un zinātnes darbinieku arodbiedrība)
LLKC	Latvian Rural Advisory and Training Centre (Latvijas Lauku konsultāciju un izglītības centrs)
LM	Ministry of Welfare (Labklājības ministrija)
LMT	Latvijas Mobilais Telefons Ltd (SIA "Latvijas Mobilais Telefons")
LPS	Association of Local and Regional Governments of Latvia (Latvijas Pašvaldību savienība)
LTA	Latvian Telecommunications Association (Latvijas Telekomunikāciju asociācija)
LTRK	Latvian Chamber of Commerce and Industry (Latvijas Tirdzniecības un rūpniecības kamera)
LSA	Student Union of Latvia (Latvijas Studentu apvienība)
pp.	pages (lapaspuses)
LVRTC	Latvian State Radio and Television Center (Latvijas Valsts radio un televīzijas centrs)
LAS	Latvian Academy of Sciences (Latvijas Zinātņu akadēmija, LZA)
EI LAS	Institute of Economics of the Latvian Academy of Sciences (Latvijas Zinātņu akadēmijas Ekonomikas institūts)
LCS	Latvian Council of Science (Latvijas Zinātnes padome, LZP)
MHT	medium high technology (vidēji augstās tehnoloģijas)
CM	Cabinet of Ministers (Ministru kabinets, MK)
SMEs	Small and medium enterprises (mazie un vidējie uzņēmumi, MVU)
NACE	Statistical classification of economic activities in the European Community (ES Saimniecisko darbību statistiskā klasifikācija)
NGEU	Next Generation EU (Nākamās paaudzes ES)
R & D	Research and Development (pētniecība un attīstība, P & A)
WB	World Bank (Pasaules Banka, PB)
PISA	Programme for International Student Assessment (Starptautiskā skolēnu novērtēšanas programma)
PPS EUR	Purchasing Power Standard in EUR (pirktspējas standarts EUR)
CRPC	Consumer Rights Protection Centre (Patērētāju tiesību aizsardzības centrs, PTAC)
WTO	World Trade Organization (Pasaules Tirdzniecības organizācija, PTO)
VAT	Value-added tax (pievienotās vērtības nodoklis, PVN)
React-EU	Recovery Assistance for Cohesion and the Territories of Europe (papildu atbalsts pandēmijas seku mazināšanai)
REDCap	Research Electronic Data Capture (elektronisko datu ievākšanas un apkopošanas rīks)
ROA	Return on Assets (aktīvu atdeve)
RRF	Recovery and Resilience Facility (Eiropas Atveseļošanas un noturības mehānisms, ANM)
SCI	Science Citation Index (zinātniskās citēšanas indekss)
SDSN	Sustainable Development Solutions Network (ANO Ilgtspējīgas attīstības risinājumu tīkls)
Ltd	limited liability company (sabiedrība ar ierobežotu atbildību, SIA)
SIVA	Social Integration State Agency (Sociālās integrācijas valsts aģentūra)
SGP	Stability and Growth Pact (Stabilitātes un izaugsmes pakts)
SKDS	Marketing and Public Opinion Research Centre (Tirgus un sabiedriskās domas pētījumu centrs)
SNK	International Tax Competitiveness Index (Starptautiskais nodokļu konkurētspējas indekss)
SP	Study programme (studiju programma)
STEM	Science, Technology, Engineering and Mathematics (dabaszinātnes, tehnoloģijas, inženierzinātnes, matemātika)
IMF	International Monetary Fund (Starptautiskais Valūtas fonds, SVF)
SWOT SVID)	Analysis of strengths, weaknesses, opportunities and threats (stipro, vājo pušu, iespēju un draudu analīze,
TLIS	Teaching and Learning International Survey (Starptautiskais izglītošanas un mācīšanās apsekojums, TALIS)
TM	Ministry of Justice (Tieslietu ministrija)
JTF	Just Transition Fund (Taisnīgas pārkārtošanās fonds, TPF)
TTIP	Transatlantic Trade and Investment Partnership (Transatlantiskā tirdzniecības un investīciju partnerība)
EIT	Enterprise income tax (uzņēmuma ienākuma nodoklis, UIN)
USD	US dollar (ASV dolārs)
SJSC	State joint stock company (valsts akciju sabiedrība, VAS)
VARAM	Ministry of Environmental Protection and Regional Development (Vides aizsardzības un reģionālās attīstības ministrija)
VID	State Revenue Service (Valsts ieņēmumu dienests)
VIIS	National education information system (Valsts izglītības informācijas sistēma)
VISS	National information systems integrator (Valsts informācijas sistēmu savietotājs)
VSAA	State Social Insurance Agency (Valsts sociālās apdrošināšanas aģentūra VSAA)

