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**FACULTY OF BUSINESS, MANAGEMENT AND ECONOMICS**  
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**EFFICIENCY OF THE EUROPEAN UNION'S COHESION  
POLICY IN REDUCING REGIONAL INEQUALITIES IN THE  
EUROPEAN UNION AND REGIONS IN LATVIA**

**Eiropas Savienības kohēzijas politikas efektivitāte reģionālo nevienlīdzību  
mazināšanā Eiropas Savienībā un Latvijas reģionos**

**MASTER'S THESIS**

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## ANNOTATION

The master thesis aims to provide efficiency assessment of the EU Cohesion Policy, evaluate factors influencing efficiency and apply the approach to Latvian regions. Special research focus is on determination of the major factors causing considerable differences in the efficiency of the EU Cohesion policy funding in reducing regional inequalities considerably differs among the EU and Latvian regions. By using multiple linear regression and average GDP per capita growth as indicator of economic development, it is determined that the major factors influencing the efficiency of the cohesion policy are governance quality, including levels of corruption and unemployment rates. Minor, but significant impact on efficiency is to population change, educational profile of the region and social aspects in the society. In Latvia sectoral approach and centralisation are additional factors.

**Key words:** regional inequalities, economic convergence, cohesion policy, territorial cohesion, good governance

## ANOTĀCIJA

Maģistra darba mērķis ir novērtēt ES kohēzijas politikas efektivitāti, identificēt būtiskākos faktorus, kas ietekmē to ietekmē un pielietot izstrādāto metodiku Latvijas reģioniem. Īpašs uzsvars likts uz faktoru, kas ietekmē ES kohēzijas politikas īstenošanas efektivitāti, noteikšanu. Pielietojot daudzfaktoru lineāro regresiju, kurā vidējais IKP uz vienu iedzīvotāju pieaugums ir indikators ekonomiskai attīstībai, tika konstatēts, ka būtiskākie efektivitāti ietekmējošie faktori ir pārvaldības kvalitāte, tai skaitā, korupcijas līmenis, un bezdarba līmenis. Mazāka, bet arī nozīmīga ir iedzīvotāju skaita izmaiņu, izglītības līmeņa un sociālo aspektu ietekme. Latvijā efektivitāti mazina arī centralizēta un nozarēs balstīta pieeja.

**Atslēgas vārdi:** reģionālās nevienlīdzības, ekonomiskā konverģence, kohēzijas politika, teritoriālā kohēzija, laba pārvaldība

# CONTENTS

<b>LIST OF ABBREVIATIONS AND DESIGNATIONS .....</b>	<b>6</b>
<b>INTRODUCTION.....</b>	<b>7</b>
<b>1. CONCEPT OF COHESION AND MEASURING OF REGIONAL INEQUALITIES .....</b>	<b>9</b>
1.1. REGIONAL INEQUALITIES, APPROACHES AND INDICATORS TO MEASURE REGIONAL INEQUALITIES .....	9
1.1.1. Development of regional inequalities concept.....	9
1.1.2. Economic convergence .....	12
1.1.3. Main factors causing regional inequalities.....	14
1.1.4. Indicators to measure regional inequalities.....	18
1.2. DEVELOPMENT OF THE EUROPEAN UNION’S COHESION POLICY .....	20
1.2.1. Economic and social cohesion .....	23
1.2.2. Territorial cohesion .....	25
1.2.3. Historical development of the European Union’s cohesion policy.....	26
1.3. MAIN APPROACHES AND POLICY INCENTIVES TO REDUCE REGIONAL INEQUALITIES AND INCREASE COHESION .....	32
1.3.1. Place-based approaches and Smart Specialization Strategies.....	34
1.3.2. Improving economic resilience .....	37
1.3.3. Strengthening the capacity and know-how of regional and local actors....	40
<b>2. REGIONAL INEQUALITIES IN THE EUROPEAN REGIONS AND IN LATVIA AND RESULTS OF THE EU’S COHESION POLICY .....</b>	<b>44</b>
2.1. CLASSIFICATION OF EUROPEAN REGIONS .....	44
2.2. REGIONAL INEQUALITIES IN THE EUROPEAN UNION AND LATVIA.....	46
2.2.1. GDP per capita dynamic in the European regions .....	49
2.2.2. Factors influencing regional inequalities .....	51
2.3. REGIONAL INEQUALITIES IN LATVIA .....	58
2.4. IMPACTS OF THE CRISES-RELATED ECONOMIC DOWNTURNS ON THE REGIONAL INEQUALITIES IN EUROPEAN REGIONS AND IN LATVIA .....	61
2.4.1. Global financial crisis in 2008 .....	61
2.4.2. Estimated effects of the Covid-19 crisis in 2020 .....	65

2.5.	IMPLEMENTATION AND RESULTS OF THE EUROPEAN UNION’S COHESION POLICY	66
2.5.1.	Main criticisms in the implementation of the Cohesion policy .....	67
2.5.2.	Implementation in Latvia .....	71
2.6.	COHESION POLICY 2021-2027.....	73
2.6.1.	Planned allocation of the Cohesion policy funding in Latvia.....	74
<b>3.</b>	<b>FACTORS INFLUENCING THE EFFICIENCY OF THE COHESION POLICY IN REDUCING REGIONAL INEQUALITIES IN THE EUROPEAN UNION AND LATVIA.....</b>	<b>77</b>
3.1.	APPROACH TO DETERMINE SIGNIFICANT FACTORS INFLUENCING THE EFFICIENCY OF COHESION POLICY .....	77
3.2.	MAJOR INFLUENTIAL FACTORS DETERMINING THE EFFICIENCY OF THE EUROPEAN UNIONS` COHESION POLICY .....	80
3.3.	RESULTS OF THE REGRESSION ANALYSIS.....	82
3.3.1.	Differences between less developed, transition and more developed regions .....	90
3.4.	APPLYING THE RESEARCH FINDINGS TO THE ANALYSIS OF LATVIAN REGIONS ..	93
3.4.1.	Governance principles and challenges in cohesion policy implementation in Latvia .....	95
	<b>CONCLUSIONS .....</b>	<b>104</b>
	<b>LITERATURE AND SOURCES .....</b>	<b>106</b>
	<b>ANNEXES .....</b>	<b>117</b>
	Annex 1. Regional GDP per capita in European NUTS2 regions PPS per inhabitant in % and absolute numbers .....	118
	Annex 2. Variables used in the regression analysis .....	124
	Annex3. Questions for interviews.....	142

## LIST OF ABBREVIATIONS AND DESIGNATIONS

AT	Austria
BE	Belgium
BG	Bulgaria
CF	Cohesion Fund
CY	Cyprus
CZ	Czech Republic
DG Regio	Directorate-General for Regional and Urban Policy of the European Commission
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
EQI	Regional Index of Good Governance
ERDF	European Regional Development Fund
ES	Spain
ESF, ESF+	European Social Fund
ESPI	European Social Progress Index
EU-27	27 European Union Member States (since 2021 when United Kingdom left EU)
FI	Finland
FR	France
FUA	Functional Urban Area
HR	Croatia
HU	Hungary
ICT	Information and communication technologies
IE	Ireland
IT	Italy
LT	Lithuania
LV	Latvia
LU	Luxembourg
MS	Member State
MT	Malta
NL	Netherlands
NUTS	Classification of territorial units for statistics
PL	Poland
PPS	purchasing power standard
PT	Portugal
RCI	Regional Competitiveness Index
RO	Romania
R <sup>2</sup>	proportion of the variance for a dependent variable that's explained by an independent variable in regression analysis
SE	Sweden
SI	Slovenia
SK	Slovakia
SME	Small and medium enterprises
UK	United Kingdom
USA	United States of America

## INTRODUCTION

Regions all over the world show differences in their economic performance and growth of GDP; employment, population and knowledge tend to concentrate in certain regions. Economic convergence and the ultimate goal of coherence of the European regions is an important pre-requisite for the success of the European integration.<sup>1</sup> Understanding and reducing regional inequalities is increasingly relevant topic in research and policy incentives aiming to foster convergence and cohesion. In many EU Member States, there is a tendency in increasing disparities within countries<sup>2</sup>, so measuring socio-economic development on smaller geographical scales is necessary.

The cohesion policy is the main instrument to address the regional inequalities in the EU and it has been changing and transforming a lot over the years as priorities have shifted with the global tendencies, EU's enlargements and changes in its strategic objectives. The EU cohesion policy is considered crucial to increase regional convergence of the European regions,<sup>3</sup> reduce imbalances of prosperity, support growth of lagging regions<sup>4</sup> as well as boost competitiveness, ensure sustainable development, reduce inequalities as well as social exclusion.<sup>5</sup> However, the effectiveness of the cohesion policy varies among different territorial contexts - similar activities carried out under the umbrella of the cohesion policy have led to different outcomes in different regions.<sup>6</sup>

**Hypothesis:** Demographic factors, employment and unemployment rates, education levels, quality of governance, including corruption levels, physical accessibility, regional competitiveness and social progress have significant impact on the efficiency of the cohesion policy implementation.

**The aim** of the master thesis is to provide efficiency assessment of the EU cohesion policy, evaluate factors influencing efficiency and apply efficiency assessment approach to Latvian regions.

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<sup>1</sup> Zaucha J. & Böhme K. (2020) Measuring territorial cohesion is not a mission impossible, *European Planning Studies*, 28:3, 627-649

<sup>2</sup> Monfort, P. (2020) Convergence of EU Regions redux: recent trends in regional disparities, Luxembourg: Publications Office of the European Union. pp.18

<sup>3</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully. *Journal of European Integration*, 41:2, 147-168

<sup>4</sup> Cunico, G., Aivazidou, E., Mollona, E. (2021) Beyond financial proxies in Cohesion Policy inputs' monitoring: A system dynamics approach. *Evaluation and Program Planning* 89 (2021) 101964

<sup>5</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>6</sup> Bachtrögler, J., Fratesi, U. & Perucca, G. (2020) The influence of the local context on the implementation and impact of EU Cohesion Policy, *Regional Studies*, 54:1, 21-34

**Research problem:** Efficiency of the EU cohesion policy funding in reducing regional inequalities considerably differs among the EU NUTS-2 and NUTS-3 regions. Special focus of research is to determine major factors influencing efficiency.

To achieve the aim of this master's thesis, following **tasks** will be fulfilled:

- Analyse cohesion concept, regional convergence development and approaches to accelerate cohesion
- Describe the development of the EU cohesion policy, its' implementation in the EU and Latvia
- Identify methodology and indicators to measure regional inequalities
- Analyse regional inequalities in the EU and Latvia
- Elaborate an efficiency assessment technique of the EU cohesion policy
- Determine major influencing factors of EU cohesion policy efficiency
- Carry out regression analysis of the relation of the GDP per capita growth and cohesion funding implementation
- Apply methodology of the cohesion efficiency for analysis of Latvian regional disparities

First chapter of the thesis considers theoretical aspects of the regional inequalities, their measurements and approaches to reduce them, as well as shortly describes historical development of the EU cohesion policy. Second chapter describes and analyses the regional inequalities in the EU and Latvia, specifically the GDP per capita dynamics and other influential factors, as well as assesses the implementation of the EU cohesion policy and planned implementation of the 2021-2027 period. In the third chapter regression analysis is carried out to determine which factors have the most influence on the efficiency of the cohesion policy funding implementation, namely foster most economic growth. Results are applied to analyse the efficiency of the cohesion policy in Latvia.

Literature and statistical data analysis, interviews with regional development experts in Latvia, multiple linear regression are the main methods that are used as part of this master thesis. Scientific literature, relevant EU and Latvian legal framework, databases of ERDF data, Eurostat as well as Central Statistical Bureau and Regional development indicators module of Latvia are the main data sources. For the regression analysis in third chapter a ten-year period from 2009 to 2018 has been chosen therefore the same timespan has been used for analysis in many cases throughout the master thesis.

**Limitation** for this master thesis: Concept of Cohesion is looked at from the EU perspective.

# 1. CONCEPT OF COHESION AND MEASURING OF REGIONAL INEQUALITIES

## 1.1. Regional inequalities, approaches and indicators to measure regional inequalities

### 1.1.1. Development of regional inequalities concept

Regions all over the world show differences in their economic performance and growth of GDP; economic activity tend to concentrate in certain regions. Already in the 1960's the so called 'North-South problem' was identified nationally mainly referring to the development differences across different parts of the country in the USA, but similar patterns were observed in Brazil and Italy as well.<sup>7</sup> Regional inequality has been an important topic in the raise of globalisation and liberalisation and consequent uneven distribution of development, but it has especially been topical since the Great Recession in 2008.<sup>8</sup> Furthermore, after the economic and financial crisis in 2008, the inequalities among regions within countries has increased even further in OECD countries and Europe.<sup>9</sup> As the research on regional inequalities is often controversial, showing the complexity and dynamics of inequalities,<sup>10</sup> it is not always possible to distinguish and clearly identify factors causing or fostering regional disparities.

Regional inequalities as a concept have been more analysed and described since the middle of the 20<sup>th</sup> century building upon various economic models. Starting 1950s, neoclassical convergence theories built upon the idea that regional inequalities are transitory phenomena caused by uneven resource allocation and disequilibrium between supply and demand. In longer term the inequalities would reduce until dissolve completely due to the efficient markets and factor mobility. According to Kuznets curve with economy in early development phases, initially inequalities are rising causing the curve to rise rapidly, but in longer term they are evening out and the curve is declining again.<sup>11</sup> <sup>12</sup> Williamson (1965) identified initial factors that might influence and further foster the regional inequalities within national borders. At first, selective labour migration (especially of educated people) and capital flows towards 'richer regions' takes place. Secondly, national government policies tend to support already better

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<sup>7</sup> Williamson, J., G. (1965) Regional Inequality and the Process of National Development: a Description of Patterns. *Economic Development and Cultural Change*. 13(4), pp. 1-84

<sup>8</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>9</sup> OECD (2013), "Measuring regional economies in OECD countries", in OECD Regions at a Glance 2013, OECD Publishing, Paris., pp.15

<sup>10</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>11</sup> *Ibid.*

<sup>12</sup> Williamson, J., G. (1965) Regional Inequality and the Process of National Development: a Description of Patterns. *Economic Development and Cultural Change*. 13(4), pp. 1-84

developed areas to support industrialized regions. Thirdly, in the early phases of the economic development interregional linkages are not strong enough to ensure transition. When the economic grows and develops further, labour migration becomes less selective, capital markets become more comprehensive nationally and governments may have the necessary means and resources to address regional inequalities with policies.<sup>13</sup>

According to Alonso (1980), there are five bell-shaped processes in development – economic growth, social inequality, regional inequality, geographic concentration and population growth. The curves are changing along with the development of the country or geographic unit, experiencing rapid growth at some point, but slowing down at more sophisticated stages. It implies also to regional development and concentration – at certain development stages certain regions will gather more resources and growth, while others will be lagging behind. However, it should even out with time.<sup>14</sup>

Further concepts to understand spatial patterns of growth from 1950-1960 and analyse economic disparities from regional perspective are:

- the growth pole theory by Perroux (1950) suggesting that specific growth concentrates in clusters around strongly developed areas.<sup>15</sup> Perroux distinguishes ‘driving’ and ‘driven’ branches, pointing to regions who are forerunners fostering the development and lagging regions, which rely on external stimulus or can slowly catch up as a result of spillover effect. Nowadays the concept of clusters is important in the new economic geography.<sup>16</sup>
- The core-periphery model by Friedmann (1966) suggests that development originates in few core areas and distance to them is determining the development opportunities.<sup>17</sup> The centre periphery model expect regional growth to be unbalanced and expect the gap between the central and peripheral regions to increase. Opposite to the core-periphery model is the polycentrism concept.<sup>18</sup>

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<sup>13</sup> Williamson, J., G. (1965) Regional Inequality and the Process of National Development: a Description of Patterns. *Economic Development and Cultural Change*. 13(4), pp. 1-84

<sup>14</sup> Alonso, W. (1980) Five Bell Shapes of Development. *Regional Science Association*. 45, pp. 5-16.

<sup>15</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>16</sup> Abrham, J. (2011) Rural development and regional disparities of the new EU Member States. *Agricultural Economics*, 57(6), pp. 288-296

<sup>17</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>18</sup> Abrham, J. (2011) Rural development and regional disparities of the new EU Member States. *Agricultural Economics*, 57(6), pp. 288-296

- Agglomeration economies – being located closer to other cities, companies or people and forming clusters can multiply the development and growth. It is associated with increasing returns to scale<sup>19</sup>.

However, the neoclassical convergence theories have been criticized as capital and labour tend to flow towards already more developed regions causing divergence. Further observations in 1970s and 1980s have confirmed that the Kuznets curve does not work in reality as in many developed countries the social and regional inequalities continue to exist and even increase. The flow of labour and capital tends to be towards manufacturing centres causing further inequalities.<sup>20</sup> Harvey (1975) suggests that according to the Marx's theory of growth the regional inequalities are necessary for capitalism – undermined regions provide reserves of labour force as well as capital flows are only possible when differences occur.<sup>21</sup>

Since the 1980s a new paradigm of globalization and technological development plays increasing role in the understanding of regional inequalities. Regions are becoming more interconnected and regional development concept enhances more social aspects related to the human capital and quality of life. The approach to regional inequalities has become 'more dynamic and open evolutionary spatial temporal process.' The tendency of shifting manufacturing overseas has been challenging for regions within countries,<sup>22</sup> especially for undermined regions in the historically more developed states. In 1986 Paul Romer introduced a theoretical model of increasing-returns-to-scale, suggesting the rich regions would only get richer while the poor regions would get poorer,<sup>23</sup> implying divergence instead of convergence is being observed. The new endogenous growth theory offers more importance to the technological development, but also to the aspects of human capital, especially knowledge. Consequently, investments in research and innovation, education levels, knowledge management become relevant factors in defining regional disparities.<sup>24</sup>

Early understanding of regional inequalities within countries and across borders is linked with neoclassical economics. It has been argued that the disparities would even out with time, however the assumption did not turn to be right and could not be observed in the growing economies, as inequalities continued to exist. This is an indication that there are further external

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<sup>19</sup> Roses, J. R., Wolf, N. (2021) Regional growth and inequality in the long-run: Europe, 1900-2015. *Oxford Review of Economic Policy*, 37(1), 17-48

<sup>20</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>21</sup> Harvey, D. (1975). The geography of capitalist accumulation. *Antipode*, 7(2), pp. 9-21.

<sup>22</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>23</sup> Sachs, J. D., Warner, A. M. (1995) Economic Convergence and Economic Policies. *CASE Network Studies and Analysis*, 35.

<sup>24</sup> Abrham, J. (2011) Rural development and regional disparities of the new EU Member States. *Agricultural Economics*, 57(6), pp. 288-296

and internal factors that are determinants whether a certain region will be able to catch up and even out the existing inequalities. Some of the geographical, economical and administrative factors have been already identified, but have to further analysed.

### 1.1.2. Economic convergence

The debate of regional inequality is often associated with the convergence and divergence concepts.<sup>25</sup> Economic convergence is a process in which the regional disparities among different regions are declining.<sup>26</sup> The convergence-divergence concept looks into whether differences among regions exist and what are the factors contributing to these processes.<sup>27</sup> According to the neoclassical growth models, if economies are similar, the poor economies would grow faster than the rich ones,<sup>28</sup> in that way making economic convergence possible. It is based on the assumption that capital per labour ratio in poor regions is lower therefore there is a higher return of investments.<sup>29</sup>

To measure convergence,  $\beta$ -convergence and  $\sigma$ -convergence are the most often used. Both  $\beta$ -convergence and  $\sigma$ -convergence concepts were developed starting from the 80's with contribution from Baumol. It is assumed that if two economies have two different steady states, there are high inequalities between the two systems for conditional  $\beta$ -convergence and that the similar economies have the same steady state, but different initial positions in the unconditional  $\sigma$ -convergence.<sup>30</sup>  $\beta$ -convergence indicates to the tendency of poorer regions to grow faster than the richer, while the  $\sigma$ -convergence occurs when the dispersion of income or outputs declines over time.<sup>31</sup> As stated by Postiglione and colleagues: "The  $\sigma$ -convergence hypothesis refers to the reduction of disparities between countries or regions and is assessed by measuring dispersion in GDP per capita across a group of economies, over time. The  $\beta$ -convergence hypothesis implies a negative relationship between the initial level of GDP per capita and the growth rate of GDP per capita and is assessed by growth regressions. Both the  $\sigma$ -convergence

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<sup>25</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>26</sup> Iammarino, S., Rodriguez-Pose, A., & Storper, M. (2019). Regional inequality in Europe: Evidence, theory and policy implications. *Journal of Economic Geography*, 19(2), 273–298

<sup>27</sup> Novosák J., Novosáková J., Hájek O., Horváth P., 2017. Regional disparities, absorption capacity and Structural Fund payments: A case study of the Czech Republic. *Quaestiones Geographicae* 36(4), Bogucki Wydawnictwo Naukowe, Poznań, pp. 81–92

<sup>28</sup> Barro, R. J., Sala-i-Martin, X. (1992) Convergence. *Journal of Political Economy*, 100(2), pp. 223-251.

<sup>29</sup> Roses, J. R., Wolf, N. (2021) Regional growth and inequality in the long-run: Europe, 1900-2015. *Oxford Review of Economic Policy*, 37(1), 17-48

<sup>30</sup> Ertur, C., Le Gallo, J., Baumont, C. (2006) The European Regional Convergence Process, 1980-1995: Do Spatial Regimes and Spatial Dependence Matter? *International Regional Science Review*, 29(1), pp. 3-34.

<sup>31</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

and the  $\beta$ -convergence approaches are often based on methods where the geographical characteristics of the data are not considered.”<sup>32</sup>

Baumol also suggested that there is a ‘club convergence’ where some countries and regions do experience growth and convergence can be observed, while other are ‘outside the club’, therefore convergence patterns are not present. He associates it with the initial levels of development and suggests that therefore convergence and catching up can be observed in middle-income countries, where there are already human capital endowments.<sup>33</sup> A related concept of ‘conditional convergence’ was developed by Barro and Sala-i-Martin suggesting that convergence happens between geographic units that are similar to each other in terms of income levels.<sup>34</sup>

Although spatial effects are not considered in  $\beta$ -convergence and  $\sigma$ -convergence, convergence concept can be applied that it allows to evaluate the differences of what are the spatial spillover effects.<sup>35</sup> It can be observed in the EU that territorial spillovers take place, and convergence of regions in proximity of more-developed regions is improving and vice versa.<sup>36,37</sup> Regions are likely to have a positive impact on its own growth if it is surrounded by high growth regions.<sup>38</sup> These findings are in line with the core-periphery concept described by Friedmann. At the same time, some studies show, that in the USA, peripheral regions tend to show strong convergence while it is less visible in core regions<sup>39</sup>, which is in line with the idea of lagging regions catching up and growing faster as well as emphasizes the importance of different spatial structures for development.

Various notions of convergence suggest that catching up and evening out development is possible and can be observed, however, certain conditions have to be met. Evidence suggests that economic convergence in the EU was happening, but it stopped after the global financial crisis in 2008 and the disparities have not been changing significantly since then in the whole

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<sup>32</sup>Postiglione, P., Cartone, A., & Panzera, D. (2020). Economic Convergence in EU NUTS 3 Regions: A Spatial Econometric Perspective. *Sustainability*, 12(17), 6717.