VSAOI	Mandatory state social insurance contributions (valsts sociālās apdrošināšanas obligātās iemaksas)
VPVKAC	National and Local Government Unified Customer Service Centre (Valsts un pašvaldību vienotais klientu apkalpošanas centrs)
VZKK	State Scientific Qualification Committee (Valsts zinātniskās kvalifikācijas komisija, VZKK)

Higher education institutions

BA	BA School of Business and Finance (Banku augstskola)
BAT	Turiba University (Biznesa augstskola "Turība")
BSA	Baltic International Academy (Baltijas Starptautiskā akadēmija)
DU	Daugavpils University (Daugavpils Universitāte)
EKA	EKA University of Applied Sciences (Ekonomikas un kultūras augstskola)
LiepU	Liepaja University (Liepājas Universitāte)
LKuA	Latvian Academy of Culture (Latvijas Kultūras akadēmija)
LLU	Latvia University of Life Sciences and Technologies (Latvijas Lauksaimniecības universitāte)
LU	University of Latvia (Latvijas Universitāte)
REA	Stockholm School of Economics in Riga (Rīgas Ekonomikas augstskola)
RISEBA	RISEBA University of Applied Sciences (Rīgas Starptautiskā ekonomikas un biznesa administrācijas augstskola)
RTA	Rezekne Academy of Technologies (Rēzeknes Tehnoloģiju akadēmija)
RSU	Riga Stradins University (Rīgas Stradiņa universitāte)
RTU	Riga Technical University (Rīgas Tehniskā universitāte)
VeA	Ventspils University of Applied Sciences (Ventspils Augstskola)
ViA	Vidzeme University of Applied Sciences (Vidzemes Augstskola)

Country abbreviations

USA	United States of America (Amerikas Savienotās Valstis, ASV)
AT	Austria (Austrija)
BE	Belgium (Beļģija)
BG	Bulgaria (Bulgārija)
CY	Cyprus (Kipra)
CZ	Czechia (Čehija)
DE	Germany (Vācija)
DK	Denmark (Dānija)
EE	Estonia (Igaunija)
EL	Greece (Grieķija)
ES	Spain (Spānija)
EU 27	27 Member States of the European Union (Eiropas Savienības 27 dalībvalstis)
EU 28	28 Member States of the European Union (Eiropas Savienības 28 dalībvalstis)
FI	Finland (Somija)
FR	France (Francija)
HR	Croatia (Horvātija)
HU	Hungary (Ungārija)
IE	Ireland (Īrija)
IT	Italy (Itālija)
LT	Lithuania (Lietuva)
LV	Latvia (Latvija)
LU	Luxembourg (Luksemburga)
MT	Malta (Malta)
NL	Netherlands (Nīderlande)
PL	Poland (Polija)
PT	Portugal (Portugāle)
RO	Romania (Rumānija)
SE	Sweden (Zviedrija)
SI	Slovenia (Slovēnija)
SK	Slovakia (Slovākija)
UK	United Kingdom / Great Britain (Apvienotā Karaliste / Lielbritānija)

Annotation

The collective scientific monograph **The strength of Latvia for the long-term development**, edited by Dr. habil. oec. Baiba Rivža, has also been published in English; it was produced based on the research results achieved within the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV), implemented under the guidance of the Latvian Academy of Sciences (LAS), under the national research programme Latvian Heritage and Future Challenges for the Sustainability of the State (2018-2022). The monograph has been structured in 3 chapters, it has 7 annexes and is 480 pages in length. The monograph has been published with the financial support of the project Interframe-LV.

In the foreword to the monograph, the president of the LAS, Ivars Kalviņš, emphasized that the project Interframe-LV successively continued NRP Ekosoc-LV (2014-2018) interdisciplinary research on transformation processes for the development of a smart economy and a smart society, technological and social innovations and a knowledge economy, and the results were reported in the monograph. However, a new focus of the project Interframe-LV and the monograph was the sustainable development of the society and economy of Latvia in international context.

The author of **Chapter 1**, Eugene Eteris, gives a broad insight into the implementation of sustainability policies in the world and in Europe, analysing the sustainable development goals in the currently relevant context of adaptations made by the Covid-19 pandemic (as a "wake-up call") and of the latest policies aimed at generating recovery and sustainability synergies, incl. green and digital transformations. Chapter I also gives insight into the financial resources allocated to policy instruments for change, incl. research and innovation, and available to the EU Member States. Education about sustainable development issues is emphasized as a new approach.

Chapter 2 includes research papers on challenges to the sustainability of Latvia and the potential solutions in the fields which scientists from the LAS and Latvia University of Life Sciences and Technologies (LLU, group leader prof. Andra Zvirbule) worked on: the knowledge economy; digitalization of small and medium enterprises; employment; the bioeconomy and the circular economy as elements of a green economy; education and digital competences. The key field researched by researchers from the University of Latvia (LU, group leader prof. Inna Romānova) was population aging and stratification that involved a wide spectrum of research problems: social protection and income inequalities; evidence-based decision-making in social sustainability policies; various aspects of pension system enhancement; regional stratification and its impact on municipal development; promotion of public participation in public administration decision-making; development of social entrepreneurship aimed at marketing competence and recognition in society; contributions of professional education towards the reduction of inequality and towards business innovation, growth potential for seafood and related employment in the Baltic Sea Region; economic consequences of populism and misconceptions. The research fields for a team of researchers from Riga Stradins University (RSU, group leader prof. Sergei Kruk) were as follows: entrepreneurship, income and risk management in the contexts of value and social security; the results were reported in a paper that analysed also the support provided to the population during the Covid-19 pandemic (the paper was also based on an analysis of data from a nationally representative survey of the Latvian population, see Annex 1).

Chapter 3 is devoted to determining the most important priority for the sustainable strategy of Latvia by the Analytic Hierarchy Process (AHP) and the Analytical Network Process (ANP). The main purpose of the analysis was to determine the readiness of Latvia and the most important priority for sustainable development, which was digital transformation; value orientation of the society; sustainability of education; the Green Deal (incl. the bioeconomy, the circular economy); economic restructuring. The sub-priorities were as follows: reducing regional stratification; involving the labour market in the development of digital skills; increasing the role of lifelong learning; involving the public in decision-making and providing feedback; the impacts of climate change adaptation on regional development. Undoubtedly, all the priorities and sub-priorities are important for the sustainability of Latvia, yet the analysis of expert opinions showed what was valued higher and what was valued lower. This helps to assess and guide processes at various levels of government, identify risks and build the necessary awareness.

The **annexes** mostly focus on the activities carried out during the project implementation, presenting the research results to the general public and cooperating with various audiences and institutions interested in the research findings throughout Latvia. For example, Annex 2 gives an overview of 5 regional forums held in Zemgale, Vidzeme, Latgale, Kurzeme and Pieriga on digitalization tools for business support. Judging by the great interest of the forum audiences in new information, there is a need for much broader and more intensive education of the population about technologies, the fact that the 4th Industrial Revolution or Industry 4.0 created needs in the fields of education, the labour market, skills and competences, as well as about principles of the Green Deal and the circular economy.