<sup>33</sup> Sachs, J. D., Warner, A. M. (1995) Economic Convergence and Economic Policies. *CASE Network Studies and Analysis*, 35.

<sup>34</sup> Barro, R. J., Sala-i-Martin, X. (1992) Convergence. *Journal of Political Economy*, 100(2), pp. 223-251.

<sup>35</sup> Ertur, C., Le Gallo, J., Baumont, C. (2006) The European Regional Convergence Process, 1980-1995: Do Spatial Regimes and Spatial Dependence Matter? *International Regional Science Review*, 29(1), pp. 3-34.

<sup>36</sup> Postiglione, P., Cartone, A., & Panzera, D. (2020). Economic Convergence in EU NUTS 3 Regions: A Spatial Econometric Perspective. *Sustainability*, 12(17), 6717.

<sup>37</sup> Ertur, C., Le Gallo, J., Baumont, C. (2006) The European Regional Convergence Process, 1980-1995: Do Spatial Regimes and Spatial Dependence Matter? *International Regional Science Review*, 29(1), pp. 3-34.

<sup>38</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), ‘Location matters: a spatial econometric analysis of regional resilience in the European Union’, *Growth and Change*, 50(3), pp. 824-55.

<sup>39</sup> Lim, U. (2016). Regional income club in the US BEA economic areas: a spatial switching regression approach. *Annals of Regional Science*, 65(1), pp.273-294.

EU, while even increasing in the EU-15 states.<sup>40</sup> Covid-19 pandemics has caused further inequalities as the pandemics hit harder poorer regions.<sup>41</sup> On a global scale, the EU MS could be considered as comparable in terms of their development levels and theoretically the convergence process should be continued. Further factors causing divergence have to be analysed.

### 1.1.3. Main factors causing regional inequalities

Regional inequalities describe differences in economic performance of regions. Differences and disparities occur both between as within countries.<sup>42</sup> However, the regions are different by their size, location, population density and other factors<sup>43</sup> that may complicate the comparison of socio-economic indicators among them. Not only does the lagging regions are low performing in terms of economics, but they also have a tendency to have poorer health and consequent higher mortality rates, as well as lower education levels and higher crime rates.<sup>44</sup> Regional inequalities can also be a result of historical circumstances and policy choices.<sup>45</sup> There is a general tendency of higher and rising inequalities in emerging and developing economies and it seems to be beneficial mostly to already wealthy countries.<sup>46</sup>

Factors like geographic location, labour mobility and migration patterns, physical connectivity<sup>47</sup> and levels of education<sup>48</sup> can contribute to the competitiveness of regions. Especially globalization has made the geographic proximity an important factor for competitiveness.<sup>49</sup> Globalisation and ability to be competitive in the interrelated world as well

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<sup>40</sup> Monfort, P. (2020) Convergence of EU Regions redux: recent trends in regional disparities, Luxembourg: Publications Office of the European Union

<sup>41</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>42</sup> Novosák J., Novosáková J., Hájek O., Horváth P., 2017. Regional disparities, absorption capacity and Structural Fund payments: A case study of the Czech Republic. *Quaestiones Geographicae* 36(4), Bogucki Wydawnictwo Naukowe, Poznań, pp. 81–92

<sup>43</sup> Spezia, V. (2003) Measuring regional economies. *Statistics Brief: OECD*. October 2003 (6)

<sup>44</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>45</sup> Logan, T., Hardy, B., & Parman, J. (2021). Long-run analysis of regional inequalities in the US. *Oxford Review of Economic Policy*, 37(1), 49–69.

<sup>46</sup> Lessmann, C. (2011) Regional inequality and decentralisation: an empirical analysis. *Environment and Planning A*, 44, pp. 1363-1388.

<sup>47</sup> Dijkstra, L., Garcilazo, E., & McCann, P. (2015). The effects of the global financial crisis on European regions and cities. *Journal of Economic Geography*, 15(5), 935–949

<sup>48</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>49</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

as ability to introduce technologically advanced sectors are another factor that has to be considered in the context of convergence.<sup>50</sup>

In general, it is considered that the regional disparities were decreasing since 1900's to 1980's.<sup>51</sup> When income growth is observed after 1945 crucial role was played by the ability to recover from war, convergence and changing role of the coal; ability to restructure economy when the role of coal will be diminishing, will be crucial in further regional development.<sup>52</sup> Regional inequalities have been further fostered by technological changes since the 1970s like automatization processes as well as the ability to react to economic and structural changes that both have led to more favourable and competitive growth circumstances in larger metropolitan areas with more skilled labour force.<sup>53</sup> As a result, in many cases it is considered to have higher returns of investments in agglomerations<sup>54</sup> which lead to further increase in the development of densely populated urban areas which already have some development advantages over lagging regions. It is considered that denser areas have many benefits: agglomeration economies, higher productivity, better wages and living standards, therefore the spatial inequalities are a natural consequence.<sup>55</sup> In 21<sup>st</sup> century, the Great Recession and Covid-19 pandemics have been the biggest shocks that have made further impact on regional disparities. Regional inequalities in the European regions have led to anti-EU sentiments.<sup>56</sup>

Factors contributing to regional disparities can be divided into geographical and institutional. Historically, geographic factors like climate, soil quality, proximity to coal fields or large ports have paid a role in the population density and consequent economic activities in Europe. Institutional factors are man-made and include economic and governmental actors and players. These may be locational factors as being close to metropolitan areas or institutional differences as being part of the EU or Eurozone. Especially the latter seems to have a positive correlation with income levels. Institutional factors are particularly important in the context of market access. Furthermore, services both public and private tend to be located in big centres

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<sup>50</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 26

<sup>51</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>52</sup> Roses, J. R., Wolf, N. (2021) Regional growth and inequality in the long-run: Europe, 1900-2015. *Oxford Review of Economic Policy*, 37(1), 17-48

<sup>53</sup> Dijkstra, L., Garcilazo, E., & McCann, P. (2015). The effects of the global financial crisis on European regions and cities. *Journal of Economic Geography*, 15(5), 935–949

<sup>54</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16

<sup>55</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>56</sup> *Ibid.*

contributing to further concentration of growth.<sup>57</sup> In Europe regions which had access to coal fields are wealthier, while good soil quality and extreme temperatures are characteristics of poorer regions.<sup>58</sup> Currently, the combination of the changes driven by technological innovation and place-specific changes in social and economic capital are driving economic restructuring and have led to further regional differences in Europe.<sup>59</sup>

There are three types of disadvantaged regions: regions who are poor and lagging for a long time, regions who have failed to carry out structural changes and regions who have been hit harder by economic shocks.<sup>60</sup> The activities of local governments can influence the growth of certain regions.<sup>61</sup>

According to Garcilazo et.al. (2021) the population size and density of a region matters for its development potential. Based on the size of the region compared with the GDP growth authors conclude that agglomeration economies are present in regions with high population density leading to aggregated growth contributing to economy more than the population share. However, in Europe also medium-sized cities contribute significantly to economic growth. Both for growth as well as productivity, Europe possess two possible spatial models – concentrated and distributed.<sup>62</sup> At the same time also in Europe the core-periphery pattern of regional development can be observed.<sup>63</sup>

Metropolitan areas as well as small and medium sized cities do play an important role in mitigating regional inequalities as they have the chance to become regional growth poles. According to the growth poles theory, economic growth takes place around specific area, concentration increases productivity, hinterland connections are important, regional disparities are inevitable.<sup>64</sup> The resulting regional disparities are persistent.<sup>65</sup> However, having large

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<sup>57</sup> Roses, J. R., Wolf, N. (2021) Regional growth and inequality in the long-run: Europe, 1900-2015. *Oxford Review of Economic Policy*, 37(1), 17-48

<sup>58</sup> *Ibid.*

<sup>59</sup> Iammarino, S. and Rodríguez-Pose, A. and Storper, M. (2018) Regional inequality in Europe: evidence, theory and policy implications. *Journal of Economic Geography*, 19(2), 273-298

<sup>60</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>61</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>62</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>63</sup> Novosák J., Novosáková J., Hájek O., Horváth P., 2017. Regional disparities, absorption capacity and Structural Fund payments: A case study of the Czech Republic. *Quaestiones Geographicae* 36(4), Bogucki Wydawnictwo Naukowe, Poznań, pp. 81–92

<sup>64</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

<sup>65</sup> Novosák J., Novosáková J., Hájek O., Horváth P., 2017. Regional disparities, absorption capacity and Structural Fund payments: A case study of the Czech Republic. *Quaestiones Geographicae* 36(4), Bogucki Wydawnictwo Naukowe, Poznań, pp. 81–92

population is not sufficient because good governance and infrastructure play crucial role as well.<sup>66</sup>

Not only does the population size have impact on regional disparities, but human capital is also a further aspect to be considered to ensure competitiveness of a certain area. It enhances demographic processes like ageing, as well as education level, leadership skills, presence of local leaders.<sup>67</sup> Investing in human capital is crucial especially when the economic recession is happening, as the education levels have in addition positive spillover effect beyond the region itself. Furthermore, high shares of lowly educated people have a more negative influence on regions' growth than lower share of highly educated people.<sup>68</sup> Also, the structure of banking sector and availability of loans can play a role.<sup>69</sup>

Regional inequality is influenced by the spatial heterogeneity and spatial linkages.<sup>70</sup> Therefore, improvements in infrastructure can reduce the regional inequalities.<sup>71</sup> The possibilities of the rural areas are more limited as they not only have lower concentration of economic activities, greater share of employment in agricultural sector, but they are farther away from development axis.<sup>72</sup> The accessibility is especially important due to globalisation.<sup>73</sup> Although improvements in infrastructure are important and have been a crucial part of regional policy, physical infrastructural improvements alone do not guarantee decline in disparities, it is most efficient when combined with improvements in innovation and education.<sup>74</sup> However, transport infrastructure is important to enhance and utilize the existing available local resources.<sup>75</sup>

Regional inequalities are caused by numerous factors, some of them geographical and nature created, while others are human-induced and more institutional. While many of the geographical and historical factors cannot be overcome, certain factors like accessibility,

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<sup>66</sup> Frick, S., and Rodríguez-Pose, A. (2018), 'Big or Small Cities? On City Size and Economic Growth', *Growth and Change*, 49(1), 4–32.

<sup>67</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>68</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>69</sup> Logan, T., Hardy, B., & Parman, J. (2021). Long-run analysis of regional inequalities in the US. *Oxford Review of Economic Policy*, 37(1), 49–69.

<sup>70</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>71</sup> *Ibid.*

<sup>72</sup> Abraham, J. (2011) Rural development and regional disparities of the new EU Member States. *Agricultural Economics*, 57(6), pp. 288-296

<sup>73</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>74</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 42-43.

<sup>75</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

education levels, quality of governance can be improved introducing tools and policies on various scales.

#### 1.1.4. Indicators to measure regional inequalities

There are multiple indicators that are being used to measure regional inequalities. This chapter indicates few, most often used to compare, describe and analyse various regions and differences among their development.

*Gross Domestic Product per head* is the most often used when measuring regional inequalities and cohesion. It is considered a summary indicator for development and prosperity and it can be measured on various geographic scales, allowing to compare performance of a certain area.<sup>76</sup> It summarizes the material living standards and its' regional dimension helps understanding European economics. Patterns of personal income are very similar to the patterns of regional inequalities,<sup>77</sup> making it a valuable indicator to evaluate regional disparities.

Bracalente & Perugini (2010) suggest to 'decompose' the GDP per capita indicator in separate six components in order to show more specifically the causes of inequalities: industry mix and demographic structure, productivity and rate of employment differentials, the incidence of indirect taxes minus subsidies on the GDP at market prices and the commuting effect. Authors of the study conclude that productivity and commuting effect are crucial factors contributing to interregional inequalities. Furthermore, the decomposed indicator suggests that there is a gap between the old EU Member States and new ones and factors causing inequalities differ.<sup>78</sup> Structural factors are the main cause for regional inequalities according to Garcilazo et al. (2021) as well: such factors whether the productivity of growth is concentrated or distributed, as well as whether the growth model is metropolitan area dominated or mixed seem to have a bigger impact on regional inequalities as macroeconomic shocks.<sup>79</sup>

*Regional competitiveness* is one of the main metrics to evaluate regional policy and regional disparities in Europe since 2010s.<sup>80</sup> Definition and measuring of competitiveness

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<sup>76</sup>Dijkstra, L., Garcilazo, E., & McCann, P. (2015). The effects of the global financial crisis on European regions and cities. *Journal of Economic Geography*, 15(5), 935–94

<sup>77</sup> Roses, J. R., Wolf, N. (2021) Regional growth and inequality in the long-run: Europe, 1900-2015. *Oxford Review of Economic Policy*, 37(1), 17-48

<sup>78</sup> Bracalente, B., & Perugini, C. (2010a). The components of regional disparities in Europe. *The Annals of Regional Science*, 44(3), 621–645.

<sup>79</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>80</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

varies broadly, it is looked at from company point of view in a narrow sense, sectorally, regionally, nationally and internationally it looks at the comparative advantages.<sup>81</sup> Competitiveness is often linked with entrepreneurship activities and entrepreneurship activity-based opportunity within a geographic unit. The competitive advantages of companies are important for overall competitiveness and regional growth. The main factors influencing the competitiveness are: institutions; infrastructure; health and education; goods, labour and financial market; technologies; market size; business and innovation. On a national level Global Competitiveness Index by the World Economic Forum is one of the most used indicators.<sup>82</sup> European Competitiveness Index comprising the EU, Norway and Switzerland is prepared by Robert Huggins Associates.<sup>83</sup> One of the aspects that is considered to increase competitiveness is innovation. It can be measured by the number of patents and by the expenditures in research and development in a certain area.<sup>84</sup> In a broader sense competitiveness also includes ‘soft factors’, e.g., education, quality of life and environment. Ability of providing improving living standards is an important part of competitiveness.<sup>85</sup>

Productivity is one of the most important factors for long-run growth. Productivity growth is a ratio between output and labour inputs.<sup>86</sup>

*Employment rates* is used as an indicator as there is a positive tendency between employment rates and GDP per capita. However, the higher the *unemployment rates*, the lower the GDP per capita.<sup>87</sup> Employment growth is an indicator often used to evaluate the efficiency of the cohesion policies.<sup>88</sup>

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<sup>81</sup> Balkyte, A., Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of ‘Sustainable Competitiveness’. *Journal of Business Economics and Management*, 11(2), pp. 341-365.

<sup>82</sup> Crecente-Romero, F., Gimenez-Baldazo, M., Val-Nunez, M. T. del (2019) Competitiveness and entrepreneurship rate in Europe during the economic recovery phase, 2012-2016. *International Entrepreneurship and Management Journal*, 15, pp. 455-470.

<sup>83</sup> Balkyte, A., Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of ‘Sustainable Competitiveness’. *Journal of Business Economics and Management*, 11(2), pp. 341-365.

<sup>84</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 41.

<sup>85</sup> Balkyte, A., Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of ‘Sustainable Competitiveness’. *Journal of Business Economics and Management*, 11(2), pp. 341-365.

<sup>86</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>87</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 22-23

<sup>88</sup> Bachtrögler, J., Fratesi, U. & Perucca, G. (2020) The influence of the local context on the implementation and impact of EU Cohesion Policy, *Regional Studies*, 54:1, 21-34.

*Education level and human capital* in general are considered to influence regional development. There is a tendency of higher GDP per capita rates in regions with higher tertiary education levels.<sup>89</sup> Highly educated entrepreneurs are considered to be more likely developing complex and advanced products.<sup>90</sup>

Social inequalities are increasingly considered when regional disparities are being evaluated. *Gini coefficient* is a commonly used measure to assess the income inequality within a country. It is measured in a scale from 0 to 1, where 0 means that everyone has the same income, whereas 1 would mean that all the income goes to one person,<sup>91</sup> the higher the value, the bigger the inequalities among the lowest and highest income. Gini coefficient is calculated based on GDP of regions and mean arithmetic income.<sup>92</sup> Another indicator used to calculate social or individual inequalities within a region are *P90/P10* or *S80/S20 ratios*. It addresses the income distribution among citizens, an indicator is built in a way to define the share of income that is earned by the richest 10%.<sup>93</sup>

## **1.2. Development of the European Union's cohesion policy**

Cohesion is a concept aiming to reduce disparities among various factors. The principle of cohesion is aimed at reducing economic disparities among regions and provide them with equal opportunities.<sup>94</sup> One of the main aims of the Rome Treaty in 1957 and the Single European Act in 1986 is to reduce economic disparities of European Regions.<sup>95</sup> In the EU, cohesion policy is the main instrument to overcome regional disparities and increase convergence,<sup>96</sup> and measure differences in regional performance.<sup>97</sup> Ever since the cohesion policy has been established, its importance has increased, especially to address the regional

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<sup>89</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 25.

<sup>90</sup> Crecente-Romero, F., Gimenez-Baldazo, M., Val-Nunez, M. T. del (2019) Competitiveness and entrepreneurship rate in Europe during the economic recovery phase, 2012-2016. *International Entrepreneurship and Management Journal*, 15, pp. 455-470.

<sup>91</sup> OECD (2015), *In It Together: Why Less Inequality Benefits All*, OECD Publishing, Paris, pp. 20

<sup>92</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 143

<sup>93</sup> Sanchez Carrera, E.J., Rombaldoni, R., Pozzi, R. (2021). Socioeconomic inequalities in Europe. *Economic Analysis and Policy*, 71, pp. 307-320.

<sup>94</sup> *Ibid.*

<sup>95</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

<sup>96</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>97</sup> Begg, I. (2003). Complementing EMU: Rethinking Cohesion Policy. *Oxford Review of Economic Policy*, 19(1), pp. 161-179.

disparities.<sup>98</sup> Sala-i-Martin observes that in the EU, the term ‘cohesion’ is used as a synonym to convergence.<sup>99</sup> Today, around one third of the EU budget is allocated to the cohesion policy. It is distributed via multi-level governance level. Eligibility for funding is mostly determined on NUTS2 statistical level.<sup>100</sup> In the context of this master thesis, the **cohesion is considered an attempt to reduce regional inequalities among European regions in terms of social, economic and territorial aspects.**

The Article 174 of the Treaty on European Union says: ‘promote the EU overall harmonious development by developing and pursuing its actions, leading to the strengthening of its economic, social and territorial cohesion’<sup>101</sup>. Achieving this goal is the main target of the EU Cohesion Policy<sup>102</sup>. European cohesion policy is aimed to foster development and reduce regional inequalities, especially by supporting the economic growth, prosperity and welfare of lagging regions<sup>103</sup> <sup>104</sup> It is one of the central policies of the EU and economic convergence has been its focus.<sup>105</sup> Inequalities is another problem to be addressed by the cohesion policy.<sup>106</sup> Furthermore, it shall address the social exclusion and territorial dimension.<sup>107</sup> The focus of geographic space and introduction of regional level in policy making has been important paradigm shift caused largely by the cohesion policy.<sup>108</sup> Cohesion policy can also be looked at as a message of European solidarity, especially in times of economic shocks.<sup>109</sup> The cohesion policy has contributed to the shift from market integration to mutual solidarity and displaying the benefits of European integration to individual citizens.<sup>110</sup> The EU cohesion policy has changed the understanding of the social policy in the EU, especially in the terms of employment

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<sup>98</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

<sup>99</sup> Sala-i-Martin, X. (1996) Regional cohesion: Evidence and theories of regional growth and convergence. *European Economic Review*, 40, pp. 1325-1352

<sup>100</sup> Fratesi, U., Wislade, F. G. (2017) The impact of the European Cohesion Policy in different contexts. *Regional Studies*, 51(6), pp. 817-821

<sup>101</sup> Consolidated version of the Treaty on the Functioning of the European Union - PART THREE: UNION POLICIES AND INTERNAL ACTIONS - TITLE XVIII: ECONOMIC, SOCIAL AND TERRITORIAL COHESION - Article 174 (ex Article 158 TEC) *Official Journal L115*, 09/05/2008 P. 0127 - 0127

<sup>102</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>103</sup> Cunico, G., Aivazidou, E., Mollona, E. (2021) Beyond financial proxies in Cohesion Policy inputs’ monitoring: A system dynamics approach. *Evaluation and Program Planning* 89 (2021) 101964

<sup>104</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41:2, 147-168

<sup>105</sup> *Ibid.*

<sup>106</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives, *European Integration*, 32:1, 77-96

<sup>107</sup> *Ibid.*

<sup>108</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>109</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41:2, 147-168

<sup>110</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

and unemployment.<sup>111</sup> Also the need to address rising inequalities and asymmetric effects caused by introduction of the European Monetary Union has been another driving force to establish Structural funds and Cohesion funds.<sup>112</sup>

However, since the beginning of this century more and more focus is shifted from solidarity and equity to competitiveness.<sup>113</sup> The diversity of matters the cohesion policy must address has made it the EU policy that accumulates the most of funding,<sup>114 115</sup> but also being criticized for addressing too many objectives at the same time therefore lacking clear overall objectives.<sup>116117</sup> This paradigm is one of many factors that have been playing role in the changes that cohesion policy has experienced since the formation.

The enlargements of the EU have been important as with every enlargement the socio-economic profile and sometimes even the population density<sup>118</sup> of European Communities and later the EU changed. Consequently, each of the enlargements has been a reason to somehow restructure it.<sup>119</sup> The biggest and most influential was the enlargement accessing the Central and Eastern European States which are all significantly below the European average GDP per head and almost all regions become the so-called Objective 1 regions qualifying for cohesion funding.<sup>120</sup>

Another tendency has been to shift to support to well-performing urban areas, and it has led to one of the main dilemmas of the cohesion policy: to decide whether to invest in areas that will likely have the highest returns or to concentrate the support to the lagging regions. In such an approach competitiveness is played off to the cohesion.<sup>121</sup> An argument in this context is whether the recipient countries should be addressed regionally or nationally – although there might be bigger returns if investments would take place in capital regions and growth poles, it may contribute to further gap in development not really serving the idea of cohesion (the so-

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<sup>111</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>112</sup> Begg, I. (2003). Complementing EMU: Rethinking Cohesion Policy. *Oxford Review of Economic Policy*, 19(1), pp. 161–179.

<sup>113</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives, *European Integration*, 32:1, 77-96

<sup>114</sup> *Ibid*

<sup>115</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>116</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41:2, 147-168

<sup>117</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives, *European Integration*, 32:1, 77-96

<sup>118</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>119</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>120</sup> Begg, I. (2003). Complementing EMU: Rethinking Cohesion Policy. *Oxford Review of Economic Policy*, 19(1), pp. 161–179.

<sup>121</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

called equity-efficiency gap).<sup>122</sup> The strategic framework of the EU does depict many elements of the growth pole theory – growth takes place around specific area, concentration increases productivity, hinterland connections are important, regional disparities are inevitable.<sup>123</sup>

The alignments with European cohesion policy with the strategic framework of the EU has played a role in the priorities of the cohesion policy. The Lisbon strategy (2000) emphasized the need to improve the competitiveness and productivity of Europe, while Europe 2020 Strategy put additional emphasis on sustainability. With the latter smart, sustainable and inclusive growth as well as decoupling growth from use of natural resources has become increasingly important.<sup>124</sup> In line with other European framework, the cohesion policy would have to start addressing the inequalities caused by globalization as well.<sup>125</sup>

### **1.2.1. Economic and social cohesion**

Achieving balanced socio-economic development across the whole Union is the target of economic and social cohesion. Economic and social cohesion are often looked at together, however, the originating concepts are rather different. It also has to be noted that high economic performance does not automatically lead to social cohesion.<sup>126</sup> The European Single Act first described social and economic cohesion as well as defined certain instruments and resources like funding to address these issues.<sup>127</sup>

A clear definition of the economic cohesion is missing. In simple approach, the economic convergence could be understood as relatively small differences in economic performance of regions.<sup>128</sup> However, further aspects must be considered – the absolute disparities in regional development in certain moment in time and the changes over a period of time, indicating convergence or divergence.<sup>129</sup> The sectoral structures of employment also can

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<sup>122</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>123</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

<sup>124</sup> Balkyte, A., Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of 'Sustainable Competitiveness'. *Journal of Business Economics and Management*, 11(2), pp. 341-365.

<sup>125</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>126</sup> Rocha, H., Kunc, M., Audretsch, D.B. (2019) Clusters, economic performance and social cohesion: a system dynamics approach. *Regional Studies*, 54(8), pp. 1098-1111.

<sup>127</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>128</sup> Molle, W., Boeckhout, S. (1995) Economic disparity under conditions of integration – a long-term view of the European case. *Papers in Regional Science*, 74(2), pp. 105-123.

<sup>129</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

indicate to economic cohesion.<sup>130</sup> Often, the economic cohesion is considered an indirect effect of policies with own objectives.<sup>131</sup>

Traditionally, with social cohesion a process where members of society are willing to cooperate is understood. Social cohesion contributes to various aspects, for example, economic prosperity or health.<sup>132</sup> Social cohesion “is the nature and extent of social and economic divisions within society.”<sup>133</sup> It can be understood as a complex set of measures to increase social integration of various groups in a certain geographic area.<sup>134</sup> Spatial cohesion is important in order to achieve social cohesion among the citizens, therefore regional policies aimed to reduce disparities are contributing to reducing of social inequalities as well.<sup>135</sup>

In Europe the social cohesion is commonly understood as “the outcome of processes that encompass both sociocultural and structural factors including the state, economy and other societal institutions”.<sup>136</sup> European Commission has defined social cohesion as “the capacity of a society to ensure the welfare of all its members, minimizing disparities and avoiding polarization. A cohesive society is a mutually supportive community of free individuals pursuing these common goals by democratic means.”<sup>137</sup> In Europe, the social cohesion is considered from the large-scale structural change perspective, considering European integration, neoliberal globalization and welfare state concepts. At the same time the ‘socio-cultural’ approach is also present – social interactions are considered more important than national social matters, like material equality or inequality of individual or social exclusion. Social challenges as integration of immigrants are a further consideration.<sup>138</sup> The idea of European solidarity has been important when cohesion policy was developed and allocation of funds to disadvantaged areas has been made.

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<sup>130</sup> Cyrek, M. (2021) Sectoral structure of employment and economic cohesion in the EU regions. *Ekonomika i Prawo. Economics and Law*, 20(1), pp. 63-77

<sup>131</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

<sup>132</sup> Stanley, D. (2003) What do we know about social cohesion: the Research Perspective of the Federal Government’s Social Cohesion Research Network. *The Canadian Journal of Sociology*. 28(1), pp. 5-17.

<sup>133</sup> William, E, Ritzen, J., Woolcock, M. (2006). Social Cohesion, Institutions and Growth. *Center for Global Development Working Paper*. 94.

<sup>134</sup> Rocha, H., Kunc, M., Audretsch, D.B. (2019) Clusters, economic performance and social cohesion: a system dynamics approach. *Regional Studies*, 54(8), pp. 1098-1111.

<sup>135</sup> Sanchez Carrera, E.J., Rombaldoni, R., Pozzi, R. (2021). Socioeconomic inequalities in Europe. *Economic Analysis and Policy*, 71, pp. 307-320.

<sup>136</sup> Boucher, G. (2013) European social cohesions. *Patterns of Prejudice*, 47(3), pp. 215-234.

<sup>137</sup> Council of Europe, European Committee for Social Cohesion, A New Strategy for Social Cohesion. Strasbourg: Council of Europe 2004, pp. 3. [Accessed: 12.05.2022.] Available: [https://www.coe.int/t/dg3/socialpolicies/socialcohesiondev/source/RevisedStrategy\\_en.pdf](https://www.coe.int/t/dg3/socialpolicies/socialcohesiondev/source/RevisedStrategy_en.pdf)

<sup>138</sup> Boucher, G. (2013) European social cohesions. *Patterns of Prejudice*, 47(3), pp. 215-234.

### 1.2.2. Territorial cohesion

Besides focusing on growth, the notion of territorial cohesion has re-emerged in the context of cohesion policy especially during the 2014-2020 period.<sup>139</sup> The understanding of the territorial cohesion is broad and has changed with various EU policy documents; it has been comprising spatial development, territorial imbalances, territorial effects on sectors, stakeholders' coordination, polycentricity, access to services, balanced and sustainable development, energy.<sup>140</sup> Territorial cohesion puts focus on balanced development between regions, puts focus on integrated approach and enhancing territorial differences. The territorial approach is gaining more and more importance in the implementation of the cohesion policy.<sup>141</sup><sup>142</sup> Harmonious spatial development is the underlying issue and main tool towards territorial cohesion. In addition, with the introduction of the spatial planning and territorial approach the concept of sustainable development is connected more closely to the cohesion policy.<sup>143</sup>

In parallel to the territoriality, there are indications that the cohesion policy in Europe is becoming more and more urban-centred at the same time also raising the discussion on the linkages between urban and rural territories.<sup>144</sup> In the EU cohesion policy, a shift has taken place in which the focus is on supporting urban areas that are supposed to ensure spillover effects for adjacent areas.<sup>145</sup> As a result, the regional competitiveness in the EU policies is addressed by increasing the capacities of cities of the regions and defining the cities as economic drivers.<sup>146</sup><sup>147</sup> To spread the economic benefits, cities would have to cooperate and link with their hinterlands – 2<sup>nd</sup> and 3<sup>rd</sup> tier cities, rural areas and polycentrism should be promoted to decrease the gap between core and peripheral regions.<sup>148</sup> Targeted support to 2<sup>nd</sup> and 3<sup>rd</sup> tier cities may bring further advantages to development and exploitation of territorial capital, avoiding the concentration of resources and supporting spill-over from the metropolitan

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<sup>139</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>140</sup> 89. Zaucha J. & Böhme K. (2020) Measuring territorial cohesion is not a mission impossible, *European Planning Studies*, 28:3, 627-649

<sup>141</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>142</sup> Potluka, O., Medeiros, E. (2021): Administrative and organizational capacities of civil society in EU Cohesion Policy

<sup>143</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>144</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

<sup>145</sup> *Ibid.*

<sup>146</sup> *Ibid.*

<sup>147</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>148</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

to adjacent areas.<sup>149</sup> Knowing the diversity of European regions, the regained focus of territoriality is important to address regional inequalities, but it has further elements that have to be considered.

### **1.2.3. Historical development of the European Union's cohesion policy**

Since the founding of the European Economic Community, regional policy has been present in the agenda of Europe as it was stated in the Treaty of Rome. Over the years, horizontal integration and enlargement of the European Communities and later the EU has played an important role in shaping the cohesion policy. It gained special importance with the first enlargement – United Kingdom, Denmark, Ireland accessed in 1973. Around that time the concept of the European Regional Development Fund was created and in 1975 the regulation of it entered into force, focusing on the lagging regions and industrial regions in decline.<sup>150</sup> It was aimed at socio-economic cohesion.<sup>151</sup> Territorial convergence as an objective first arose in the 1985 in the policies of the European Community. Treaty of Rome included reference to harmonious development of all territories. The need to have instruments to intervene with regional development became apparent with the accession of the UK, Ireland and Denmark that resulted in the establishment of the ERDF in 1975. ERDF had no coordinating role but supported individual projects.<sup>152</sup>

With the Single European Act in 1986, a commitment to foster economic and social cohesion was a new concept. Consecutive policy incentives have been in line with this commitment.<sup>153</sup> Single European Act was a consequence to the two enlargements in 1981 and 1986 and it is aligned with time when need for balanced socio-economic development appeared in the narrative of the European Communities.<sup>154</sup> The first period of the cohesion policy was implemented with the *European Regional Development Fund*. The development of the cohesion policy as it is shaped today started with the establishment of the Directorate-General for Regional Policy in 1968. The European Single Act was adopted in 1986 and subsequently the Structural Funds were reformed. When the cohesion policy was established, there were low expectations on the actual impacts that would be possible by the policy, especially regarding

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<sup>149</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

<sup>150</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>151</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>152</sup> Avdikos, V., Chardas, A. (2016) European Union Cohesion Policy Post 2014: More (Place-Based and Conditional) Growth – Less Redistribution and Cohesion. *Territory Politics Governance*, 4(1), pp. 97-117.

<sup>153</sup> *Ibid.*

<sup>154</sup> *Ibid.*

the ambitious target of reducing regional disparities.<sup>155</sup> Greece joined the EU in 1981 and Spain in 1986, these both accessions had considerable effects on the regional disparities within the EU increasing the dispersion of income.<sup>156</sup>

Since its early phases, cohesion policy has been considered an important addition to the Single Market grounded in 1986 and Single Currency introduced by the Maastricht Treaty in 1992. While these two programs were important building stones of the EU integration, the risks of monetary policies affecting various regions differently and especially having negative impact on peripheral or lagging regions, the cohesion policy has been considered a counterbalance mechanism.<sup>157</sup> Cohesion policy has been part of the EU policies since 1988,<sup>158</sup> when the European Regional Development Fund was integrated into it and in addition started to specifically address the poorest regions. Altogether, the first cohesion policy had five objectives adding the youth integration in labour market, long-term unemployment, and rural development. Here again, the accession of Spain, Portugal and Greece was one of the drivers for restructuring.<sup>159</sup>

Currently, the cohesion policy is distributed in 7-year cycles. It means that the cohesion policy is aligned with the multi-annual financial framework, however it has to be noted that the legislative procedures are different as cohesion policy is approved by the ordinary legislative procedure. Few latest cycles of the cohesion policy it is also aligned with the strategic targets of the European Commission. Priorities of past cohesion policies are summarized in table 1.1. On the one hand it ensures coordinated implementation of strategic objectives, but at the same time, it also confirms that the concept of cohesion is sometimes vague, and the issues covered under the policy, vary from one programming period to another and allow to address multitude of actions.

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<sup>155</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>156</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

<sup>157</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>158</sup> Cunico, G., Aivazidou, E., Mollona, E. (2021) Beyond financial proxies in Cohesion Policy inputs' monitoring: A system dynamics approach. *Evaluation and Program Planning* 89 (2021) 101964

<sup>159</sup> Petzold, W. (2008) EU Cohesion Policy 1988-2008: Investing in Europe's future. *Inforegio Panorama*, 26

**Main priorities of each period of the cohesion policy**

<i>Period</i>	<i>Key challenges to be addressed</i>
1975 (ERDF)	<ul style="list-style-type: none"> <li>• Lagging regions</li> <li>• Industrial Regions in decline</li> </ul>
1988-1993	<ul style="list-style-type: none"> <li>• Youth unemployment</li> <li>• Long-term unemployment</li> <li>• Rural development</li> </ul>
1994-1999	<ul style="list-style-type: none"> <li>• Adapt workers for industrial changes</li> <li>• Sparsely populated areas</li> </ul>
2000-2006	<ul style="list-style-type: none"> <li>• Structural adjustment of lagging regions</li> <li>• Economic and social conversion of areas facing structural difficulties</li> <li>• Education, training and employment</li> </ul>
2007-2013	<ul style="list-style-type: none"> <li>• Convergence</li> <li>• Regional Competitiveness and Employment</li> <li>• European Territorial Cooperation</li> </ul>
2014-2020	<ul style="list-style-type: none"> <li>• Research</li> <li>• Low carbon</li> <li>• ICT</li> <li>• SME's</li> <li>• Climate</li> <li>• Infrastructure</li> <li>• Social inclusion</li> <li>• Public administration</li> </ul>

Source: prepared by author, based on Leonardi, R. (2006) *Cohesion in the European Union, Regional Studies*, 40(2), pp. 155-166., Begg, I. (2010) *Cohesion or Confusion: A Policy Searching for Objectives European Integration*, 32:1, 77-96, Petzold, W. (2008) *EU Cohesion Policy 1988-2008: Investing in Europe's future. Inforegio Panorama*, 26

Since the *Cohesion Policy 1989-1993* the Objective 1 areas are the least developed regions with GDP lower than 75% from the European average. The growth was faster in the lagging regions in the early periods of cohesion policy and the convergence process was present, especially the Ireland serving as a role model. Already in early phases of the cohesion policy it was observed that countries perform differently in achieving the targets of the cohesion policy.<sup>160</sup> Arguments for the time were that a more equal European area would also be more competitive and therefore it is in the interests of the net contributing countries to allocate funding to lagging regions.<sup>161</sup>

<sup>160</sup> Leonardi, R. (2006) *Cohesion in the European Union, Regional Studies*, 40(2), pp. 155-166.

<sup>161</sup> Avdikos, V., Chardas, A. (2016) *European Union Cohesion Policy Post 2014: More (Place-Based and Conditional) Growth – Less Redistribution and Cohesion. Territory Politics Governance*, 4(1), pp. 97-117.

After the Maastricht Treaty entered into force the Cohesion Fund was established in 1993. Furthermore, the Maastricht Treaty introduced the subsidiarity principle to the implementation of the cohesion policy as it is to big proportion given to the Member States to administer.<sup>162</sup> At the same time Bachtler and Mendez (2007) argue that the role of Member States in making decisions regarding the cohesion policy are actually limited and exaggerated as the structure of the policy and budget is shaped by the European Commission.<sup>163</sup> For the *cohesion policy 1994-1999* that followed the Maastricht Treaty there were 6 priorities, two new priorities were added – to adapt workers for industrial changes and address sparsely populated areas (European Communities, 2008). Starting 1994, the resources for the cohesion policy were doubled.<sup>164</sup>

Especially, a shift of direction took place with the accession of new Member States in 2004 and 2007, which was probably the most visible example of horizontal integration in Europe.<sup>165</sup> It aligns with the *cohesion policy for the period 2000-2006*. Furthermore, it has to be noted that after those enlargements the share of sparsely populated and less-developed regions significantly increased in Europe.<sup>166</sup> In this period some of the priorities were merged and there were left to address structural changes in lagging regions, economic and social conversion of areas facing structural difficulties and education, training and employment.<sup>167</sup> For the period 2000-2006 the most disadvantaged or lagging European regions were also referred to as Objective 1 regions.<sup>168</sup> Starting with this period also the so-called ‘Lisbonization’ of the cohesion policy started and continued until 2013,<sup>169</sup><sup>170</sup> the cohesion policy has been perceived as one of the main instruments to achieve the targets of the Lisbon Strategy,<sup>171</sup> as well as the Europe 2020 Strategy.<sup>172</sup> The Europe 2020 Strategy has been crucial in the paradigm

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<sup>162</sup> Petzold, W. (2008) EU Cohesion Policy 1988-2008: Investing in Europe`s future. *Inforegio Panorama*, 26

<sup>163</sup> Bachtler, J. & Mendez, C. (2007) Who governs EU cohesion policy? Deconstructing the reforms of the Structural Funds. *Journal of Common Market Studies*, 45, pp. 535–64.

<sup>164</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>165</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>166</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>167</sup> Petzold, W. (2008) EU Cohesion Policy 1988-2008: Investing in Europe`s future. *Inforegio Panorama*, 26

<sup>168</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>169</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41(2), pp. 147-168

<sup>170</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>171</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>172</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

shift towards competitiveness, as well as its' relation to sustainability.<sup>173</sup> Both documents have shifted the focus of the Cohesion policy to employment, competitiveness and smart, sustainable and inclusive growth.<sup>174</sup> Starting 2000's a change in narrative was to be observed in the cohesion policy as the policy objectives of the 'Lisbon Strategy' became an overarching document also for the cohesion policy. 'Lisbon Strategy' focuses on the economic difficulties and lack of competitiveness.<sup>175</sup>

The need to address the globalization has been among the reasons for paradigm shift, innovation and competitiveness, especially in economics, have arisen as emerging topics.<sup>176</sup> That led to the main focus of *cohesion policy 2007-2013* to be on growth and jobs and introducing priorities towards convergence, regional competitiveness and employment, as well as European Territorial Cooperation.<sup>177</sup> In addition, the cohesion policy 2007-2013 period was supportive to strengthen the role of regions<sup>178</sup> and introduced a shift to place-based approach narrative.<sup>179</sup> During the 2007-2013 period the cohesion policy was the largest EU policy in terms of the allocated funding. This period was aligned with the highest share of new MS and therefore administrative challenges. More focus on multi-level governance and cohesion policy as a tool to increase European solidarity is an important aspect.<sup>180</sup> The narrative on the need to improve competitiveness especially became important starting mid 2000's making it influential for this period of cohesion policy.<sup>181</sup>

*Cohesion policy 2014-2020* comes with a paradigm shift.<sup>182</sup> A significant reform was introduced in 2013, possibly making the cohesion policy one of the most important instruments

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<sup>173</sup> Balkyte, A., Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of 'Sustainable Competitiveness'. *Journal of Business Economics and Management*, 11(2), pp. 341-365.

<sup>174</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>175</sup> Avdikos, V., Chardas, A. (2016) European Union Cohesion Policy Post 2014: More (Place-Based and Conditional) Growth – Less Redistribution and Cohesion. *Territory Politics Governance*, 4(1), pp. 97-117.

<sup>176</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>177</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>178</sup> Scherpereel, J. A. (2010) EU Cohesion Policy and the Europeanization of Central and East European Regions, *Regional & Federal Studies*, 20(1), pp 45-62.

<sup>179</sup> Mendez, C. (2013) The post-2013 reform of EU cohesion policy and the place-based narrative, *Journal of European Public Policy*, 20(5), pp. 639-659

<sup>180</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>181</sup> Avdikos, V., Chardas, A. (2016) European Union Cohesion Policy Post 2014: More (Place-Based and Conditional) Growth – Less Redistribution and Cohesion. *Territory Politics Governance*, 4(1), pp. 97-117.

<sup>182</sup> Balkyte, A., Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of 'Sustainable Competitiveness'. *Journal of Business Economics and Management*, 11(2), pp. 341-365.

of the EU's economic policy.<sup>183</sup> Processes that have been influencing the changes are the conclusions of the Barca's report (2009) and introduction of the Smart specialization approach.<sup>184</sup> The so-called Barca report has been important to foster the place-based approach in the cohesion policy, even suggesting that as the only way forward in the modern world and its challenges.<sup>185</sup> In the 2014-2020 period financial support to promote investments for growth and jobs was continuously provided.<sup>186</sup> The cohesion policy 2014-2020 had 11 priorities focusing research and development, SMEs, sustainability topics, social inclusion and education. In addition, the shift to urban dimension happened in this period.<sup>187</sup> Furthermore, Member States had to describe in their policies how will they achieve territorial cohesion.<sup>188</sup> During 2014-2020 period, a reorientation away from promoting balanced socio-economic development in the direction of a regional growth-policy perspective. Consequently, competitiveness is considered one of the key elements for regional convergence and the idea of 'growth through competitiveness' becomes crucial prerequisite for policy development.<sup>189</sup> Starting this period the alignment with 'Europe 2020' has been important and receiving countries have to describe how the investments will contribute to the strategy. Consequently, the three pillars of the EU cohesion policy in this period are 'smart, sustainable and inclusive growth'. It might be argued that the first two pillars aimed at economic competitiveness are in contradiction with the latter pillar aiming for solidarity. The allocated funding is reduced by 5% in real prices compared to the previous programming period.<sup>190</sup> During 2014-2020 two instruments that are based on the place-based narrative are – Community-led Local Development and Integrated Territorial Investments.<sup>191</sup>

Over the years, the cohesion policy has been changing a lot, both in terms of contents and aims, as well as in the ways it is being administered and governed. The process has been

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<sup>183</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41(2), pp. 147-168

<sup>184</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

<sup>185</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations.

<sup>186</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>187</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

<sup>188</sup> Nosek, Š. (2017) Territorial cohesion storylines in 2014–2020 Cohesion Policy, *European Planning Studies*, 25(12), pp. 2157-2174

<sup>189</sup> Avdikos, V., Chardas, A. (2016) European Union Cohesion Policy Post 2014: More (Place-Based and Conditional) Growth – Less Redistribution and Cohesion. *Territory Politics Governance*, 4(1), pp. 97-117.

<sup>190</sup> *Ibid.*

<sup>191</sup> *Ibid.*

strongly influenced by the enlargement of the EU as it has created a diverse pattern of the regions across the continent. The cohesion policy has become more integrated with the strategic objectives that has consequently led to stronger focus to digitalization, climate neutrality and safety as contributing aspects for more coherent Europe. It also indicates that a higher variety of ideas are summarized under the idea of cohesion.

### **1.3. Main approaches and policy incentives to reduce regional inequalities and increase cohesion**

Since the regional inequalities as a phenomenon has been identified, discussion have also emerged on the possibilities to address them. Approaches to address regional disparities are very different ranging from support to institutions to direct financial support to companies. Regional policy, including the cohesion policy, is aimed at increasing economic efficiency and social equity, ensuring that the economic potential is fully utilized while equal opportunities are ensured for everyone.<sup>192</sup> Addressing the efficiency-equity dilemma therefore is present in the policy building.

The very first regional policies were introduced around 1930's to support regions that were hit particularly hard by the Great Depression. Since 1950's Europe has concentrated on supporting the most depressed regions (Southern Europe) and the most sparsely populated and remote regions (Scandinavia).<sup>193</sup> According to Armstrong and Taylor there were four main policy mechanisms European national governments used to address regional differences: capital and infrastructure subsidies, migration, growth pole approach, local development policy.<sup>194</sup> Starting 1980's policy concentrated on compensating inequalities, while in the beginning of the 21<sup>st</sup> century promoting growth of a specific region came to focus.<sup>195</sup> The policies were aligned with the deindustrialization and focus shift to innovation and globalisation; they were built to improve innovation and competitiveness resulting in regional strategies for economic development.<sup>196</sup> By the introduction of endogenous approaches in regional development stressing the role of human capital, innovation and new economic

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<sup>192</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations.

<sup>193</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>194</sup> *Ibid.*

<sup>195</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 50.

<sup>196</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

geography, new approach to regional policy emerged in the EU at the end of 1980's shifting from convergence to strengthening the competitiveness. The shift has been toward more strategic approaches and bottom-up incentives increasing the role of multi-level governance and involvement of new actors from both public and private sector as well as civil society.<sup>197</sup>

The so-called 'paradigm shift' in regional policy is aimed at supporting each individual region in achieving its endogenous growth potential.<sup>198</sup> As defined by Vanthillo, et.al., there are five characteristics defining the changes in the approach: "the redefinition of rationales and objectives, the suggestion of new types of regional interventions, the involvement of new actors, the broadening sphere of action, and the assessment of the impact."<sup>199</sup> Furthermore, two aspects have been important in the latest policy building: the interest in what is the role of cities in promoting growth is increasing and the shocks caused by the Great Recession and Covid-19 have put the economic resilience concept in spotlight in context with regional disparities.<sup>200</sup> Also the need to address climate change and sustainability is appearing in policies.<sup>201</sup>

Tax incentives and subsidies are among historical tools used in Europe to address regional disparities. They are considered top-down and among those where such incentives as moving state enterprises to regions or providing tax reductions to attract larger companies.<sup>202</sup> Usually the approach addressed big companies and financial support in a form of subsidies or tax reductions was used to foster locating these companies in lagging regions. Forms of support could be different, including workplace grants, state guarantees and indirect infrastructure support.<sup>203</sup> Providing subsidies is considered a traditional regional policy approach that is quite sectoral and governed by state authorities in a top-down matter.<sup>204</sup> However, there is rarely any evidence of the tax incentives to be a successful tool to reduce regional inequalities; the approach has received many criticisms.<sup>205</sup>

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<sup>197</sup> *Ibid.*

<sup>198</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 49

<sup>199</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>200</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>201</sup> Schot, J., and Steinmueller, W. E. (2018), 'Three Frames for Innovation Policy: R&D, Systems of Innovation and Transformative Change', *Research Policy*, 47(9), 1554–67.