Annex 4 provides information on the IV International Economic Forum held by the LAS Institute of Economics, in the organization and group work of which Interframe-LV scientists participated as well. Annex 5 focuses on a hopeful trend observed in Latvia in recent years – residents choose the countryside not only as a place to relax but also as a permanent place to live and work. Besides, the newcomers to rural areas who deliberately move to the regions and get involved in community life gradually shape a new perspective for the local population. However, Annex 6 reports about a significant achievement within the project Inteframe-LV – eight doctoral theses were developed during the project implementation.

The monograph contains a wide range of factual material, and the findings, conclusions and recommendations made by those involved in the research project and in producing the monograph as well as the opinions of the experts questioned could be used in decision-making at various levels of governance, in the development of policy documents, in the education system, incl. at all levels of university studies and lifelong learning, NGO activities etc. The editor-in-chief of the monograph: Baiba Rivža, the editor-in-charge: Ausma Mukāne, the translator: Sandris Ancāns and the graphic and layout designer: Jānis Rožukalns.

Reviews

Global view of the sustainability of the economy and society of Latvia

The collective scientific monograph entitled **"Latvijas spēks ilgi pastāvēt" / "The strength of Latvia for the long-term development"** edited by Dr. habil. oec. Baiba Rivža, has been produced based on the research findings made within the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) under the national research programme Latvian Heritage and Future Challenges for the Sustainability of the State (2018-2022). It should be emphasized that the monograph has been produced in both Latvian and English, which is very positive in a context where solutions to the challenges of sustainability of the economy and society of Latvia are inseparable from the global and global sustainability goals.

The whole of Chapter I is dedicated to explaining the close link between the sustainability of Latvia and the rest of the world. It recalls both the sustainability goals set by the UN and the sustainable development plans, objectives and implementation mechanisms prepared by the European Union and Latvia as an EU Member State, including the envisaged financial instruments. According to the name of the project, the monograph has considered the international dimension both in the assessment of the current situation in Latvia and in the identification and introduction of the necessary changes, namely in strengthening sustainability. It is valuable information for use in the education system at all levels of university studies and lifelong learning, by NGOs, at various levels of governance and in the development of policy documents, as it is recommended that knowledge of sustainable development be delivered to a broad public at EU level.

As emphasized in the introduction to the monograph, the project Interframe-LV has successively continued researching the problems of smart and sustainable development initiated by the previous LAS-administered NRP Ekosoc-LV (2014–2018) without separating economic and social development. Therefore, the succession is also evident in the goals of the monograph "Strength of Latvia to Last Long" that includes the research findings published in the monographs "Beyond a Century. The Smart Latvia" and "Interframe-LV", as well as in the style (even the emblem of the project indicates succession). The new monograph "Strength of Latvia to Last Long" focuses on the knowledge economy, the digitalization of small and medium enterprises, employment, the bioeconomy and the circular economy as elements of the green economy, education and digital competence, aging and stratification and a wide range of research on: social protection and income inequality, evidence-based decision-making in social sustainability policy, improvement in the pension system, regional stratification, promotion of public participation in public administration decision-making, social entrepreneurship, the contribution of professional education to reducing inequality and to business innovation, the economic consequences of populism etc. At the same time, they are the main challenges for the sustainability of Latvia.

In addition to the successive and uninterrupted view of social and economic development, the monograph also highlights the continuation of applying the inter-institutional (the LAS has worked together with researchers from LU, LLU, RSU etc.) and interdisciplinary (economists, sociologists, demographers, management specialists etc.) approaches, as well as the

opportunity to develop social science research and the publication of a monograph about the findings. It could even be stated that this is one of the examples of balancing scientific research in the country, thereby finding an opportunity to support the social sciences in the NRP format as well.