<sup>202</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>203</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>204</sup> *Ibid.*

<sup>205</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

A further tool applied to address regional disparities is decentralisation. As a result of decentralisation, revenues and competences are transferred to sub-national levels in order to be closer to citizens ensure efficiency or services.<sup>206</sup> A very typical decentralization approach has been the allocation of state authorities and public offices in various regions, that is supposed to foster migration towards those regions.<sup>207</sup> The results on whether decentralisation is reducing or increasing regional inequalities is controversial. On the one hand decentralised system can foster place-based and tailored solutions closer to the citizens, but on the other hand it poses risks of capital concentrating in fewer regions across a state. This also implies that the central government has more limited opportunities to redistribute the capital.<sup>208</sup> Greater fiscal decentralisation has positive impact on income inequality within region, however this impact reduces with increasing GDP per capita on regional level. It may be that subnational governments have the advantage of better understanding the local citizens and needs. Decentralisation always has to be considered together with introduction of multi-level governance,<sup>209</sup> in order to ensure efficient cooperation among the various governance levels.

### **1.3.1. Place-based approaches and Smart Specialization Strategies**

The regions all over Europe are diverse in terms of the size of their economy, economic profile and various factors influencing it, therefore it is important to tailor made or adjust EU-wide regional policies to specific needs.<sup>210</sup> Place-based approaches is the main underlying concept for regional policies since 2010s and it is characterised by shifting away from sectoral thinking to more complex, multi-faceted and cross-sectoral thinking.<sup>211</sup> Empowerment and local or community development are among the most used approaches in development policies nowadays.<sup>212</sup>

One of place-based approaches is to foster agglomeration economies. Firms are motivated to move to dense areas in terms of population, capital and knowledge by arguing on

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<sup>206</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 109

<sup>207</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>208</sup> Lessmann, C. (2011) Regional inequality and decentralisation: an empirical analysis. *Environment and Planning A*, 44, pp. 1363-1388.

<sup>209</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 110

<sup>210</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>211</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>212</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

the returns of scale. It could be assumed that in a long run the benefits of the agglomeration economies may spillover to adjacent areas and regions. However, policies aimed at supporting already well-off regions are often criticized for further encouraging brain-drain and decline in lagging regions.<sup>213</sup>

The balance between the local, regional and national governance is an important factor to consider. Local corruption levels may hinder successful implementation of place-based strategies. Furthermore, there has to be capacity and willingness to implement local, decentralised strategies in a high quality in order for them to be successful.<sup>214</sup> It is important to note that for strategies to be successful they have to have funding and other means for practical implementation. It is necessary to clearly understand whether funding on regional and/or national level is available.<sup>215</sup>

Smart specialisation strategies has become a policy tool by the European Commission to address regional disparities and spur economic growth in European regions.<sup>216 217</sup> Smart Specialisation was introduced with the policy Research and Innovation Smart Specialisation Strategies (RIS3).<sup>218</sup> The role of Smart Specialisation Strategies in the EU has been especially important during the last decade.<sup>219</sup> The introduction of smart specialisation strategies were a fundamental part of the changes introduced by the 2014 cohesion policy and has a special role in the EU policymaking.<sup>220</sup> Initially smart specialisation strategies were aimed at addressing the structural changes needed in the EU to overstep the transatlantic productivity gap and have become one of the main instruments for the implementation of the European cohesion policy.<sup>221222</sup> Smart specialization idea has emerged as a response to the innovation challenges

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<sup>213</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>214</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>215</sup> *Ibid.*

<sup>216</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), ‘Location matters: a spatial econometric analysis of regional resilience in the European Union’, *Growth and Change*, 50(3), pp. 824-55.

<sup>217</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>218</sup> Estensoro, M., Larrea, M. (2016) Overcoming policy making problems in smart specialisation strategies: engaging subregional governments. *European Planning Studies*, 24(7), pp. 1319-1335.

<sup>219</sup> Vanthillo, T., Beckers, J., Verhetsel, A. (2021) The changing nature of regional policy in Europe. *Oxford Review of Economic Policy*, 37(1), pp. 201-220.

<sup>220</sup> Di Cataldo, M., Monastiriotis V., Rodriguez-Pose, A. (2021) How ‘Smart’ Are Smart Specialization Strategies? *Journal of Common Market Studie*, pp. 1-27

<sup>221</sup> Mccann, P., Ortega-Argiles, R. (2015) Smart Specialization, Regional Growth and Application to European Cohesion Policy. *Regional Studies*, 49(8), pp. 1291-1302

<sup>222</sup> Estensoro, M., Larrea, M. (2016) Overcoming policy making problems in smart specialisation strategies: engaging subregional governments. *European Planning Studies*, 24(7), pp. 1319-1335.

in Europe. Crucial element of smart specialization strategies is the policy-prioritization.<sup>223</sup> Smart specialisation strategies have been a pre-requisite to be eligible for cohesion policy funding starting the 2014-2020 period.<sup>224</sup>

The main idea of the Smart Specialisation Strategies is to emphasize and mobilize the unique economic potential of each country and region. That should lead to more place-based and bottom-up development. Smart specialisation strategies have to identify the biggest potential of a certain area, define the comparative advantages and unleash the growth potential.<sup>225</sup> As stated by Di Cataldo et.al.: “from a ‘one-size-fits-all’ to a more place-based intervention, from a top-down approach to a more bottom-up one and from an objective of economic convergence among European regions to a multitude of objectives adapted to the conditions and potential of every region.”<sup>226</sup> Mccann and Ortega-Argiles argue that “The concept of smart specialization therefore emphasizes issues of economic potential, and the mechanisms whereby such potential is most likely be realized, and can be summarized as follows. Within a particular domain, the entrepreneurial search process leads to the identification of the distribution of potential opportunities for technological improvements to be embodied in a range of sectors, activities and occupations; the relevant size issue relates to the potential magnitude of the innovation outcomes associated with these opportunities; and the connectedness issue relates to the potential for learning about both these opportunities and magnitudes.”<sup>227</sup>

Important pre-requisite for the smart specialisation strategies to be successful, is the implementation and multiple challenges are identified regarding it. Firstly, there has to be certain capacity in the implementation of bottom-up approaches that are required to smart specialisation strategies. Secondly, it requires local actors that are educated and willing to participate in the implementation. Thirdly, new government modes are needed.<sup>228</sup> Furthermore, the strategies have to be developed based on evidence, but often are copying the neighbouring regions or picking already existing strong industries. In many cases, strategies are way too

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<sup>223</sup>Mccann, P., Ortega-Argiles, R. (2015) Smart Specialization, Regional Growth and Application to European Cohesion Policy. *Regional Studies*, 49(8), pp. 1291-1302

<sup>224</sup> Kotnik, P., Petrin, T. (2017) Implementing a smart specialisation strategy: an evidence-based approach. *International Review of Administrative Sciences*, 83(1), pp. 85-105.

<sup>225</sup> Di Cataldo, M., Monastiriotes V., Rodriguez-Pose, A. (2021) How ‘Smart’ Are Smart Specialization Strategies? *Journal of Common Market Studie*, pp. 1-27

<sup>226</sup> *Ibid.*

<sup>227</sup> Mccann, P., Ortega-Argiles, R. (2015) Smart Specialization, Regional Growth and Application to European Cohesion Policy. *Regional Studies*, 49(8), pp. 1291-1302

<sup>228</sup> Estensoro, M., Larrea, M. (2016) Overcoming policy making problems in smart specialisation strategies: engaging subregional governments. *European Planning Studies*, 24(7), pp. 1319-1335.

broad in order to be effective. As the smart specialisation strategies are implemented relatively recently, longer-term benefits are still to be observed.<sup>229</sup>

Although many of the considerations regarding the smart specializations are aspatial, like sectoral thinking or improving the human capital to be able to adapt new technologies and skills, the spatial considerations cannot be excluded. Small regions tend to be more specialized, while core regions have a tendency to be more diverse, which would lead to higher innovation and entrepreneurship in core areas. The latter would in theory than benefit most of the smart specialization strategies. However, via the three characteristics that the strategies must have – embeddedness, relatedness and connectedness, also smaller regions can be addressed and can serve as a useful tool for policymakers that allows to overcome the ‘one-size-fits-all’ logic.<sup>230</sup>

### 1.3.2. Improving economic resilience

Economic resilience is one of the crucial factors defining how a certain region will be able to react in a case of economic shock. The economic resilience concept, as well as causes and implications for certain units to be more or less resilient, have been more broadly applied and analysed after the economic crisis in 2008.<sup>231</sup> Due to the increasing globalisation and integration, interdependences and vulnerability to external shocks seems to have been increased.<sup>232</sup> Resilience is a concept transferred to economics from natural sciences, used in physics defining the systems’ ability to return to equilibrium state following disturbance, or in ecology where resilience refers to the systems’ ability to absorb external shock (e.g., pollution) until it will be destabilized.<sup>233</sup> In economics, economic vulnerability and economic resilience can be distinguished where vulnerability is associated with the openness to exogenous shocks, while resilience is associated with policies in place for the system to be capable to react to those shocks.<sup>234</sup> Economic units (e.g., regions) that are more affected by and able to recover faster from economic shocks, are considered to be more resilient.<sup>235</sup> Regional economic resilience is

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<sup>229</sup> Di Cataldo, M., Monastiriotis V., Rodriguez-Pose, A. (2021) How ‘Smart’ Are Smart Specialization Strategies? *Journal of Common Market Studies*, pp. 1-27

<sup>230</sup> Mccann, P., Ortega-Argiles, R. (2015) Smart Specialization, Regional Growth and Application to European Cohesion Policy. *Regional Studies*, 49(8), pp. 1291-1302

<sup>231</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), ‘Location matters: a spatial econometric analysis of regional resilience in the European Union’, *Growth and Change*, 50(3), pp. 824-55.

<sup>232</sup> Pizzuto, P. (2019). The role of regional competitiveness in shaping the heterogenous impact of the Great Recession. *Regional Science Policy & Practice*, 12(2), pp. 267-290.

<sup>233</sup> Martin, R. (2012) Regional Economic Resilience, hysteresis and recessionary shocks. *Journal of Economic Geography*. 12, pp. 1-32.

<sup>234</sup> Briguglio, L., Cordina, G., Farrugia, N. & Vella, S. (2009) Economic Vulnerability and Resilience: Concepts and Measurements, *Oxford Development Studies*, 37(3), 229-247

<sup>235</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), ‘Location matters: a spatial econometric analysis of regional resilience in the European Union’, *Growth and Change*, 50(3), pp. 824-55.

the ability to efficiently respond to unexpected, undesired external disturbances.<sup>236</sup> Martin (2012) distinguishes four dimensions for economic resilience on regional level: a)Resistance or sensitivity to external shocks, b)Recovery and the speed and extent of it, c)Re-orientation or the ability to adjust output, jobs and incomes, d)Renewal or ability to return to growth.<sup>237</sup> Di Pietro, et.al. (2021) suggest concentrating on resistance and recoverability.<sup>238</sup>

There are no uniform strategies on how to improve economic resilience, but the unique factors influencing it can be identified and addressed.<sup>239</sup> Regions that have a city within it, tend to be more resilient as they have higher physical accessibility levels due urban infrastructure, agglomeration economies, better access to information and technologies, technological readiness and ability to transfer knowledge among various spheres, cities have denser networks. All these factors have a positive influence on the resilience of both the city itself and the region within which it is located.<sup>240</sup> Regions with capital regions have even more benefits.<sup>241</sup> Spatial interactions among regions are a further important factor.<sup>242</sup>

According to Rios and Gianmoena (2020)<sup>243</sup>, one of the most important drivers for higher economic resilience is the quality of government as that also improves the performance of regional labour market. Good institutions are essential for economic development, especially in core regions and good governance in general is associated with higher productivity, more efficient administrative processes and lower corruption levels.<sup>244</sup> Investments tend to have a broad spillover effect, also having positive impact on development of neighbouring regions, however, they have a higher added-value in core regions.<sup>245</sup> Technological readiness and ICT

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<sup>236</sup> Di Pietro, F., Patrizio Lecca, P., & Salotti, S. (2021) Regional economic resilience in the European Union: a numerical general equilibrium analysis, *Spatial Economic Analysis*, 16:3, 287-312

<sup>237</sup> Martin, R. (2012) Regional Economic Resilience, hysteresis and recessionary shocks. *Journal of Economic Geography*. 12, pp. 1-32.

<sup>238</sup> Di Pietro, F., Patrizio Lecca, P., & Salotti, S. (2021) Regional economic resilience in the European Union: a numerical general equilibrium analysis, *Spatial Economic Analysis*, 16:3, 287-312

<sup>239</sup> Stanickova, M. & Melecký, L. (2018). Understanding of resilience in the context of regional development using composite index approach: the case of European Union NUTS-2 regions, *Regional Studies, Regional Science*, 5:1, 231-254

<sup>240</sup> Capello, R., Caragliu, A., & Fratesi, U. (2015). Spatial heterogeneity in the costs of the economic crisis in Europe: Are cities sources of regional resilience? *Journal of Economic Geography*, 15, 951–972.

<sup>241</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>242</sup> Pizzuto, P. (2019). The role of regional competitiveness in shaping the heterogenous impact of the Great Recession. *Regional Science Policy & Practice*, 12(2), pp. 267-290.

<sup>243</sup> Rios, V., Gianmoena, L. (2020). The link between quality of governance and regional resilience in Europe. *Journal of Policy Modelling*. 42(5)

<sup>244</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>245</sup> *Ibid.*

are important to increase economic competitiveness.<sup>246</sup> Regions scoring highly in technological and innovation dimensions are likely to be more resilient.<sup>247</sup>

The economic structure plays a role to regional economic resilience as well – regions with high share of labour force in manufacturing and construction are less resilient, regions that are highly specialized labour markets are more resilient than the diversified markets.<sup>248</sup> Specialisation in high added-value activities is another factor with a positive impact on economic resilience, however it is more valuable for core regions that tend to have higher growth rates. In the case of peripheral regions, the spillover from adjacent regions won't be favourable, the gravitation will be towards already better-off growth poles.<sup>249</sup>

Human capital is a crucial factor. Regions with a high share of labour force with upper secondary and tertiary education are more than 8 times resistant to economic shocks than regions with lower education levels. Increased human capital also leads to higher productivity.<sup>250</sup> One of the reasonings behind this during the Great Recession is the relatively less-affected service sector which tends to employ people with higher degrees of education.<sup>251</sup>

According to Annoni, et.al. (2010), relatively small impact on resilience of regions is associated with infrastructure, labour market efficiency, innovation levels. The latter might be linked with the role innovation being higher when regions approach their productivity frontier; for other regions adapting existing innovation strategies may be as successful as well as the growth generation by innovation does not necessarily takes place where it was invented.<sup>252</sup>

Accessibility potential or the ability to physically reach other regions is an important aspect that may have an impact on regional resilience.<sup>253</sup> However, the findings are controversial, and it seems that while accessibility is crucial for general regional growth, the importance of rail and motorway density loses its' importance during economic shocks.<sup>254</sup>

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<sup>246</sup> *Ibid.*

<sup>247</sup> Stanickova, M. & Melecký, L. (2018). Understanding of resilience in the context of regional development using composite index approach: the case of European Union NUTS-2 regions, *Regional Studies*, *Regional Science*, 5:1, 231-254

<sup>248</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>249</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>250</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>251</sup> Pizzuto, P. (2019). The role of regional competitiveness in shaping the heterogenous impact of the Great Recession. *Regional Science Policy & Practice*, 12(2), pp. 267-290.

<sup>252</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>253</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>254</sup> Pizzuto, P. (2019). The role of regional competitiveness in shaping the heterogenous impact of the Great Recession. *Regional Science Policy & Practice*, 12(2), pp. 267-290.

Demographic factors also can play a role in the regional inequalities. For example, higher life expectancy may imply that there is a greater share of older labour force that may experience difficulties in readjusting their job and skills after economic shocks, which consequently means that they may be longer unemployed.<sup>255</sup>

The higher the regional competitiveness in the pre-crisis period the more resilient to the external shocks are the regions, especially in the resistance phase.<sup>256</sup> It has to be noted that the resistance of regions may differ depending on the type of shocks<sup>257</sup> indicating that flexibility and preparation for different shocks is important. The size of regional economy also has impact causing different responses to shocks, e.g., particularly large economies with high manufacturing share or small economies with high share in science and technology were more vulnerable.<sup>258</sup> In addition, the regions that were better off before the economic shock, are also more likely to be more resistant to it.<sup>259</sup>

### 1.3.3. Strengthening the capacity and know-how of regional and local actors

The cohesion policy has a multi-level nature,<sup>260</sup> the administration of the cohesion policy is shared by the European Commission and the Member States. Therefore, cohesion policy is considered a representative example of the multi-level governance principle,<sup>261</sup> involving various stakeholders. The regional level is considered the most efficient to shape place-based and bottom-up approaches,<sup>262</sup> however the administrative capacity is an influential factor, whether the EU cohesion policy will be successfully implemented.<sup>263</sup><sup>264</sup> Therefore strong regional government is a necessary precondition for successful implementation of policies.<sup>265</sup> The implementation of cohesion policy brings additional resources to certain area,

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<sup>255</sup> Pizzuto, P. (2019). The role of regional competitiveness in shaping the heterogenous impact of the Great Recession. *Regional Science Policy & Practice*, 12(2), pp. 267-290.

<sup>256</sup> *Ibid.*

<sup>257</sup> Di Pietro, F., Patrizio Lecca, P., & Salotti, S. (2021) Regional economic resilience in the European Union: a numerical general equilibrium analysis, *Spatial Economic Analysis*, 16:3, 287-312

<sup>258</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>259</sup> *Ibid.*

<sup>260</sup> Cunico, G., Aivazidou, E., Mollona, E. (2021) Beyond financial proxies in Cohesion Policy inputs' monitoring: A system dynamics approach. *Evaluation and Program Planning* 89 (2021) 101964

<sup>261</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>262</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

<sup>263</sup> Buseti, S. & Pacchi, C. (2014) Institutional Capacity for EU Cohesion Policy: Concept, Evidence and Tools that Matter, *disP - The Planning Review*, 50(4), pp. 16-28

<sup>264</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

<sup>265</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 108.

it has contributed to the Europeanization of regional and national authorities<sup>266 267</sup> by increasing their overall capacity and supporting taking over of good practices.<sup>268</sup> Some authors argue that the cohesion policy has strengthened especially the regional authorities as they had a chance to build their capacity to administer funds for cohesion. This is considered one of the positive consequences of the cohesion policy.<sup>269 270</sup> EU membership and following funds, including those under the cohesion policy are driving institutional change in the Central and Eastern European countries, especially the policy during the 2007-2013 period was supportive to strengthen the role of regions.<sup>271</sup> Furthermore, the Central and Eastern European countries whose institutional capacity has been strengthened during pre-accession, were able prepared to implement the cohesion policy more efficiently.<sup>272</sup>

Besides the public authorities, the private firms and civil society organizations are important players to increase the relevance of the cohesion policy.<sup>273</sup> A further consideration is that the various actors that should be involved in the implementation of the cohesion policy, have very diverse capacities, especially in the civil society. There are three important aspects that have to be considered as regards the capacity of civil society to be involved in the cohesion policy: administrative capacity, legal aspects influencing the ability to participate in a concrete state and willingness.<sup>274</sup> Study in Polish, Czech and Slovak regions suggest the cohesion policy has strengthen the civil society movements.<sup>275</sup> Here, it has to be mentioned that the focus is shifting to cities and urban areas more and territorial aspects are becoming more important. That means that the cohesion policy is often implemented via the local level co-creative strategies such as the integrated urban development plans or community-led local development,

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<sup>266</sup> Bachtler, J., Mendez, C. & Oraže, H. (2014) From Conditionality to Europeanization in Central and Eastern Europe: Administrative Performance and Capacity in Cohesion Policy, *European Planning Studies*, 22(4), pp. 735-757

<sup>267</sup> Scherpereel, J. A. (2010) EU Cohesion Policy and the Europeanization of Central and East European Regions, *Regional & Federal Studies*, 20(1), pp 45-62.

<sup>268</sup> Buseti, S. & Pacchi, C. (2014) Institutional Capacity for EU Cohesion Policy: Concept, Evidence and Tools that Matter, *disP - The Planning Review*, 50(4), pp. 16-28

<sup>269</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>270</sup> Scherpereel, J. A. (2010) EU Cohesion Policy and the Europeanization of Central and East European Regions, *Regional & Federal Studies*, 20(1), pp 45-62.

<sup>271</sup> *Ibid.*

<sup>272</sup> Bachtler, J., Mendez, C. & Oraže, H. (2014) From Conditionality to Europeanization in Central and Eastern Europe: Administrative Performance and Capacity in Cohesion Policy, *European Planning Studies*, 22(4), pp. 735-757

<sup>273</sup> Potluka, O., Medeiros, E. (2021): Administrative and organizational capacities of civil society in EU Cohesion Policy, *Regional Studies*

<sup>274</sup> *Ibid.*

<sup>275</sup> Scherpereel, J. A. (2010) EU Cohesion Policy and the Europeanization of Central and East European Regions, *Regional & Federal Studies*, 20(1), pp 45-62.

which allows to involve wider audience. The involvement of civil societies improves the absorption rates.<sup>276</sup>

The strengthening of the regional authorities is both a direct target as well as spill-over effect of the cohesion policy, contributing substantially to the Europeanization of states and regions. The multi-level governance of the cohesion policy and building capacity of involved actors is allowing the local actors to gain abilities to further contribute to economic, social and territorial development of the certain area that is addressed. However, multi-level governance also contributes to scattering and interpretation of the cohesion policy targets.

While the capacity of local and regional governments tends to be crucial for successful implementation of the cohesion policy, at the same time the policy is an instrument to increase these capacities. In addition, it has strengthened and developed the multi-level governance approach by fostering the involvement of various institutional actors as well as civil society.<sup>277</sup> Still EU remains an important player in the implementation of cohesion policy funding.<sup>278</sup> This is deemed as necessary to improve the efficiency of the policies.<sup>279</sup>

The quality of government tends to improve also the regional resilience.<sup>280</sup> The harmonization of governance across the EU offers the change to increase its overall quality and address the inequalities.<sup>281</sup> Furthermore, political factors can play a role in the efficiency of cohesion policy. Political stability is an important contributor, there is a tendency of improved efficiency during periods of single parliament. Political changes can have impacts both on central management level as well as for local implementation, for example it is typical for every new government to exchange the project management team. Another aspect is political support to the EU funds administrators that allows to work more efficiently. Strategic priorities of politicians are also important for the implementation process.<sup>282</sup>

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<sup>276</sup> Potluka, O., Medeiros, E. (2021): Administrative and organizational capacities of civil society in EU Cohesion Policy, *Regional Studies*

<sup>277</sup> Leonardi, R. (2006) Cohesion in the European Union, *Regional Studies*, 40(2), pp. 155-166.

<sup>278</sup> Neculai-Cristian Surubaru (2017) Administrative capacity or quality of political governance? EU Cohesion Policy in the new Europe, 2007-2013. *Regional Studies*, 51(6), pp. 844-856.

<sup>279</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations.

<sup>280</sup> Rios, V., Gianmoena, L. (2020). The link between quality of governance and regional resilience in Europe. *Journal of Policy Modelling*. 42(5)

<sup>281</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

<sup>282</sup> Neculai-Cristian Surubaru (2017) Administrative capacity or quality of political governance? EU Cohesion Policy in the new Europe, 2007-2013. *Regional Studies*, 51(6), pp. 844-856.

Regional policy in Europe has been changing along the economic processes, and a shift from aiming at increased convergence towards addressing competitiveness of a certain place has happened. One of the major influential factors has been the globalisation which had to be faced by the European regions. Innovation and need to enhance environmental aspects have been further contributing to the paradigm shift in regional policy. In addition, from solely nationally governed systems a transition to wide involvement of various actors on different governance levels has taken place. However, the need to strengthen the capacity of local actors to be able to efficiently implement policies and apply developed instrument has to be emphasized while at the same ensuring efficient cooperation among the various governance levels.<sup>283</sup> Especially, as smart specialisation strategies have become one of the most important instruments and for them to work, successful implementation is the main aspect. At the same time, it has to be kept in mind that not always policy interventions to support lagging regions are without consequences for well-performing regions.<sup>284</sup> This implies that the equity-efficiency dilemma remains important, but when the decisions regarding the policy measures are made both should be addressed.<sup>285</sup>

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<sup>283</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 109.

<sup>284</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>285</sup> OECD (2009), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*. OECD Publishing, Paris, pp. 49

## 2. REGIONAL INEQUALITIES IN THE EUROPEAN REGIONS AND IN LATVIA AND RESULTS OF THE EU'S COHESION POLICY

### 2.1. Classification of European Regions

To determine the geographic eligibility to cohesion policy funding (ERDF and ESF), NUTS typology is used.<sup>286</sup> NUTS typology was established in 2003 by a Regulation of European Parliament.<sup>287</sup> Aim of the NUTS typology is to harmonise the data collection across the EU ensuring that it is possible to compare the data beyond national borders. NUTS system is hierarchical, NUTS 1 are the major socioeconomic units, NUTS 2 basis regions for the level of applying regional policies and NUTS 3 for identification of specific characteristics in smaller regions.<sup>288289</sup> There are three main principles for assigning a certain NUTS classification to a region:

- Size of population in a certain area, where NUTS1 falls in-between 3 and 7 million inhabitants, NUTS2 has above 800 000 inhabitants, but below 3 million, NUTS3 has 150 000 to 800 000 inhabitants.
- To the maximal possible extent, the NUTS statistical units overlap with administrative territorial units.<sup>290</sup>
- Regular or extraordinary amendments are possible in some cases, for example if a new MS joins the EU.

Altogether, there are 104 NUTS1 regions, 283 NUTS2 regions and 1345 NUTS3 regions, including the regions of the UK, however the number of regions is regularly updated, usually every three years.<sup>291</sup> Given the prominent role of the size of population in the NUTS typology, in smaller countries like Latvia, the whole country is considered on NUTS1, but also in NUTS2 level. In NUTS3 level there are 6 statistical regions – Kurzeme, Latgale, Riga, Pierīga (territories adjacent to Riga), Vidzeme, Zemgale.<sup>292</sup> This may pose challenges that

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<sup>286</sup> European Union (2019). Statistical regions in the European Union and partner countries: NUTS and statistical regions 2021, Luxembourg: Publications Office of the European Union, pp.7

<sup>287</sup> Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS), published 21.03.2003.

<sup>288</sup> *Ibid.*

<sup>289</sup> European Union (2015). Regions in the European Union: Nomenclature of territorial units for statistics NUTS 2013/EU-28, Luxembourg: Publications Office of the European Union, pp.5

<sup>290</sup> European Union (2019). Methodological manual on territorial typologies: 2018 edition, Luxembourg: Publications Office of the European Union, pp.24-25

<sup>291</sup> European Union (2019). Statistical regions in the European Union and partner countries: NUTS and statistical regions 2021, Luxembourg: Publications Office of the European Union, pp.186.

<sup>292</sup> Ministru Kabineta rīkojums Nr. 911 Par Latvijas Republikas statistiskajiem reģioniem un tajos ietilpstošajām administratīvajām vienībām. Adopted 07.12.2021.

diversity of the Latvian territory in terms of development needs, population density and other potentially influential factors may not be considered when making funding decisions.

Based on a request by the Latvian Prime Minister, in 2020 Ministry of Environmental Protection and Regional Development has prepared an informative report possibility to change the NUTS classification in Latvia. The administrative borders of the planning regions have changed due to the administrative territorial reform therefore the borders of NUTS3 regions have to be revised. In addition, a proposal has been made to divide the territory of Latvia in two NUTS2 regions – Riga region with same administrative borders as the Riga Planning Region and Westernlatvia and Easternlatvia region that would cover rest of territory of Latvia.<sup>293 294</sup> If the proposed changes will be carried out, these may have implications on the cohesion funding allocations in the future. If the changes will be introduced, they will have effect in the upcoming cohesion policy period starting 2028.<sup>295</sup>

It is important to distinguish the regions by their spatial patterns as it has influence on the development and growth patterns. Spatially, regions in the EU are categorized according to their level of urbanisation and their position vis-à-vis big centres. The typology is distinguished starting the NUTS3 level<sup>296</sup>, however the typology may have impacts on the specifics what are the development needs and how the funding is allocated. In the urban-rural categorisation predominantly urban (over 80% of population live in urban clusters), intermediate (50-80% in urban areas) and predominantly rural regions (more than 50% live in rural areas).<sup>297</sup> In Latvia, Riga and Pieriga are predominantly urban regions, Kurzeme and Latgale are intermediate regions, but Vidzeme and Zemgale are predominantly rural.<sup>298</sup> In European context special attention is paid to certain type of regions, like the metropolitan areas, coastal regions, border regions, island regions, outermost regions and mountain regions<sup>299</sup> as the specific geographic characteristics tend to have impact on development patterns. Metropolitan areas tend to concentrate knowledge and economic activities while border, island and outermost regions may need to address accessibility issues more thoroughly due to their remote location. In addition,

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<sup>293</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>294</sup> Vides aizsardzības un reģionālās attīstības ministrija (2021) Informatīvais ziņojums “Par kopējo statistiski teritoriālo vienību (NUTS) klasifikāciju”, VARAMInfozin\_13082021\_NUTS

<sup>295</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>296</sup> European Union (2019). Methodological manual on territorial typologies: 2018 edition, Luxembourg: Publications Office of the European Union, pp.7

<sup>297</sup> *Ibid.*, pp.74

<sup>298</sup> *Ibid.*, pp.77

<sup>299</sup> *Ibid.*, pp.8

in many cases the outermost regions have a much younger population, higher unemployment rates and higher inward migration compared to the mainland Europe.<sup>300</sup> In some cases, based on the initial level of development, regions are referred to as core and peripheral. France, Sweden, Finland, Ireland, majority of German and Austrian regions, as well as few regions in Spain and northern Italy are considered core, while the eastern and southern Europe is considered peripheral. Furthermore, the location and spatial characteristics of a certain region play a role in spillover effects of development and growth.<sup>301</sup> FUA as a term and spatial distinctive is introduced when the functional economic area stretches across multiple administrative units.<sup>302</sup> Accessibility and proximity to the closest FUA is an important indicator in understanding the geographical features of the areas, but also the status and quality of the physical infrastructure.<sup>303</sup> European Cohesion funds have shown positive impact on lagging areas. However, mostly the economic growth has been generated closer to urban areas, especially those rural territories in proximity of cities or otherwise urbanized territories have been successful in improving their economic performance.<sup>304</sup>

## 2.2. Regional inequalities in the European Union and Latvia

General tendency in the EU is that the convergence process is taking place across countries,<sup>305</sup> but in many EU Member States, there is a tendency of increasing disparities and regional inequalities within countries.<sup>306</sup> Therefore, measuring socio-economic development on smaller geographical scales is important to better understand the existing development patterns in Europe. It is considered that smaller countries have more homogenous regional development, however that is not always the case as historical, political and geographical factors play a role in how even the economic growth is distributed across the country.<sup>307</sup> If

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<sup>300</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 27

<sup>301</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>302</sup> *Ibid.*

<sup>303</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>304</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>305</sup> Sanchez Carrera, E.J., Rombaldoni, R., Pozzi, R. (2021). Socioeconomic inequalities in Europe. *Economic Analysis and Policy*, 71, pp. 307-320.

<sup>306</sup> Monfort, P. (2020) Convergence of EU Regions redux: recent trends in regional disparities, Luxembourg: Publications Office of the European Union. pp.18

<sup>307</sup> Felsenstein, D. & Portnov, B. (2005) Critical Surveys Edited by Stephen Roper Understanding regional inequalities in small countries, *Regional Studies*, 39:5, 647-658

smaller territorial units are considered and spatial interdependencies are taken into account, more accurate results can be observed and influential factors identified.<sup>308</sup> At the same time policy incentives have to be carefully considered for simultaneously supporting lagging regions and keeping the competitiveness of well-performing regions high.<sup>309</sup>

More than one fourth of the EU's population was living in the less developed regions in 2019, mostly in Eastern and Southern Europe and in the outermost regions. GDP growth has been observed across the whole Europe. It can be observed that in the period 2000-2019 the convergence process was happening as the less developed regions are growing slightly faster (1,69%) than the more developed regions (1,06%). However, while the Eastern European regions are among the fastest growing, Italy and Greece have experienced some decline in the 21<sup>st</sup> century.<sup>310</sup> It indicates that the convergence process is not taking place in all lagging regions. The slowest have been the growth of transition regions at 0,90% on average. This might be related with the falling into development trap, especially the gap has grown in the last years, 2014-2019. The growth in general rates is slower than in the pre-crisis period.<sup>311</sup>

The most at risk for falling into a development trap are the transition regions, however, falling into a development trap is possible also for less developed and well developed regions as well. The transition regions, especially those in the southern parts of Europe have shown slower growth than the less developed regions and those that have the GDP per head above the EU average, suggesting they have fallen into the development gap.<sup>312</sup> Concept of regional development trap derives from the middle-income trap, but in the EU it is referred to regions that for longer period experience low growth, weak productivity increases and small or negative employment increase. The main reason for being at risk for falling into development trap is that the employment costs are higher than in less developed region, therefore production costs are less competitive, while the innovation levels are too low to compete with the more advanced regions.<sup>313</sup> Since 2000, out of 53 NUTS2 regions being in the middle category, only one has managed to achieve GDP per head above the EU average (Zahodna, Slovenia), while

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<sup>308</sup> Postiglione, P., Cartone, A., & Panzera, D. (2020). Economic Convergence in EU NUTS 3 Regions: A Spatial Econometric Perspective. *Sustainability*, 12(17), 6717.

<sup>309</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>310</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 20

<sup>311</sup> *Ibid.*, pp. 33

<sup>312</sup> *Ibid.*, pp. 36

<sup>313</sup> Iammarino, S., Rodriguez-Pose, A., Storper, M. (2020), Falling into the Middle-Income Trap? A study on the risks for EU regions to be caught in a middle-income trap, Publications Office of the European Union, Luxembourg.

multiple regions southern EU have fallen into the less-developed category indicating that divergence is taking place.<sup>314</sup> Common tendencies for regions to fall into a development trap are with lower level of value-added industry, fewer workers with tertiary education, low support to science, lower quality of government higher old-age dependency.<sup>315</sup>

The catching up and reduction of development gap was the quickest during the period between 2001 and 2008 with almost all regions growing (except for Southern Italy), especially in the regions with lower initial GDP corresponding the economic growth theories. In some countries, like Bulgaria or Romania, the growth was uneven as it concentrated around metropolitan regions.<sup>316</sup>

As the consequence of the global economic crisis in 2008, the growth declined all over the Europe in the 2009-2013 period, especially, in the Southern countries, Romania, Ireland and Finland. The convergence of the less developed regions slowed down with lower growth numbers and in many cases, increased depopulation. Only Poland and some Bulgarian and Romanian regions did not follow the pattern and further widening of disparities was not observed.<sup>317</sup> Although on national level convergence of Central and Eastern European countries has been observed after the accession to the EU, on regional level spatial unbalances have remained. It can mainly be explained by the core-periphery tendency of all the developments concentrating around the capital regions, but also with the proximity to already developed regions or urban-rural dynamics. The unproportionally rapid growth of developed areas has contributed to higher divergence within the new Member States.<sup>318</sup>

Globalisation and ability to be competitive in the interrelated world as well as ability to introduce technologically advanced sectors are another factor that has to be considered in the context of convergence.<sup>319</sup> Especially, the capital regions do have economic advantages in the globalisation as they tend to have higher accessibility and higher concentration of growth.

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<sup>314</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 36

<sup>315</sup> *Ibid.*, pp. 40

<sup>316</sup> *Ibid.*, pp. 20

<sup>317</sup> *Ibid.*, pp. 23

<sup>318</sup> Abrham, J. (2011) Rural development and regional disparities of the new EU Member States. *Agricultural Economics*, 57(6), pp. 288-296

<sup>319</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 26

### 2.2.1. GDP per capita dynamic in the European regions

GDP per head relative to the EU average is one of the most often used indicators to measure regional differences.<sup>320</sup> In 2009 Compared to the European average, the smallest GDP per capita are in Bulgarian and Romanian regions (except for the București – Ilfov). Almost all Hungarian and Polish regions were at the bottom 30, except for the capital regions, as well as Východné Slovensko in Slovakia. Latvia has the 200<sup>th</sup> lowest score, Lithuania – 205<sup>th</sup> and Estonia – 196<sup>th</sup> out of the 235 analysed NUTS2 regions. Luxembourg has comparatively the highest GDP per capita in PPS. Among the best performing are the regions in Austria, Belgium, Germany, Denmark, Italy, Netherlands and Ireland. Only capital region is in the top 30 regions in Finland (except for Aland islands), Sweden and France. Denmark is a country with relatively even distribution of economic growth. However, there are significant differences in the regional performance within countries, in 2009 this was observed in Austria, Belgium, Germany, Spain, France, Italy, Netherlands, Sweden. There is a general tendency of the capital regions to outperform the rest of the country in almost all EU27 countries with the exception of Germany, Italy and Netherlands.<sup>321</sup>

In 2018 many of the tendencies haven't changed much, the Bulgarian regions remain among those with the lowest GDP in Europe. Slight positive changes can be observed in the capital region. Similarly Polish and Romanian regions have remained in lower positions. The exceptions are the capital regions which have significantly improved their position, București – Ilfov has stepped up 41 positions, one of the highest scores. These changes also hint that the regional inequalities within both countries are growing. Southern European regions have comparatively fallen back and their GDP has become lower compared with European average in PPS. During the time period 2009-2018, the most decline is observed in Greece, the capital region of Greece has observed fell of 85 positions compared with other European regions. All other regions have significantly lower position as well. Similarly, many Italian and Spanish regions have been losing their position. Dutch regions also have been comparatively declining. Among regions who have been significantly exceeding the European average in 2018 compared to 2009 are Malta, multiple German regions, Lithuania, Swedish regions, Burgerland

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<sup>320</sup> Begg, I. (2003). Complementing EMU: Rethinking Cohesion Policy. *Oxford Review of Economic Policy*, 19(1), pp. 161–179.

<sup>321</sup> Regional gross domestic product (PPS per inhabitant in % of the EU27 (from 2020) average) by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 11.05.2022.]. Available: <https://ec.europa.eu/eurostat/databrowser/view/tgs00006/default/table?lang=en>

in Austria, Algarve in Portugal. There is a tendency for regional inequalities to reduce within regions in Germany and Sweden.<sup>322</sup>

Among the best performing regions, Luxembourg remains the leader with a 327% of the EU average GDP per capita. Two Irish regions follow that have significantly improved their position. Irish regions are followed by capital regions of Belgium, Denmark, Sweden, France and Netherlands. German regions Hamburg, Oberbayern, Stuttgart, Darmstadt and Austrian Salzburg, Wien and Vorarlberg are also among the top performers. Full analysis is based on Eurostat data<sup>323</sup> and is available on Annex 1.

When the GDP in euros per inhabitant of the EU27 in absolute numbers is compared<sup>324</sup>, it can be observed that variance among European regions has increased from 78251658,28 in 2009 to 123650795,1 in 2018, the F-test Two-Sample for Variances shows that differences are significant. The changes in the range differ depending on whether GDP is compared in absolute numbers or in PPS (see table 2.1.). Proportionally, there has been a slight decrease in the differences between the richest and poorest region. In absolute numbers, the GDP per capita has grown in the 10-year period, so has the range between the richest and poorest region. Although in some countries like Germany or Sweden the differences between regions have reduced, in many countries the opposite pattern is to be observed and regional disparities in GDP are increasing. Based on the data observations, the growth is uneven as it mostly happens in regions with big metropolitan areas.

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<sup>322</sup> Regional gross domestic product (PPS per inhabitant in % of the EU27 (from 2020) average) by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 11.05.2022.]. Available: <https://ec.europa.eu/eurostat/databrowser/view/tgs00006/default/table?lang=en>

<sup>323</sup> *Ibid.*

<sup>324</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

Table. 2.1.

**Changes in the range of GDP per capita in European NUTS2 regions between 2009 and 2018**

	GDP per capita, EUR		GDP per capita in PPS, %	
	2009	2018	2009	2018
Maximal value	326	327	65 500	79 200
Minimal value	13	17	6 600	10 300
Range	313	310	58 900	68 900

Source: prepared by the author, based on Regional gross domestic product (PPS per inhabitant in % of the EU27 (from 2020) average) by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 11.05.2022.]. Available:

<https://ec.europa.eu/eurostat/databrowser/view/tgs00006/default/table?lang=en>

Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available:

[https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

**2.2.2. Factors influencing regional inequalities**

There are multiple factors that influence regional inequalities according to the literature. In this chapter settlement patterns, demographic factors, education, employment, Regional Innovation Scoreboard, Regional Competitiveness Index, European Social Progress Index, administrative capacity and investments are analysed.

In terms of *urban structures* and their contribution to regional economic growth, two types of countries can be observed in the EU: ‘metro-dominated growth contribution’ and ‘mixed growth models’. In Finland, France, Greece, Italy and Lithuania main contributors to national economic growth are big cities. In Austria, Germany, the Netherlands and Slovenia there is a tendency to bigger cities to contribute more and the national growth contributions are decreasing with the size of the city. While in Czech Republic, Denmark, Latvia, Hungary, Belgium, Portugal, Slovakia, Sweden, Poland and Spain the growth is evenly distributed throughout the country.<sup>325</sup> The greater growth rates of capital regions do indicate on the increasing inequalities within countries.

The *demographic change* in Europe is present. The natural change has been declining since the second half of 1960’s, by becoming negative in 2010s. However, starting 1992 the migration is contributing more to population growth.<sup>326</sup> In general, capital and other metropolitan areas population is growing, while decline is observed in non-metropolitan urban

<sup>325</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>326</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union., pp. 188-189.

areas (except for North-Western Europe) and rural areas, especially the reduction is present in Eastern Europe and even more in Southern parts.<sup>327</sup> The increasing share of non-EU born inhabitants also has to be considered in context of social challenges and European solidarity idea. The most extreme population change during the 2009-2018 period has happened in Czech, Bulgarian and Romanian regions, also in Latvia (-10,56%) and Lithuania (-11,78%). Decline in Severozapaden (Czech Republic) has been 14,25%, Sud-Est - 14,03% and Sud-Vest-Oltenia – 13,64% in Romania. In mainland Europe the fastest growing regions are Luxembourg (21,99%), Stockholm (16,50%), Malta (15,76%) and Vienna (12,42%).<sup>328</sup>

The smallest share of population aged over 65 years is in the French outermost regions Guyane and La Reunion, Spanish territories in mainland Africa, Flevoland (Netherlands), Eastern and Midland (Ireland), Východné in Slovenia, Warminsko-Mazurskie (Poland). In general, the outermost territories, islands and capital regions tend to have smaller shares of population over 65. There are only 5 NUTS 2 regions where the share of population older than 65 is reducing – Brussels, Hamburg, Bremen, Leipzig and Vienna. Among the oldest are regions in Germany (Chemnitz, Sachsen, Dresden), Italy (Liguria, Friuli-Venezia Giulia, Toscana, Umbria) and Greece – Ipeiros. In the period from 2009 to 2018 the biggest increase in older population has been observed in Martinique (France), Etelä-Suomi (Finland), Severozápad (Bulgaria), Limburg (Netherlands).<sup>329</sup>

With some exceptions *Education levels* tend to be higher in capital regions. The highest shares of population with tertiary education are in the Belgian province Brabant Wallon (53,0%), Helsinki-Uusimaa (49,62%), Stockholm (46,2), capital region of Denmark Hovedstaden (46,8%). The lowest share of people with tertiary education live in Romanian region; except for capital region, the share of population with tertiary education varies from 11 to 15%. Italian and Portuguese regions are also scoring low. At the same time Czech and German regions have the lowest share of population with less than primary, primary or lower secondary education, while Southern European regions have the highest share of lowly educated people, in Portuguese regions Centro, Alentejo, Norte and in islands even exceeding 62%.<sup>330</sup>

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<sup>327</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 191.

<sup>328</sup> Population on 1 January by age, sex and NUTS 2 region. Eurostat. [Online] – [reference on 11.05.2022.]. Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_r\\_d2jan&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_r_d2jan&lang=en)

<sup>329</sup> Population structure indicators by NUTS 2 regions. Eurostat. [Online] – [reference on 14.05.2022.]. Available: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_r\\_pjanind2&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_r_pjanind2&lang=en)

<sup>330</sup> Population by educational attainment level, sex and NUTS 2 regions (%). Eurostat. [Online] – [reference on 7.05.2022.]. Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat\\_ifse\\_04&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat_ifse_04&lang=en)

In the period from 2000-2012 the tertiary education sector grew for around 30% on average in European regions. However, the tendency is that those regions who have been successful in enhancing tertiary education are also successful with the increase of enrolment. Although some of the lagging regions are catching up, and those with high regional tertiary enrolment have above-average growth, still the already well-off regions with high enrolment are the ones to accelerate growth.<sup>331</sup>

Another aspect to consider is life-long learning. It has become especially important with the globalization, digitalization and upcoming need to address climate change. Slightly above 12% of people participate in adult education and training in more developed (12,2%) and transition (12,4%) regions, while the only 4,9% do that in less developed regions. The highest participation is in North-Western regions (14,0%), followed by Southern EU with 8,8% and only 4,5% in Eastern EU. Participation rates are the highest in cities (11,5) and decline together with the population density – 8,1% participate in towns and suburbs and only 6,8% participate in rural areas. French, Dutch, Finnish, Swedish and Danish regions have highest participation rates (above 25%).<sup>332</sup> Except for Estonia, a distinct East-West divide can be observed in participation levels.