It is the recent events related to the Russian war aimed at destroying democracy in Ukraine that draw attention to the importance of timely research on public attitudes and sentiment in Latvia as well. It is possible to get an idea of this in the monograph – in the analysis of data from nationally representative surveys of the population of Latvia conducted by RSU researchers –, as well as in the paper on the close link between business and incomes and values and social security. The support provided to the population during the pandemic was analysed as well. It is commendable that the researchers adapted to the conditions that could not be imagined at the beginning of the project, which was reflected in the monograph.

The extensive information provided in the annexes to the monograph on the activities carried out during the project to deliver the research results to the general public and various scientific audiences, as well as the expert opinions, research conclusions and recommendations give a general idea about what needs to be improved, addressed and enhanced so that Latvia could gain strength to last and develop long.

Dr.oec. Elīna Konstantinova,
Expert of the Latvian Council of Science, professor

The Way towards a Knowledge Economy and a Knowledge Society

This is the way with clear landmarks aimed at not losing the capacity of the country for development and longevity; besides, the way represents the development itself, which means that there is no destination, no "kilometrage", only time landmarks: 2030, 2050 and so on. Such associations are evoked by the collective scientific monograph entitled "Latvijas spēks ilgi pastāvēt" / "The strength of Latvia for the long-term development" edited by Dr.habil.oec. Baiba Rivža, which has been produced based on the research done within the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) (the project was one of the five projects implemented under the national research programme Latvian Heritage and Future Challenges for the Sustainability of the State (2018-2022)).

It is honour for the Latvian Academy of Sciences (LAS) to administer the project, having universities as partners: Latvia University of Life Sciences and Technologies, the University of Latvia, and Riga Stradins University, and this strengthens trust in science. In the foreword to

the monograph, the president of the LAS, Ivars Kalviņš, emphasized that science could and should be trusted, illustrating this conviction with real life practices – experts were requested to explain various topical problems and obtain reliable information based not only on their experience but also on the latest research findings. Besides, the future belongs to interdisciplinary research, which can examine problems in a complex and integral manner, as has been done within the project Interframe-LV and reported in the monograph, thereby linking the development of a knowledge economy to the development of a democratic, digitally and technologically, emotionally and universally educated (especially needed for balancing the increasing role of technologies in everyday life) knowledge society.

The above-mentioned landmarks are aligned with the contents of the monograph. Chapter 1 recalls the sustainable development goals of the world and Europe, including the Baltic States and Latvia, as well as the commitments made and what is needed to achieve them. It is commendable and worthy of scientists to reconcile the goals set earlier with the changes caused by the pandemic, incl. the use of funding from the Recovery and Resilience Facility (particular millions and billions) for sustainability. Chapter 2, which is the largest one, contains research papers on specific research problems relevant to Latvia, from a high-tech economy and a circular economy to the aging of the population and trends in stratification of various scales, populism, and the feeling of security among social groups. The chapter reveals trends contributing to development, e.g. at the level of legislation and regulations in Latvia, there are all possibilities to use the digital environment in commerce, management etc. areas, whereas digital competence is most often lacking, as well as trends hindering development, e.g. the country has a relatively high proportion of the population at risk of poverty, a high tax burden on low-wage earners and income inequality, which places Latvia close to last places in the European Union. Simulating sustainability strategies, Chapter 3 identifies areas for development which efforts need to be focused on, e.g. economic restructuring (which becomes more acute with global changes caused by the war and sanctions) and the deployment of lifelong learning.

A lot of findings could be learnt by examining the conclusions and recommendations provided by the scientists. For example, "the effective integration of sustainable development strategies into policy-making is possible through evidence-based instruments and methods: regular review and updating of studies and data, systematic assessment and adaptation of impacts of policies, as well as cost-benefit analysis for decision-making". This means that the way and the sustainability landmarks for the country need to be constantly monitored, reviewed and, above all, adapted to the current situation. However, as the recent events have shown, the situation can change rapidly and unpredictably. This monograph demonstrates that scientists are flexible and able to focus on the problems that need to be dealt with.