Until the Covid 19 pandemic the *employment rates* were slowly increasing in Europe. On average, employment rates are higher in more developed regions (76,3 % in 2020) compared to transition (71,8%) and less developed regions (66,1%). At the same time there is also a sharp north-south divide, the Southern EU has employment rates at average 64,8%, while in North-Western part it is 76,2% and 73,8 in Eastern Europe. It has to be noted that the employment across urban, suburban and rural territories is quite even.<sup>333</sup>

The employment and gross value-added structure are different among the European regions. The less developed regions have the tendency to have much higher shares of employment in the agricultural sector as well as industry. In addition, agricultural sector is associated with low productivity. At the same time, the less developed regions are experiencing the fastest reduction of employment in the agriculture and economic restructuring, consequently leading to increased productivity and higher gross value-added.<sup>334</sup>

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<sup>331</sup> Hermansson, K., Scandurra, R., Graziano, M. (2019) Will the regional concentration of tertiary education persist? The case of Europe in a period of rising participation. *Regional Studies Regional Science*, 6(1), 539-556.

<sup>332</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.142-145

<sup>333</sup> *Ibid.*, pp. 137

<sup>334</sup> *Ibid.*, pp. 29-30

*Unemployment* rate is one of the most often used indicators to measure regional disparities.<sup>335</sup> Mostly, the lowest unemployment rates are among the German-speaking regions, the lowest it is the München area with 2,62% Oberbayern and 2,74% in Niederbayern, followed by Prague with 2,67%. The rates are the highest in Spain, in Andalucía it reaches 30,24%. Greek and French regions experience high unemployment as well.<sup>336</sup>

Innovation is another factor that is considered to influence the regional development. According to the *Regional Innovation Scoreboard*, the most innovative regions in Europe are Oberbayern in Germany, Hovedstaden in Denmark, Etelä-Suomi (Finland) and Stockholm (Sweden). These are among the regions with the highest GDP per capita as well. Furthermore, it can be observed that none of the less developed regions is among strong or leader innovators, furthermore, the innovation score have declined from 2016 to 2021.<sup>337</sup> The Regional Innovation score for Latvia in 2021 was 55,87.<sup>338</sup>

To depict how attractive and sustainable region is for firms and residents, *Regional Competitiveness Index* is used in the EU, and it is based on the Global Competitiveness index. It is composed of 74 indicators. There are 11 dimensions to the index comprising institutions, macro-economic stability, infrastructure, health, basic and higher education, labor market efficiency, market size, technological readiness, business sophistication and innovation. The indicator is adjusted according to the development level of region.<sup>339</sup> <sup>340</sup> Also with the Regional Competitiveness Index, the capital regions as well as regions of other big cities tend to have higher results and there is a correlation between GDP per capita and Regional Development Index.<sup>341</sup> Capital regions tend to have the highest results except the Netherlands, Italy and Germany. France has one of the highest dispersions in competitiveness among regions.<sup>342</sup> There is a tendency of the differences and gaps in the scores to remain and not to reduce as

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<sup>335</sup> Begg, I. (2003). Complementing EMU: Rethinking Cohesion Policy. Oxford Review of Economic Policy, 19(1), pp. 161–179.

<sup>336</sup> Unemployment rate by NUTS 2 regions. Eurostat. [Online] – [reference on 6.05.2022.]. Available: <https://ec.europa.eu/eurostat/databrowser/view/tgs00010/default/table?lang=en>

<sup>337</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 49

<sup>338</sup> EIS-RIS 2021 European and Regional Innovation Scoreboards 2021. European Commission. [Online] – [reference on 14.05.2022.]. Available: <https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis>

<sup>339</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 59-60

<sup>340</sup> Annoni, P., Dijkstra, L. (2019) The EU Regional Competitiveness Index 2019. Luxembourg: Publications Office of the European Union., pp. 15.

<sup>341</sup> European Regional Competitiveness Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/regional\\_competitiveness/](https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/)

<sup>342</sup> Annoni, P., Dijkstra, L. (2019) The EU Regional Competitiveness Index 2019. Luxembourg: Publications Office of the European Union., pp. 5

much as it is possible to compare the various editions of the Regional Competitiveness Indices.<sup>343</sup> In order for the regional competitiveness to be improved, it is crucial to have improvements in all 11 pillars. The most competitive regions have in common above EU-average scores on quality of institutions, macroeconomic stability, infrastructure, health, technological readiness and innovations as well as business sophistication.<sup>344</sup> Latvia's score in RCI is -0,57.<sup>345</sup>

When GDP per capita is decomposed, more specific characteristics for inequalities can be observed. For the old EU MS a very crucial factor is the regionally specific *productivity*, accounting for about a half of regional inequalities. For Central and Eastern European states, the industry mix has been more important until 2003. Employment starts playing more important role in the whole EU. The importance of demographic tendencies tends to decline.<sup>346</sup> In the EU core regions higher growth is achieved in regions with greater investments, higher quality institutions, more sophisticated business environment and lower level of lowly educated population. While at the same time in peripheral regime, it is both reduced levels of lowly educated and greater share of highly educated and increased technological readiness are important.<sup>347</sup>

The *European Social Progress Index* is built upon global social progress index and is aimed at measuring the capacity of society to meet general human needs, have a good quality of life and reach the full potential.<sup>348</sup> European Social Progress Index is a composite indicator comprising 55 social and environmental factors in three categories:

- Basic human needs: nutrition and basic medical care, water and sanitation, shelter, personal security.
- Foundations in well-being: access to basic knowledge, access to information and communications, health and wellness, environmental quality.

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<sup>343</sup> Annoni, P., Dijkstra, L. (2019) The EU Regional Competitiveness Index 2019. Luxembourg: Publications Office of the European Union, pp. 7

<sup>344</sup> *Ibid.*, pp. 10-11.

<sup>345</sup> European Regional Competitiveness Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/regional\\_competitiveness/](https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/)

<sup>346</sup> Bracalente, B., & Perugini, C. (2010a). The components of regional disparities in Europe. *The Annals of Regional Science*, 44(3), 621–645.

<sup>347</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>348</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 181

- Opportunity: personal rights, personal freedom and choice, tolerance and inclusion, access to advanced education and life-long learning.<sup>349</sup>

The EU average of the social progress index is 67 out of 100. Scandinavian regions score the highest. Lowest values score Romanian and Bulgarian regions, with a general tendency of lower values in southern and eastern regions. Latvia scores 62,97, which is slightly below the European average.<sup>350</sup> There is a significant gap between less developed and transition and more developed regions. The basic human needs are ensured evenly across the whole Europe; however, the opportunities have various differences.<sup>351</sup> The comparably low involvement in the life-long learning in the less developed regions could be a consequence of lower accessibility.

*Administrative capacity* is a crucial prerequisite for efficient public spending.<sup>352</sup> Governance quality also has an impact on well-being of the community, economic and gender inequalities, unemployment and education levels, social trust.<sup>353</sup> There are dedicated MS' technical assistance programmes to support capacity building in the public authorities.<sup>354</sup> To assess the corruption levels, following rule of law and efficiency of public bureaucracy within regions, a European Quality of Governance Index has been developed. It is based on the regional survey and Worldwide Governance Indicators.<sup>355</sup> The index has been developed in 2010 by the University of Gothenburg. It is unique as it relies on the assessment of citizens. The indicators are based on the following pillars: perception and experience of corruption, impartiality in public services like education, health care, law, tax, quality of services.<sup>356</sup> In 2021, there is a distinct North-South as well as East-West divide for the Quality of Governance Index in European regions. Highest scores are reached in Scandinavian and Dutch regions. Also, German and Austrian regions score relatively high, followed by France. The lowest scores have Greek, Southern Italian, Bulgarian and Romanian regions. High regional

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<sup>349</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 185

<sup>350</sup> European Social Progress Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/social\\_progress2020/](https://ec.europa.eu/regional_policy/en/information/maps/social_progress2020/)

<sup>351</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 181.

<sup>352</sup> *Ibid.*, pp. 214

<sup>353</sup> Charron, N., V. Lapuente & P. Annoni (2019). Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science*, 98(5), pp. 1925-1953.

<sup>354</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 215

<sup>355</sup> *Ibid.*, pp. 219.

<sup>356</sup> Charron, N., V. Lapuente & P. Annoni (2019). Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science*, 98(5), pp. 1925-1953.

differences are observed in Southern Europe – Spain, Portugal and Italy<sup>357</sup> On average, the less developed regions have lower Quality of Government indices. In Latvia and other Baltic MS, the value of index has significantly increased since 2010, but the growth has mainly took place in the period 2010-2017, it has been stable since.<sup>358</sup>

*Overall investment* is another factor that has to be kept in mind when comparing the regional inequalities. In less developed regions, the EU cohesion policy is the main source of financing and investments. In many the less developed countries the Cohesion policy funding is providing more than 50% of the public investments. Proportionally, more than 90% of public investment came from Cohesion funds in Hungary during 2007-2013 period and little less than 90% in Portugal during 2014-2020. In Latvia in both periods the Cohesion policy funding has been around the half of the public investments.<sup>359</sup> National funding should complement the Cohesion policy funding and national investments programs have to be developed to further support regions, especially the lagging ones.<sup>360</sup> Out of the proportional comparison and knowing that the government expenditures in general are higher in non-Cohesion countries, it can be concluded that the overall public investment amount is higher in the developed countries,<sup>361</sup> subsequently the chances to foster more economic growth with funding allocation.

GDP per head has grown in majority of the EU regions from 2001 to 2019, mostly due to increased productivity levels. On average, GDP was growing by 1,8% per year in real terms 2001-2008, declined by 0,4 per year 2009-2013, while grew again since 2014-2019. Mainly it is due to increase in productivity that has been positive throughout the whole period. However, it has to be noted that the productivity partly compensates for the decline in working age population observed throughout the Europe. The employment rates were relatively stable before crisis, declined 2009-2013, but have been growing again since 2014.<sup>362</sup> The major growth in the EU since 2001-2019 has concentrated in metropolitan regions, especially those

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<sup>357</sup> Charron, N., Lapuente V., Bauhr, M. (2021) Sub-national Quality of Government in EU Member States: Presenting the 2021 European Quality of Government Index and its relationship with Covid-19 indicators. *University of Gothenburg: The QoG Working Paper Series* 2021:4.

<sup>358</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 222.

<sup>359</sup> *Ibid.*, pp. 242-243.

<sup>360</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>361</sup> Government revenue, expenditure and main aggregates. Eurostat Data Browser. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/GOV\\_10A\\_MAIN/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/GOV_10A_MAIN/default/table?lang=en)

<sup>362</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 31-33

who are also capital regions, especially in the Eastern member states.<sup>363</sup> Productivity convergence has taken place in the Central and Eastern Europe MS of the EU. In the period from 2000-2016. In regions with higher initial values the productivity was growing slower, confirming the beta convergence. Regions in Bulgaria, Slovakia, Czech Republic and Hungary were growing faster if the initial human and physical capital was higher.<sup>364</sup>

The climate targets are a crucial part of the cohesion policy. However, there is a tendency to overlook it as an opportunity to reduce regional inequalities. Europe has set ambitious targets to achieve climate-neutral, fair and digital economy by adopting European Green Deal and Digital Decade. The pandemics have speeded up the digital transformation and is changing the work habits. The dual transition can serve as a potential opportunity; however, it is crucial to implement it efficiently.<sup>365</sup>

### 2.3. Regional inequalities in Latvia

The GDP per capita in Latvia was 60% from the European average in 2008, but 69% in 2019.<sup>366</sup> It means that the growth and convergence on national level has taken place. However, the convergence has slowed down compared with other new EU MS. The regional disparities among regions in Latvia are among the highest in OECD countries.<sup>367</sup> The GDP per capita is varying significantly among the regions, in absolute numbers it around three times higher in Riga region than in Latgale region. The dispersion among the NUTS3 regions in Latvia has been around 40% since 2000, it was the highest in 2006 when it reached 49,0%, the lowest in 2011 at 37,6%, it varies from year to year and there is a trend of slight decline (see fig. 2.1.). However, the GDP per capita in absolute numbers has grown faster in Riga and Pierīga than in Latgale, that hints to even increasing disparities (see table 2.2.).

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<sup>363</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 34

<sup>364</sup> Peshev, P., Pirimova, V. (2020) Beta and Sigma – convergence of Productivity of NUTS 2 Regions in the (EU) Member States from the CEE Region. *Economic Alternatives*, 1, pp. 79-90.

<sup>365</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.141.

<sup>366</sup> GDP per capita in PPS. Eurostat Data Browser. [online] – [Reference 06.05.2022.] Available: <https://ec.europa.eu/eurostat/databrowser/view/tec00114/default/table?lang=en>

<sup>367</sup> Ministru kabineta rīkojums Nr. 841. Par Eiropas Savienības kohēzijas politikas programmu 2021.-2027.gadam. [Accessed: 12.05.2022.] Accessible: <https://likumi.lv/ta/id/327732-par-eiropas-savienibas-kohezijas-politikas-programmu-2021-2027-gadam>

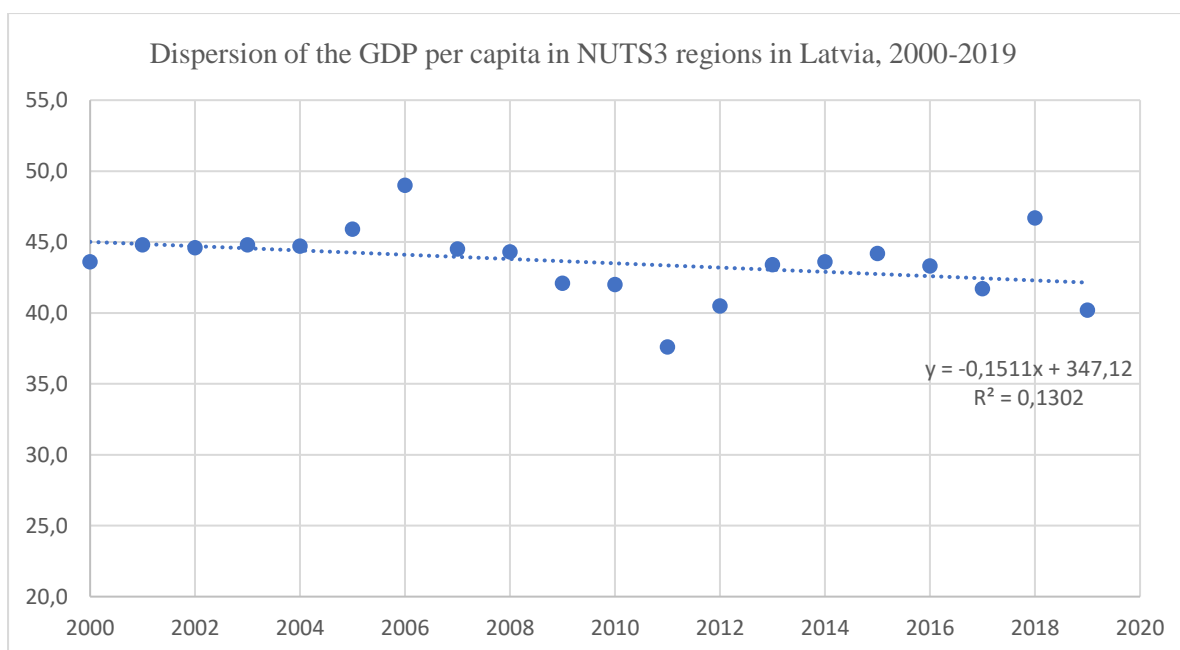


Fig. 2.1. Dispersion of the GDP per capita in NUTS3 regions in Latvia.

Source: Prepared by the author based on Reģionu (NUTS 3) IKP uz vienu iedzīvotāju dispersija (faktiskajās cenās; procentos) 2000 - 2019. Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available:

[https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_VEK\\_IK\\_IKR/IKR040/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_VEK_IK_IKR/IKR040/table/tableViewLayout1/)

Table 2.2.

**GDP per capita in euros in Latvian NUTS3 regions, 2009-2018**

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Increase 08-19, EUR	Increase 09-18, %
Latvia	8870	8625	9600	10781	11302	11845	12427	12949	13901	15135	6265	41,39
Riga region	14715	14303	15256	17624	18960	19831	20875	21496	22667	25832	11117	43,04
Pieriga region	6694	6756	7849	8668	9267	9317	9869	10523	11787	11997	5303	44,20
Vidzeme region	5872	5634	6172	6551	6910	7943	8091	8477	9003	9682	3810	39,35
Kurzeme region	7122	6764	8365	8575	8589	8794	9090	9556	10313	10682	3560	33,33
Zemgale region	5795	5797	6447	7353	6984	7505	7795	8083	8516	8744	2949	33,73
Latgale region	5018	4647	5513	6184	5992	6176	6367	6526	7173	7133	2115	29,65

Source: Prepared by the author based on Iekšzemes kopprodukts reģionos un republikas pilsētās (faktiskajās cenās) 2000 – 2019. Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available:

[https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_VEK\\_IK\\_IKR/IKR010/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_VEK_IK_IKR/IKR010/table/tableViewLayout1/)

The basic socio-economic indicators are different in Latvian regions (see table 2.3.). In general Riga and Pieriga region are performing better than the rest of Latvia. The only statistical region who has been growing is the Pieriga region, however the increase is directly linked with the economic activities in the capital. In almost all aspects Latgale is the worst performing region. It has lost almost fifth of its population during the last decade, the employment rates are almost 10% lower than in Riga, unemployment rates are significantly lower than in all other regions. It has to be noted that the increase in employment and decrease in unemployment have been really high over the analysed decade, in 2021 during the Covid-19 pandemic the unemployment rates in Riga and Pieriga were 7,2 and 6,5 respectively. In Latgale it was 9,4%. Before the pandemic in 2019, it was 5,8% and 4% in Riga and Pieriga, and interestingly, 11% in Latgale, so the unemployment rate has decreased during the pandemic. The highest increase of unemployment from 2019 to 2021 was in Kurzeme, where it arose from 6,2% to 9,3%. In Vidzeme and Zemgale there has been 1,1% increase to 9,2 and 9,3 respectively.<sup>368</sup> The average age of the population is the highest there as well. It is doing a bit better in terms of education. The share of population with tertiary education is higher in Latgale than in Vidzeme and Kurzeme. However, it is almost half of the Riga population. In terms of share of population with very low education, Latgale is having the smallest share outside the Riga and Pieriga.

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<sup>368</sup> Ekonomiskās aktivitātes, nodarbinātības un bezdarba līmenis reģionos (procentos) Oficiālās statistikas portāla datubāze. [Online] – [reference on 14.05.2022.] Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_EMP\\_NBB\\_NBA/NBA030/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_EMP_NBB_NBA/NBA030/table/tableViewLayout1/)

Table 2.3.

**Main socio-economic indicators of Latvian NUTS3 regions, 2009-2018**

	<b>Rīga</b>	<b>Pierīga</b>	<b>Vidzeme</b>	<b>Kurzeme</b>	<b>Zemgale</b>	<b>Latgale</b>
<b>Population change 2011-2021, %<sup>369</sup></b>	-5,72	1,63	-13,90	-13,15	-11,04	-17,28
<b>Mean age<sup>370</sup>, 2018</b>	42	40	43	42	42	44
<b>Employment rate, 15-64, 2009-2018, %<sup>371</sup></b>	69,0	67,8	62,9	63,7	63,3	58,3
<b>Unemployment rate, 15-64, 2009-2018, %<sup>372</sup></b>	12,2	10,1	13,1	12,2	14,9	17,6
<b>Tertiary education (levels 5-8), 2019, %<sup>373</sup></b>	38,10	31,40	21,14	21,39	21,78	21,66
<b>Less than primary, primary and lower secondary education (levels 0-2), 2019, %<sup>374</sup></b>	11,89	17,42	22,85	24,10	23,65	19,67

Source: Prepared by the author based on *Oficiālās statistikas portāls datubāze*

## 2.4. Impacts of the crises-related economic downturns on the regional inequalities in European regions and in Latvia

### 2.4.1. Global financial crisis in 2008

One of the most important predeterminants for the Great Recession in 2008 was the overleveraged housing market of the USA. This had consequences to European markets – the exports were impacted as well as European finance sector had bought large amounts of collateralized debt obligations. Eurozone experienced both decline in GDP growth as well as increased unemployment rates.<sup>375</sup>

<sup>369</sup> Iedzīvotāji pēc dzimuma un vecuma grupām reģionos, ovados, pilsētās, pagastos, ciemos (atbilstoši robežām 2022. gada sākumā), apkaimēs un blīvi apdzīvotās teritorijās (eksperimentālā statistika). Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_POP\\_IR\\_IRD/RIG010/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_POP_IR_IRD/RIG010/table/tableViewLayout1/)

<sup>370</sup> Iedzīvotāju vidējais vecums reģionos, novados, pilsētās, pagastos, apkaimēs un blīvi apdzīvotās teritorijās – Visas teritorijas un Laika periods. Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available:

[https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_POP\\_IR\\_IRD/RIG020/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_POP_IR_IRD/RIG020/table/tableViewLayout1/)

<sup>371</sup> Ekonomiskās aktivitātes, nodarbinātības un bezdarba līmenis reģionos (procentos) Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_EMP\\_NBB\\_NBA/NBA030/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_EMP_NBB_NBA/NBA030/table/tableViewLayout1/)

<sup>372</sup> *Ibid.*

<sup>373</sup> Iedzīvotāji 15 un vairāk gadu vecumā pēc izglītības līmeņa grupām reģionos, republikas pilsētās, novados un Rīgas apkaimēs gada sākumā. ) Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available:

[https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_IZG\\_IZ\\_IZI/IZT040/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_IZG_IZ_IZI/IZT040/table/tableViewLayout1/)

<sup>374</sup> *Ibid.*

<sup>375</sup> Jones, A., Clark, J., Cameron, A. (2010) The Global Economic Crisis and the Cohesion of Europe. *Eurasian Geography and Economics*, 51(1), pp. 35-51

After the economic crisis in 2008, the inequalities among regions within countries has increased even further.<sup>376377</sup> Economic convergence of the European regions stopped after the global financial crisis in 2008 and the disparities have not been reducing significantly since then in the whole EU, while even increasing in the EU-15 states.<sup>378</sup> However, economic convergence and ultimate goal of coherence of the European regions is an important pre-requisite for the success of the European integration.<sup>379</sup>

Garzilano et.al. (2021) pay attention to the dispersion of growth and differences between the wealthiest and poorest regions within a country. The increase of inequalities would be acceptable if it is because of increasing growth of the strongest regions. Such a pattern has been present in most of the European countries, except for Greece where bottom regions fell behind and Italy where both top and bottom regions were declining. Between 2000 and 2017 only four countries in the EU managed to reduce regional inequalities: in Finland, Austria and Belgium the bottom regions were improving, while in Portugal the top regions were falling behind. The biggest changes in per capita income among regions were observed in Slovakia, Lithuania, France, Poland and the Czech Republic.<sup>380</sup>

The various resilience of European regions was playing a crucial role during the Great Recession in 2008.<sup>381</sup> The effects of the Great Recession have been asymmetric on the European regions; although heterogeneity is observed within countries, there are differences between northern-central and southern regions.<sup>382</sup> According to Pontarollo and Serpieri (2020) spatially there were 4 clusters of NUTS2 regions according to their resilience, ability to absorb the shocks of the Great recession and recover their GDP per capita, employment and productivity:

- Greece, Spain and Southern Italy has 50 regions with very low resilience, that had relatively slow growth in the pre-crisis period and had not recovered until 2015.

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<sup>376</sup> OECD (2013), “Measuring regional economies in OECD countries”, in OECD Regions at a Glance 2013, OECD Publishing, Paris., pp.15

<sup>377</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>378</sup> Monfort, P. (2020) Convergence of EU Regions redux: recent trends in regional disparities, Luxembourg: Publications Office of the European Union

<sup>379</sup> Zaucha J. & Böhme K. (2020) Measuring territorial cohesion is not a mission impossible, *European Planning Studies*, 28:3, 627-649

<sup>380</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>381</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), ‘Location matters: a spatial econometric analysis of regional resilience in the European Union’, *Growth and Change*, 50(3), pp. 824-55.

<sup>382</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25:8, 1394-1415

- 62 regions mainly in France, Finland and Eastern countries (except for the Baltic States) are described by low resilience, mainly recovering by overcoming the pre-crisis productivity levels.
- 108 regions in Germany, Sweden and Eastern countries have a moderate resilience capacity – regions were fast growing before the crisis and not too hardly hit by it, therefore able to recover GDP per capita and productivity levels.
- 51 regions mainly in Germany and in the Baltic States have been evaluated as having resilience and recovering in all three aspects.
- In general, capital regions tend to be more resilient.<sup>383</sup>

According to the analysis carried out by Giannakis and Bruggeman (2017), all regions in Austria, Belgium, Luxembourg, Germany (except for Mecklenburg-Vorpommern), Sweden (except for Smaland) and Hungary were resilient to economic downturn, while almost all Southern regions in Spain, Greece, Portugal and Cyprus were non-resilient. France, Italy and Poland have had the most heterogenous respond to crisis nationally with high dispersion of economic resilience among regions.<sup>384</sup>

Regions across the EU have been showing different resilience depending on the time-span used. Latvia was reacting poorly immediately after the Great Recession, showed very good resilience in medium term, but medium resilience in long-term.<sup>385</sup> Regions in Spain, Greece, Italy and Portugal have been most affected due to lack of competitiveness, high debts and large exposure to financial markets. German regions have shown heterogenous results – western regions have been more resilient as the eastern ones. In general, strong economic activity, stable public finances and political environment has contributed to resilience.<sup>386</sup>

The spillover effects can also be observed in the Resilience indicator developed by Pontarollo and Serpieri (2020), referred to as spatial cluster effects and pointing to the national specifics, e.g., institutional and legal frameworks, common national debts, and their impacts on the regional resilience. National impacts are also pointed out by Giannakis and Bruggeman (2017), also noting the differences in northern-central and southern Europe.<sup>387</sup> However, in the

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<sup>383</sup> Pontarollo, N., Serpieri, C. (2020) A composite policy tool to measure territorial resilience capacity. *Socio-economic planning sciences*, 70, 100669

<sup>384</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25(8), pp. 1394-1415

<sup>385</sup> European Commission, Joint Research Centre (2018) The resilience of EU Member States to the financial and economic crisis: What are the characteristics of resilient behaviour, EUR 29221 EN, Publications Office of the European Union, Luxembourg, pp. 16.

<sup>386</sup> *Ibid.*, pp. 26.

<sup>387</sup> Giannakis, E. & Bruggeman, A. (2017) Determinants of regional resilience to economic crisis: a European perspective, *European Planning Studies*, 25(8), pp. 1394-1415

old Member States (EU-15) more spillover effects are observed across the borders compared to the new MS (EU-13) which are more heterogenous.<sup>388</sup> Similar observations are also made by Stanickova and Melcky (2018) – North-south divide exists, where Western and Scandinavian countries are becoming more and more resilient, while Southern countries are scoring increasingly lower. The EU-13 is showing differences between capitals and catchment areas.<sup>389</sup>

Further general conclusion is towards the tendency of European metropolitan regions being more resilient during the Great Recession. Regions that included metropolitan areas have shown more stability and increased their share to the growth contributions, especially in those regions near the cities. At the same time, also small cities have a crucial role in the EU. In addition, the regions of the new MS have been able to address crisis better than in the EU-15.<sup>390</sup> Germany is among the countries who have been relatively successful throughout the Great Recession. France was comparably less influenced by the USA banking therefore also less affected by the crisis.<sup>391</sup> Jones et al. (2010) even argue that the European Union itself has managed to build itself as a resilient mechanism that is supporting individual countries in resisting economic shocks. In some countries, for example in Ireland, the Great Recession caused new discussions in the role of being part of the EU and what are the benefits of it.<sup>392</sup>

Recovery from the economic crisis and increasing convergence was observed in most regions, except for Greece and Southern Italy, in the 2013-2019 period. Still, by 2019 all regions of Greece and Cyprus, majority of Italy (80% of population) and Finland (75% of population), as well as around third of population in Austria and Spain, had not recovered to the returned to the pre-crisis level in terms of GDP.<sup>393</sup> In terms of employment and unemployment rates, the convergence process has slowed down significantly after the global economic crisis in 2008. While the gap is narrowing again, the pre-crisis level has not been

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<sup>388</sup> Pontarollo, N., Serpieri, C. (2020) A composite policy tool to measure territorial resilience capacity. *Socio-economic planning sciences*, 70, 100669

<sup>389</sup> Stanickova, M. & Melecký, L. (2018). Understanding of resilience in the context of regional development using composite index approach: the case of European Union NUTS-2 regions, *Regional Studies, Regional Science*, 5:1, 231-254

<sup>390</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>391</sup> Jones, A., Clark, J., Cameron, A. (2010) The Global Economic Crisis and the Cohesion of Europe. *Eurasian Geography and Economics*, 51(1), pp. 35-51

<sup>392</sup> *Ibid.*

<sup>393</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 24

achieved yet.<sup>394</sup> It is important to note, that although there is a general trend of less-developed regions catching up and that leading to convergence process in the EU, there are regional disparities to be observed – Eastern regions are showing strong growth patterns, while Southern regions experience insignificant or even negative growth. At the same time, the transition regions showed slower growth of GDP compared to the EU average. Most of the transition regions are predominantly rural, and here the proximity to urban areas has played a role – while rural areas close to urban centres were converging, the remote ones were diverging.<sup>395</sup>

#### **2.4.2. Estimated effects of the Covid-19 crisis in 2020**

Covid-19 pandemics increased the mortality in almost all European regions. The regional effects of pandemics were depending on the length and severity of lockdowns, economic profile (especially the share of services) and policy responses of MS.<sup>396</sup> Changes in working patterns occurred, people shifted to working at home, but the tourism sector was impacted the most. Currently the regional impacts of the Covid-19 pandemics are still hard to evaluate, although there are certain trends to be observed – cities were more hardly hit by the first wave of pandemic, while rural areas experienced more challenges in the second half of 2020, during the second wave.<sup>397</sup>

Due to the pandemic, Europe experienced the biggest post-war recession with a fall of GDP by 6,0% in 2020.<sup>398</sup> Early estimations have been made in the RHOMOLO model, a dynamic spatial general equilibrium model used by DG Regio for policy impact assessments, indicating that impacts of pandemics have been asymmetric and heterogeneous. The most visible within-country variation in the GDP after the pandemics was observed in Spain, Italy, France, Greece, Portugal and Finland, the GDP losses are considered to correlate with the highest reductions in employment.<sup>399</sup>

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<sup>394</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 24

<sup>395</sup> *Ibid*, pp. 25

<sup>396</sup> *Ibid*, pp. 6

<sup>397</sup> *Ibid*, pp. 4

<sup>398</sup> *Ibid*, pp. 7

<sup>399</sup> Sakkas, S., Crucitti, F., Conte, A., and Salotti S. (2021). The 2020 territorial impact of COVID-19 in the EU: A RHOMOLO update. Territorial Development Insights Series, JRC125536, European Commission.

## 2.5. Implementation and results of the European Union's Cohesion policy

Cohesion policy is implemented in 7-year cycles, aligned with other EU strategic framework documents. There are three main funds that are used to implement the EU cohesion policy: ERDF, Cohesion Fund, ESF.<sup>400</sup>

During the 2007-2013 period 346,5 billion were invested to foster harmonized development. It is estimated that each euro invested by the cohesion policy will generate additional euro 2,74 euros in the GDP, generating close to one trillion euros of additional GDP.<sup>401</sup> More than 400 000 SMEs have been supported financially specially to mitigate the effects of the Great Recession.<sup>402</sup> Majority of ERDF Funding is allocated to Convergence regions defined on NUTS2 (GDP per capita is below 75% of the European average) level, while Cohesion Fund is allocated on National level. At the same time, all European regions were eligible for ERDF funding under regional competitiveness and employment objective specifically emphasizing phasing in regions who were convergence regions in the previous period.<sup>403</sup> The investment intensity among regions has been diverse, Åland (Finland) has allocated 5 052 245 EUR, while Andalucía (Spain) has allocated 10 464 419 362 EUR during the 2007-2013 period. Other top beneficiaries in this period have been Polish, Italian and Hungarian regions as well as Latvia and Lithuania. National differences in Italy can also be observed in funding allocation as three Italian regions - Valle d'Aosta and Bolzano and Trento – are among the least receiving regions, together with Belgian, Austrian, Dutch regions.<sup>404</sup>

The 2014-2020 cohesion policy had 11 broad priorities aligned with Europe 2020 goals: research, technological development and innovation; access to ICT; competitiveness of SMEs; shift towards low-carbon economy; climate change adaptation; protection of environment and energy efficiency; sustainable transport; employment and labor quality; social inclusion, investments in education; institutional capacity.<sup>405</sup> During the 2014-2020 the categorization of

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<sup>400</sup> European Commission, Directorate-General for Regional and Urban Policy (2015) European Structural and investment funds 2014-2020: Official texts and commentaries. Luxembourg: Publications Office of the European Union

<sup>401</sup> Ex post evaluation of the ERDF and Cohesion Fund 2007-13, Commission Staff Working Document, SWD (2016) 318 final. Adopted 19.9.2016., pp. 3

<sup>402</sup> *Ibid.*, pp. 5

<sup>403</sup> European Communities (2007) Cohesion policy 2007-2013 Commentaries and official texts, Luxembourg: Office for Official Publications of the European Communities, pp. 15-19.

<sup>404</sup> Historic EU payments by MS & NUTS-2 region (filter by country, period and fund). European Commission European Structural and Investment Funds Data. [Online] – [reference on 07.05.2022.]. Available: <https://cohesiondata.ec.europa.eu/EU-Level/Historic-EU-payments-by-MS-NUTS-2-region-filter-by/2qa4-zm5t>

<sup>405</sup> European Commission, Directorate-General for Regional and Urban Policy (2015) European Structural and investment funds 2014-2020: Official texts and commentaries. Luxembourg: Publications Office of the European Union, pp. 17.

less developed, transition and more developed regions is used.<sup>406</sup> So far, the precise investment of the allocated funding during the 2014-2020 cohesion policy period is calculated until 2018.<sup>407</sup> Therefore, the full-scale results cannot be evaluated yet. The planned total amount of the Cohesion policy funding until the end of 2020 is 354 780 million euros.<sup>408</sup> The average funding intensity has been 112 EUR per person, 400 EUR in the less developed regions. The funding has been used to foster new product development in companies, introduce flood-protection measures, build 1544 km railways, integrate more people in the labour market, improve public services like health. It is estimated that the rate of investment-return will be 2,7.<sup>409</sup>

Cohesion Policy in general has had a positive effect and in majority of countries the effects have survived the Great Recession. Germany is the country where most of the benefits are accumulated. However, Southern Italian countries have not been so successful – only before the Great Recession Italian regions improving in terms of employment. Spanish regions have been improving during the recovery phase.<sup>410</sup> That can be observed in the eligibility for the Cohesion funding – while some of the Spanish regions have been ‘moving-up’ from convergence regions in the 2007-2013 period to the transition and more developed regions in the 2014-2020 period, many of the Italian regions have fallen behind.<sup>411</sup>

### **2.5.1. Main criticisms in the implementation of the cohesion policy**

Given the large amounts of financing allocated to the cohesion policy, there are expectations that the cohesion policy will have direct and tangible results, however, this cannot always be observed. In many cases it is also challenging to distinguish the cohesion policy funding from allocated funding to the region.<sup>412</sup> While it is considered that the cohesion policy has positive impact on the growth and employment, there is a lack of evidence how successful

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<sup>406</sup> European Commission, Directorate-General for Regional and Urban Policy (2015) European Structural and investment funds 2014-2020: Official texts and commentaries. Luxembourg: Publications Office of the European Union, pp. 31.

<sup>407</sup> Historic EU payments by MS & NUTS-2 region (filter by country, period and fund). European Commission European Structural and Investment Funds Data. [Online] – [reference on 07.05.2022.]. Available: <https://cohesiondata.ec.europa.eu/EU-Level/Historic-EU-payments-by-MS-NUTS-2-region-filter-by/2qa4-zm5t>

<sup>408</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 271

<sup>409</sup> *Ibid*, pp. 267

<sup>410</sup> Crescenzi, R., Giua, M. (2020) One or many Cohesion Policies of the European Union? On the differential economic impacts of Cohesion Policy across member states. *Regional Studies*, 54(1), pp. 10-20.

<sup>411</sup> European Communities (2007) Cohesion policy 2007-2013 Commentaries and official texts, Luxembourg: Office for Official Publications of the European Communities

<sup>412</sup> Fratesi, U., Wislade, F. G. (2017) The impact of the European Cohesion Policy in different contexts. *Regional Studies*, 51(6), pp. 817-821

are the policy within countries on a regional level.<sup>413</sup> The efficiency of policies can depend on absorptive capacity, local context and intensity of treatment.<sup>414</sup>

The changes and diversity of issues that the EU cohesion policy must address has led to various criticisms of it, especially regarding the efficiency of the cohesion policy. The equity-efficiency dilemma<sup>415</sup> of the Cohesion policy is a further contributor to this narrative, where investments from European structural funds would rather be allocated in bigger agglomeration economies with higher possibility of returns over lagging regions.<sup>416</sup> This aspect has to be considered in direct linkage with the regional inequalities. The overall tendency is that the larger cities, often in metropolitan areas are outperforming smaller, more remote cities.<sup>417</sup> However, in Europe a crucial role is played by the medium-sized cities as growth centres.<sup>418</sup> Still, investments tend to shift towards already more competitive areas expecting spill over effects and lose the initial concept of cohesion to support lagging regions and causing further inequalities.<sup>419</sup>

There is no clear answer whether the cohesion policy is effective in reducing the disparities and the assessment studies provide mixed results.<sup>420 421 422</sup> That has led to various criticisms of the cohesion policy. As the cohesion policy is so wide and multi-faceted, it has been criticized for lacking clearly identifiable targets.<sup>423</sup> Becker (2019) among the main criticisms towards cohesion policy mentions the inability to address the targets set in European treaties, unclear actual impacts on convergence and growth and job creation.<sup>424</sup> A further criticism is on the allocation of cohesion funds towards the richer EU countries - the support creates unfair competition and gives advantage to the regions in richer countries which already

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<sup>413</sup> Crescenzi, R., Giua, M. (2020) One or many Cohesion Policies of the European Union? On the differential economic impacts of Cohesion Policy across member states. *Regional Studies*, 54(1), pp. 10-20.

<sup>414</sup> *Ibid.*

<sup>415</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>416</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>417</sup> Iammarino, S., Rodriguez-Pose, A., & Storper, M. (2019). Regional inequality in Europe: Evidence, theory and policy implications. *Journal of Economic Geography*, 19(2), 273–298

<sup>418</sup> Dijkstra, L., Garcilazo, E. and McCann, P. (2015) The effects of the global financial crisis on European regions and cities. *Journal of Economic Geography*, 15(5): 935-949.

<sup>419</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>420</sup> *Ibid*

<sup>421</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations.

<sup>422</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

<sup>423</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>424</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41(2), pp. 147-168

have national policies and programmes addressing lagging regions.<sup>425</sup> In addition, there is lack of transparent monitoring practices that would allow to evaluate the actual effectiveness of the cohesion policy – it is most often measured by absorption rate that fails to consider sudden changes in Member States therefore shows changes with delay.<sup>426</sup> A further contributor to the unclear results and goals of the cohesion policy might be the weak control mechanisms from the EU, allowing the MS to interpretate the targets according to own understanding and needs and giving national objectives higher priority over the EU targets.<sup>427</sup> Hansen and Hermann concludes that funding can contribute to improvement in economic cohesion in absolute numbers as well as the convergence has improved over time.<sup>428</sup> However, Sala-i-Martin (1996) argues that the actual impact of government policies on convergence is relatively small. Assumption is based on differences how regional policies are applied.<sup>429</sup>

Given the multi-level governance implementation scheme and changes in the policy objectives of the cohesion policy, states and regions also have a role in shaping the agenda for it. The targets of the cohesion policy are reshaped and interpreted by the countries in a way that it best fits national targets.<sup>430</sup> Blom-hansen (2005) came to this conclusion when replacing the multi-level governance analysis with the principal-agent framework.<sup>431</sup> This conclusion is also drawn by Nosek (2017) indicating that the need to describe territorial cohesion as part of the 2014-2020 cohesion policy has been interpreted rather diversly by the MS. By describing their approach, countries often choose between the socio-economic convergence or economic competitiveness, which might lead to support to completely different areas.<sup>432</sup>

Although there is lack of direct evidence of the benefits of the cohesion policy, there are many spill-over effects to other areas – adopting the EU approach, strengthening the regional and local authorities, increase in GDP.<sup>433</sup> <sup>434</sup> Therefore, despite the criticisms the

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<sup>425</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>426</sup> Cunico, G., Aivazidou, E., Mollona, E. (2021) Beyond financial proxies in Cohesion Policy inputs' monitoring: A system dynamics approach. *Evaluation and Program Planning* 89 (2021) 101964

<sup>427</sup> Blom-hansen, J. (2005) Principals, agents, and the implementation of EU cohesion policy, *Journal of European Public Policy*, 12(4), pp. 624-648

<sup>428</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

<sup>429</sup> Sala-i-Martin, X. (1996) Regional cohesion: Evidence and theories of regional growth and convergence. *European Economic Review*, 40, pp. 1325-1352

<sup>430</sup> Blom-hansen, J. (2005) Principals, agents, and the implementation of EU cohesion policy, *Journal of European Public Policy*, 12(4), pp. 624-648

<sup>431</sup> *Ibid*

<sup>432</sup> Nosek, Š. (2017) Territorial cohesion storylines in 2014–2020 Cohesion Policy, *European Planning Studies*, 25(12), pp. 2157-2174

<sup>433</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives *European Integration*, 32:1, 77-96

<sup>434</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations.

cohesion funds should be continuously available. It should be considered though to set more clear targets in the context of recipient territories. As argued before the dilemma of equity-efficiency gap must be overstepped and strengthening the qualifications and understanding of the people working with the implementation of cohesion funds must take place. With targeted actions, cohesion policy itself can contribute to this.

Although the evidence of the benefits of the EU cohesion policy is inconsistent, there are many spill-over effects to other areas – adopting the EU approach, strengthening the regional and local authorities, increase in GDP.<sup>435</sup> <sup>436</sup> Therefore, despite the criticisms the cohesion funds should be continuously available, however more clear targets in the context of recipient territories have to be set and factors defining the successful implementation have to be identified and analysed, keeping in mind the dilemma of equity-efficiency gap that must be overstepped. Understanding of factors influencing the efficiency of the cohesion policy, could support the EU Member States in making decisions about the allocation of the Cohesion funds. Some analysis on NUTS3 level suggest that the only type of regions that has benefited from European cohesion policy are the predominantly rural regions, while urban, intermediate and dispersed rural areas seem to not have systematic impact.<sup>437</sup>

As a result, mixed consequences of the implementation of the cohesion policy in various ways has been observed. Cohesion policy has contributed to the territorial development of the EU<sup>438</sup>, but it has not led to increased territorial cohesion<sup>439</sup>. Furthermore, it has not stopped the development of the two-speed Europe and the South-North divide continues to increase.<sup>440</sup> Experience in UK has shown that the cohesion policy is working well and there is no efficiency loss even if poorer regions are supported, however there can be no horizontal misalignment between regional needs and investment allocations,<sup>441</sup> which indicates the need for efficient and highly qualified administrative structures. Also, it can be observed in the EU that the economic benefits are not spreading to the hinterlands, so it is questionable whether

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<sup>435</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations. pp.77-96

<sup>436</sup> Barca, F. (2009) An Agenda for a Reformed Cohesion Policy: A place-based approach to meeting European Union challenges and expectations.

<sup>437</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>438</sup> Buseti, S. & Pacchi, C. (2014) Institutional Capacity for EU Cohesion Policy: Concept, Evidence and Tools that Matter, *disP - The Planning Review*, 50:4, 16-28

<sup>439</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>440</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

<sup>441</sup> Di Cataldo M. & Monastiriotis V. (2020) Regional needs, regional targeting and regional growth: an assessment of EU Cohesion Policy in UK regions, *Regional Studies*, 54:1, pp.35-47

the city focus is supporting the development of remote areas and the dilemma of the cohesion policy to be pro-urban or pro-lagging remains.<sup>442</sup> In order for the future cohesion policy to address the needs of the regions, the future strategic spatial planning would have to be more visioning and experimenting with less procedures. The focus cannot lay on cities alone and urban-rural ties have to be strengthened over the city networks.<sup>443</sup> Medeiros (2017) suggests putting European Spatial Planning concept in the centre of the cohesion policy – territory-driven strategies, focus on transnational and cross-border issues and large impact projects as well as targeted investments in anchor cities of less-developed regions.<sup>444</sup> Camagni and Capello (2014) argue that if territorial platforms for knowledge, identity, infrastructure and urban areas were introduced, competitiveness and cohesion would not have to be exclusive, but could be addressed jointly.<sup>445</sup>

### 2.5.2. Implementation in Latvia

In Latvia, during the 2014-2020 period, 1920 projects were implemented with support from the EU funding. 2 670 366 174 euros were from the EU, while 779 775 929 euros were national co-financing.<sup>446</sup> In absolute numbers, the most of funding was allocated in Riga region (Riga and Pieriga NUTS3 regions) – 722,4 million euros, followed by Latgale (314,2 Mio.), Kurzeme (301,7 Mio.), Zemgale (232,1 Mio.) and Vidzeme (196,7 Mio.). In Riga the investments are a bit higher than in Pieriga – 381,2 to 341,2 million. Per head the investments were the highest in Kurzeme with 1278 euro per capita, followed by Latgale with 1243 euro per capita, Vidzeme, Zemgale and Riga regions (727 euro per capita).<sup>447</sup> It has to be noted that the allocated funds vary significantly from municipality to municipality which is the main territorial unit where the funding is allocated.<sup>448</sup> To big extent the EU funding in Latvia is

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<sup>442</sup> Rauhut D., Humer, A. (2020) EU Cohesion Policy and spatial economic growth: trajectories in economic thought, *European Planning Studies*, 28:11, 2116-2133

<sup>443</sup> *Ibid.*

<sup>444</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25:10, 1856-1875

<sup>445</sup> Camagni, R. & Capello, R. (2014) Rationale and Design of EU Cohesion Policies in Periods of Crisis. *Advanced Engineering Forum* Vol. 11 (2014), 11-19

<sup>446</sup> Vides aizsardzības un reģionālās attīstības ministrija (2021) Analītiskais ziņojums par Eiropas Savienības fondu 2014.-2020.gada plānošanas period, pp. 5. [Accessed: 11.05.2022.] Pieejams: [https://raim.gov.lv/sites/default/files/2021-08/Analitiskais\\_zinojums\\_ES\\_fondi\\_2014\\_2020\\_2021.gads\\_.pdf](https://raim.gov.lv/sites/default/files/2021-08/Analitiskais_zinojums_ES_fondi_2014_2020_2021.gads_.pdf)

<sup>447</sup> *Ibid.*, pp. 6.