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Professor, Dr. Astrida Miceikienė
Chancellor of Agriculture Academy
at Vytautas Magnus University
26.03.2022.

Focus on national sustainability in synergy with the post-pandemic recovery

The collective scientific monograph entitled **"Latvijas spēks ilgi pastāvēt"/ "The strength of Latvia for the long-term development"** edited by Dr. habil. oec. Baiba Rivža, which has been produced based on the research done within the project Challenges for the Latvian State and Society and the Solutions in International Context (Interframe-LV) under the national research programme Latvian Heritage and Future Challenges for the Sustainability of the State (2018-2022), represents an additional contribution of the social sciences to the sustainability and development of the economy and society of Latvia.

As a lecturer and a member of the Higher Education Council, I view the monograph as valuable information to be used in university studies with regard to the goals of Latvia to be pursued during the so-called Fourth Industrial Revolution or Industry 4.0 (high technologies, innovation, the knowledge economy, the bioeconomy and the circular economy etc.), incl. the goals intended for higher education. Accordingly, the initiative Education about Sustainable Development Matters (ESDM), designed to successively achieve the 17 Sustainable Development Goals (SDGs) set by the UN and adopted by the EU, prescribes an appropriate approach to be applied also in higher education – shaping a new generation of leaders and skilled professionals capable of implementing SDG-related ideas and concepts. In practice, this also means extensive digitalization and new methods in the learning process, i.e. not only teaching students about new technologies and innovations but to using them intensively in the learning process. Digital competence is one of the focuses of the monograph, incl. how to develop the various aspects, from its application in small and medium enterprises to public participation in public administration decision-making and, of course, in education. It has also been analysed how the pandemic has accelerated the processes, which have so far progressed rather slowly, as it is said – witnessing happiness in adversity.

Both the research and the monograph have responded to the impacts of the pandemic on other areas. For example, professor Eižens Eteris has analysed whether EU-level sustainability goals are aligned with the goals of recovery and sustainability, including the pooling of financial resources, incl. for science, research and human capital training. With regard to human capital, the contribution of the project "Interframe-LV" included eight new doctors in economics, whose economic and scientific novelties given in their dissertations are presented in one of the annexes. Other annexes both about the national surveys conducted and about the involvement of project participants in the activities during the project implementation in order to share the results with the general public provide a lot of information on economic and social development in Latvia. For example, the 5th Forum of the Parliament of Latvian Rural Communities focused on issues concerning newcomers to rural areas, emphasizing the trend of recent years, which was very hopeful for the viability of rural areas in Latvia, as townspeople massively chose the countryside not only as a place to relax but also as a permanent place to live and work, despite sceptics who did not see a good future for the regions of Latvia.

Unfortunately, the research data also show that Latvia has a relatively high proportion of the population at risk of poverty, a high tax burden on low-wage earners and income inequality, a marked lack of quality housing, many people have poor health, which together determine

a low level of satisfaction, compared with most of the others EU Member States. Improving the situation requires energetic action to achieve the above-mentioned goals of economic sustainability. The European Innovation Scoreboard 2021 rated Latvia as only an emerging innovator (Estonia as a strong innovator, Lithuania as a moderate innovator). The monograph gives an idea of what hinders or increases the capability of Latvia to develop and last long as an independent and democratic state.

In addition to the pandemic, the second "plague" – the Russian war in Ukraine – can, of course, introduce and will certainly introduce as yet incomprehensible adjustments to the current prospects for economic and social development. However, under such circumstances, the clarity gained by research on the weaknesses and strengths of sustainable development of Latvia in the international context is perhaps even more important, as there is a clear starting position and it is clear where we want to get and what we need to achieve. It will then be easier to reorient the resources and pace of growth according to the specific situation of change.

Dr. oec. Tatjana Volkova,
Expert of the Latvian Council of Science, professor