<sup>448</sup> *Ibid.*, pp. 13-17.

allocated on municipal level, at the same time it is allocated on national level be sectoral ministries.<sup>449</sup> There are very few projects that are carried out on regional level.<sup>450</sup>

In general, the Cohesion Policy has not been so successful in Latvia, as the centralization is continuously increasing, concentrating people, knowledge and economic activity in Riga, while the more remote areas are left behind. Central administration to allocate funding is further contributing to the process. The funds should be managed at regional level.<sup>451</sup> However, on a European scale, the convergence has taken place, Latvia has narrowed the gap significantly.<sup>452</sup>

The various intensity of the funds alone may increase the risk of inequalities on a local scale. However, theoretically, the funding could be allocated to regional development centres that may contribute to a spillover effect. The funding allocated in Latgale during the 2014-2020 period is the 2<sup>nd</sup> biggest both in absolute numbers as well as per capita. However, the growth rates remain the lowest. Factors that are influencing it would have to be further explored.<sup>453</sup>

The support to entrepreneurs is considered the most direct support where the returns in increased growth could be observed faster. This might include support to improve infrastructure development, but also improving skills of workers. However, the investments are also allocated to public infrastructure – health care, education, physical infrastructure. These investments may take longer to show results and returns.<sup>454</sup>

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<sup>449</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>450</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>451</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022

<sup>452</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>453</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022

<sup>454</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

## 2.6. Cohesion policy 2021-2027

According to the European Commission, in this 2021-2027 cohesion policy the aim is to provide investments for job creation, business competitiveness, economic growth, sustainable development and improved quality of life. It notably addresses the three out of six political priorities: ‘A European Green Deal’, ‘A Europe fit for digital age’ and ‘An economy that works for people’, as well as addresses the territorial dimension of European policies and solidarity towards the less-developed regions. There are four funding instruments to implement cohesion policy: European Regional Development Fund, Cohesion Fund, European Social Fund + and Just Transition Fund.<sup>455</sup> In this period, the fund is supposed to be more flexible, with simplified reporting procedure and empower the local, urban and territorial authorities.<sup>456</sup> The cohesion policy itself has five policy objectives:

1. **a more competitive** and smarter Europe by promoting innovative and smart economic transformation regional ICT connectivity
2. **a greener**, low-carbon transitioning towards a net zero carbon economy and resilient Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate change mitigation and adaptation, risk prevention and management, and sustainable urban mobility
3. **a more connected** Europe by enhancing mobility
4. **a more social** and inclusive Europe implementing the European Pillar of Social Rights
5. **Europe closer to citizens** by fostering the sustainable and integrated development of all types of territories and local initiatives.<sup>457</sup>

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<sup>455</sup> Regulation (EU) 2021/1060 of the European Parliament and of the Council of the 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. Adopted 24.06.2022.

<sup>456</sup> Krausova, T., Walsh, J. (2021) 2021-2027 Cohesion policy EU budget allocation. Available: <https://cohesiondata.ec.europa.eu/stories/s/2021-2027-EU-allocations-available-for-programming/2w8s-ci3y/> [Accessed: 14.05.2022.]

<sup>457</sup> Regulation (EU) 2021/1060 of the European Parliament and of the Council of the 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. Adopted 24.06.2022.

Via the Interreg programmes additional priorities have been set for ‘A better cooperation governance’ and ‘A safer and more secure Europe’.<sup>458</sup> For the 2021-2027 funding period of the cohesion policy, including ERDF and ESF+, all EU regions are divided into 3 categories:

- Less developed regions, where GDP per head is below 75% of the EU-27 average,
- Transition regions, where GDP per head is in the in-between 75% and 100% of the EU-27 average,
- More developed regions, where GDP per head is above 100% of the EU-27 average.

Spatially in European Union, the least developed regions are located in East and South, more developed regions are located in the Western and Northern Europa as well as around metropolitan areas. Latvia is categorized among the less developed regions.<sup>459</sup>

Total funding allocated to cohesion policy is 392 billion euros and the funds are distributed under following heading: Investments for jobs and growth goal, European Territorial Cooperation Interreg Goal and EU Initiatives for technical support. The first two targets will allocate 378 billion,<sup>460</sup> 11,3 billion will be transferred to the Connecting Europe Facility, 2,5 billion are for technical assistance mechanisms. ERDF and ESF+ jointly account for almost 313,1 billion, Cohesion Fund – 36,6 billion, while Just Transition Fund – 19,2 billion euros.<sup>461</sup> The cohesion policy 2021-2027 has addressed the territorial cohesion with one of the priorities, emphasizing all types of territories and allowing to continue support both to growth poles and lagging regions, as well as emphasizing the territorial tools: Integrated Territorial Investment, Community led local development.<sup>462</sup>

### **2.6.1. Planned allocation of the Cohesion policy funding in Latvia**

For the cohesion policy 2021-2027, in Latvia each strategic priorities of the policy are divided into 31 ‘Specific Support Targets’ (*Specifisks atbalsta mērķis* in Latvian) with defined indicators to be achieved by 2029. In total it is planned to invest 4 210 142 100 euros in Latvia

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<sup>458</sup> Regulation (EU) 2021/1059 of the European Parliament and of the Council of 24 June 2021 on specific provisions for the European territorial cooperation goal (Interreg) supported by the European Regional Development Fund and external financing instruments. Adopted 24.06.2021.

<sup>459</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.x

<sup>460</sup> Council Regulation (EU, Euratom) 2020/2093 of 17 December 2020 laying down the multiannual financial framework for the years 2021 to 2027. Adopted 17.12.2022.

<sup>461</sup> Krausova, T., Walsh, J. (2021) 2021-2027 Cohesion policy EU budget allocation. Available: <https://cohesiondata.ec.europa.eu/stories/s/2021-2027-EU-allocations-available-for-programming/2w8s-ci3y/>

<sup>462</sup> Regulation (EU) 2021/1060 of the European Parliament and of the Council of the 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. Adopted 24.06.2022.

with the Cohesion policy funding (ERDF, Cohesion Fund and ESF+) and it is planned to be distributed accordingly to the priorities:

1. 20% to smarter Europe
2. 22% to greener Europe
3. 21% to more connected Europe
4. 31% to more social Europe
5. 5% Europe closer to citizens' target.

It is estimated that together with national co-financing the total investment related to cohesion policy will achieve 4,99 billion. Most of the funding is foreseen for the specific development targets of developing TEN-T infrastructure (718 187 272 euros), fostering energy efficiency and reduction greenhouse gases (405 018 553 euros), improving the medical care and ensuring access to it (274 446 198 euros), strengthening the capacity of research and innovation and technological development, support to SMEs (245 356 750), integrated social, economic, environmental, cultural heritage, tourism and security development of local territories in functional urban areas (223 521 420 euros).<sup>463</sup>

In Latvia, the cohesion policy funding is allocated in line with the Regional Development Guidelines 2021-2027 and National Development Plan 2021-2027.<sup>464</sup> Regional Development Guidelines are the main documents that defines regional policy in Latvia and serves as guidance for the allocation of the EU structural funds and other foreign financial instruments. Guidelines are based in the National Development Plan 2021-2027 and Latvia's Sustainable Development Strategy 2030; the main principles are territorial approach in proving support, thematic concentration (regional economic, improving the efficiency of services, capacity building of actors involved in the regional planning), introduction of smart solutions. Aim of regional policy in Latvia is to develop potential of all regions and reduce socio-economic disparities by increasing competitiveness and quality of life.<sup>465</sup>

National Development Plan of Latvia for 2021-2027 has strategic objectives of productivity and income, equal opportunity, social trust and regional development. To achieve the objectives, six priorities are set: healthcare and social inclusion, education and research, competitiveness and material well-being, European Green Deal and balanced regional

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<sup>463</sup> Ministru kabineta rīkojums Nr. 841. Par Eiropas Savienības kohēzijas politikas programmu 2021.-2027.gadam. [Accessed: 12.05.2022.] Accessible: <https://likumi.lv/ta/id/327732-par-eiropas-savienibas-kohezijas-politikas-programmu-2021-2027-gadam>

<sup>464</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>465</sup> Par Reģionālās politikas pamatnostādņēm 2021.-2027.gadam. Ministru kabineta rīkojums Nr.587. Pieņemts 26.11.2019.

development, culture and sport, united and secure society.<sup>466</sup> The strategic planning documents in Latvia have a strong focus on supporting business development and SME's. Another dimension is the quality of life that may include solutions to improve infrastructure, services, e.g., health and education, and environmental quality. The documents are already aligned with the strategic framework of the EU and the policy objectives of the cohesion policy.

To reduce the sectoral approach and increase integrated territorial approach in the 2021-2027 period it is planned to distribute funding via regional project calls with unified selection criteria coordinated by administrations of planning regions.<sup>467</sup> However, the planning regions currently lack capacity and guidance on how to carry out this task.<sup>468</sup> Another change in the implementation is that starting the 2021-2027 period the GDP per capita will be a prerequisite to be eligible for cohesion policy funding on a local level.<sup>469</sup> This is concerning as majority of Pierīga municipalities are receiving less and less financial support. However, these are territories where there is a growth and spillover potential. Although it is the common approach to use GDP per capita as a measure, more scientific approach could benefit the efficiency.<sup>470</sup> Still, the observations are that the effect of the Riga city spreads in approximately 100 km radius and the inequalities may be even further increased if the funding is allocated to the regions already better off.<sup>471</sup> Given the high rates of development concentration and comparative advantages around the capital already, in the case of Latvia, the equity aspect seems to be more important in the allocation of funding.

Despite the billions of investments allocated via the Cohesion policy with the strategic target of reducing regional disparities, the tendency in Europe is for the convergence to reduce. Especially due to high concentrations of growth, innovation and human capital in the cities, especially metropolitan areas, the inequalities are also rising within countries. Similar patterns can be observed in Latvia as well – the Riga and Pierīga regions are outperforming the rest of Latvia.

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<sup>466</sup> National Development Plan of Latvia for 2021-2027. Approved by the Saeima of the Republic of Latvia, No. 418/Lm13

<sup>467</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>468</sup> Interview with Ivita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>469</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>470</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>471</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

### 3. FACTORS INFLUENCING THE EFFICIENCY OF THE COHESION POLICY IN REDUCING REGIONAL INEQUALITIES IN THE EUROPEAN UNION AND LATVIA

#### 3.1. Approach to determine significant factors influencing the efficiency of Cohesion policy

One of the main indicators for regional development and differences between regions is the GDP per capita. GDP per capita allows to better evaluate regional income beyond certain narrow policy.<sup>472</sup> In order to evaluate the impacts of policy, it is important to observe the convergence process over time. Linear regression analysis is a method that can be used to test whether convergence has increased, and regional inequalities have declined.<sup>473474475</sup> Linear regression and multiple linear regression analysis are used to determine factors that have the highest impact on the efficiency of the cohesion policy. Following formula is applied for linear regression:

$$y=a+bx+\varepsilon \quad (3.1.), \text{ where } y - \text{the dependent variable GDP per capita growth in the period from 2009-2018,}$$

*x* - the independent variable is the Cohesion policy funding (ERDF, Cohesion Fund and ESF) during the period 2009-2018,

*b* - describing the slope of the regression line, *a* is the intercept value,

$\varepsilon$  - the standard error.

To determine the factors that have impact on the efficiency of the cohesion policy funding implementation, multiple linear regression is carried out:

$$y=a+b_1x_1+b_2x_2+ b_3x_3\dots+\varepsilon \quad (3.2.) \text{ where } x_1 - \text{the Cohesion policy funding,}$$

*x*<sub>2</sub> and *x*<sub>3</sub> - other variables that have the influence of the efficiency of funding.

Possible variables are listed in the next subchapter, their correlation together with total cohesion policy funding are tested separately and in various combinations to determine the

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<sup>472</sup> Hansen, H., Herrmann, R. (2012) The two dimensions of policy impacts on economic cohesion: Concept and illustration for the CAP. *Food Policy*, 37(4), pp. 483-491.

<sup>473</sup> *Ibid.*

<sup>474</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>475</sup> Tselios, V., Rodriguez-Pose, A., Pike, A., Tomaney, J., Torrissi, G. (2012) Income, inequality, decentralization, and regional development in Western Europe. *Environment and Planning A*, 44(6), pp. 1278-1301.

most influential ones. Data Analysis tool of Microsoft Excel program is being used to carry our regression analysis.

GDP per capita is a measure to be used as a dependent variable to evaluate efficiency of a cohesion policy.<sup>476</sup> As the cohesion policy funding is allocated on NUTS2 level, that is the chosen geographic unit for the analysis. GDP per capita in PPS growth (%) in regions is chosen as the dependent variable. It is in line with convergence theories where economic growth should be faster in the catching up regions. Data used for the calculations are from the Eurostat data basis.<sup>477</sup> The data include GDP at current market prices, for every year starting 2010 annual growth in % is calculated:

$$\text{GDP}_y \text{ annual growth rate(\%)} = \frac{\text{GDP}_y - \text{GDP}_{y-1}}{\text{GDP}_y} * 100 \quad (3.3.)$$

The average growth rate to be used in the analysis is calculated out of the annual growth rates in the period. In most of the European regions the GDP growth has been positive over the analyzed decade. The only exception are the Greek regions (except for Dytiki Makedonia where there has been nor growth or decline). Slight decline has also happened in Groningen (Netherlands) with -0,15% and Åland (Finland) with -0,02% average decline. Positive but relatively small have been the average annual GDP growth in Italian regions, Spanish territories outside mainland, capital region of Portugal, Cyprus, some Dutch regions. The fastest average annual growth rate was experienced by Lithuania – 6,81%, whole Romania has experienced fast economic development, average growth rates vary between 4,78 and 6,21%. Latvia also has had one of the highest average growth rates – 5,61%, Estonia – 5,38%. Severozapaden has also been growing relatively quickly (average annual GDP growth rate is 5,15%). These regions are followed by Polish, Bulgarian, some German, Czech and Hungarian regions (see annex 2). The fastest growth rates are experienced by countries who are having relatively smaller GDP per capita, so the growth patterns are in line with classical convergence theories. However, the decline is experienced Greek regions, where the GDP per capita is below the European average, indicating that there are factors beyond funding that influence the convergence process.

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<sup>476</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>477</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

The dependent variable is the total cohesion policy funding (sum of ERDF, CF, ESF). The chosen timeframe for analysis is a ten-year period from 2009-2018. 2009 is chosen as a starting point for two reasons. Firstly, it is the period when the EU started to recover from the Great Recession. Secondly, this is a period where there have been only one new MS joining the EU – Croatia in 2013. For the allocated funding, the European Structural and Investment Funds data base is being used, specifically a compilation of data on historic EU payments by MS & NUTS-2 region.<sup>478</sup> Dataset includes data of allocated funding since the implementation of the EU structural funds started. The latest available calculations of annual payments on NUTS2 level are available for 2018, thus defining the last year included in the analysis. During the 2009-2018 period, funding of three programming periods was paid – 2000-2006, 2007-2013, 2014-2020. Contributions from all three periods are summed up and included in the analysis. In general, an n+2 rule is applied in the allocation of funding, meaning that the payments of a certain programming period can take place 2 years after it has ended.<sup>479</sup> However, data suggest, that EU funds can be distributed even 10 years after financial period has concluded.<sup>480</sup>

Changes in the NUTS2 classification have taken place during the period of analysis. Capital regions of Poland and Hungary have been divided in the city and adjacent region- Mazowieckie in Warszawski stoleczny and Mazowiecki regionalny and Közép-Magyarország in Budapest and Pest respectively, in Lithuania, the capital region has been divided from the rest of the country, currently in NUTS2 there are Sostines region and Vidurio ir Vakaru Lietuvos region. The regions in Ireland have been completely reorganized from two – Border Midland and Western and Southern and Eastern - to three – Northern and Western, Southern, Eastern and Midland, that has completely changed the socio-economic indicators. In Croatia, one of the regions - Kontinentalna Hrvatska - has been divided in three smaller regions – Panonska, Sjeverna and Grad Zagreb. These regions, except for Lithuania where national level data is available, are excluded from the analysis due to inconsistency in statistical territorial units in which the data are provided, therefore accurate comparison cannot be done. The Spanish territories in the mainland Africa – autonomous cities of Ceuta and Melilla are also

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<sup>478</sup> Historic EU payments by MS & NUTS-2 region (filter by country, period and fund). European Commission European Structural and Investment Funds Data. [Online] – [reference on 07.05.2022.]. Available: <https://cohesiondata.ec.europa.eu/EU-Level/Historic-EU-payments-by-MS-NUTS-2-region-filter-by/2qa4-zm5t>

<sup>479</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>480</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

excluded as they lack data for many indicators. For specific indicators further regions can be excluded if the data is not available. In addition, UK has been excluded from the analysis as it is no longer part of the EU and EU-27 average indicators have been used.

Previously studies and regression analysis have been carried out that distinguish between Objective 1 and non-Objective 1 regions,<sup>481</sup> where regression is carried out separately based on the urban-rural typology.<sup>482</sup> As the cohesion policy funding based on their comparative GDP per capita of the regions, the regression analysis is carried out separately to the 3 types of regions according to their eligibility for funding: less developed, transition, more developed.

### **3.2. Major influential factors determining the efficiency of the European Unions` cohesion policy**

Variables that could be tested are population density, employment rates and share of persons with secondary and tertiary education.<sup>483</sup> Based on the literature analysis and collected empirical data about the regional development in the EU, multiple indicators have been chosen as variables for regression analysis. These are divided in demographic factors, employment rates, education levels, composite indexes evaluating governance, competitiveness and social factors, as well as accessibility and funding allocated for research and development. All measure that will be used as variables are compiled in the Annex. 2.

Firstly, demographic factors are being considered. For the analysis following indicators have been chosen: proportional population change during the period 2009-2018, average population density during 2009-2018 and proportion of population aged 65 years and more. The population change is calculated from the Eurostat dataset Population on 1 January by age, sex and NUTS2 region, from all the data during the period average is calculated.<sup>484</sup> Population change is analysed to test whether population decline or increase have positive impact on the returns from investments. It is argued that the benefits are higher in urban areas where population and knowledge density is higher therefore spill overs are possible. To test it, population density (persons per square kilometre) is tested as one of the variables. As most of

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<sup>481</sup> Crescenzi, R., Giua, M. (2020) One or many Cohesion Policies of the European Union? On the differential economic impacts of Cohesion Policy across member states. *Regional Studies*, 54(1), pp. 10-20.

<sup>482</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>483</sup> *Ibid.*

<sup>484</sup> Population on 1 January by age, sex and NUTS2 region. Eurostat. [Online] – [reference on 06.05.2022.] Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_r\\_d2jan&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_r_d2jan&lang=en)

the NUTS2 units have diverse settlement patterns, categorization of regions in urban and rural takes place on NUTS3 level. However, the more urbanized a territory is, the higher the population density will be. Therefore, average population density is calculated based on the 2009-2018 period.<sup>485</sup> And lastly, the average proportional share of population aged 65 or more is tested as variable to understand whether ageing has impact how efficiently the cohesion policy funding is put into effect.<sup>486</sup>

Secondly, indicators describing employment patterns in the region are chosen as variables as they are argued among the crucial determinants for regional disparities. Employment rate shows the percentage of 15-65 year old population actively involved in the labor market.<sup>487</sup> In the EU unemployed are those persons aged 15-74 who are not working, are available to work and are looking for it.<sup>488</sup> Due to the lack of data for 2009 for unemployment rates, the average for both indicators is calculated starting 2010.

Thirdly, education levels are introduced into the regression analysis as lagging regions tend to have lower education levels,<sup>489</sup> especially the high share of people with very low education levels.<sup>490</sup> Therefore two variables are introduced in the regression analysis: share of population with less than primary, primary and lower secondary education levels and share of populations with tertiary education.<sup>491</sup>

Further on, composite indicators are brought into analysis:

- European Social Progress Index from 2016;<sup>492</sup>
- Regional Competitiveness Index from 2019,<sup>493</sup>
- Regional index of Good Governance from 2017.<sup>494</sup>

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<sup>485</sup> Population density by NUTS 2 regions. Eurostat. [Online] – [reference on 06.05.2022.] Available: <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tps00024&lang=en>

<sup>486</sup> Population structure indicators by NUTS 2 region. Eurostat. [Online] – [reference on 06.05.2022.] Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_r\\_pjanind2&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_r_pjanind2&lang=en)

<sup>487</sup> Employment rates by sex, age and NUTS 2 regions (%). [Online] – [reference on 06.05.2022.] Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst\\_r\\_lfe2emprrt&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst_r_lfe2emprrt&lang=en)

<sup>488</sup> Unemployment rate by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 06.05.2022.] Available: <https://ec.europa.eu/eurostat/databrowser/view/tps00010/default/table?lang=en>

<sup>489</sup> Cörvers, F., & Mayhew, K. (2021). Regional inequalities: Causes and cures. *Oxford Review of Economic Policy*, 37(1), 1–16.

<sup>490</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>491</sup> Population by educational attainment level, sex and NUTS 2 regions (%). Eurostat. [Online] – [reference on 06.05.2022.] Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat\\_lfse\\_04&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat_lfse_04&lang=en)

<sup>492</sup> European Social Progress Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/social\\_progress2020/](https://ec.europa.eu/regional_policy/en/information/maps/social_progress2020/)

<sup>493</sup> European Regional Competitiveness Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/regional\\_competitiveness/](https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/)

<sup>494</sup> Charron, N., V. Lapuente & P. Annoni (2019). Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science*, 98(5), pp. 1925-1953.

The expenditure in research and development is also mentioned among the important factors to improve regional competitiveness. Therefore, additionally also the Gross domestic expenditure on research and experimental development is added to the variables.<sup>495</sup>

In literature, among the influential factors the physical accessibility is mentioned, especially in the context of globalization. Being in close proximity to big transport connections is a comparative advantage. To test the impact potential accessibility indicators from the LUISA platform facilitated by the Joint Research Centre of the European Commission is used. Island regions are excluded in LUISA accessibility indicator.<sup>496</sup>

### 3.3. Results of the regression analysis

The initial regression between cohesion funding and the GDP per capita growth shows no correlation (see table. 3.1.). It indicates that there is a wide variety of factors that have impact on the efficiency. In addition, it has to be noted that cohesion policy funding is just one part of the EU funding as well as the dataset excludes national funding and private investments that are smaller in less developed regions but might be significant in more developed regions. This is in line with the criticisms to the cohesion policy not being able to address the disparities and differences in the regional growth, expressed by various authors, e.g., Medeiros<sup>497</sup>, Begg,<sup>498</sup> Becker.<sup>499</sup>

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<sup>495</sup> GERD by sector of performance and NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 06.05.2022.] Available: [https://ec.europa.eu/eurostat/databrowser/view/rd\\_e\\_gerdreg/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/rd_e_gerdreg/default/table?lang=en)

<sup>496</sup> Jacobs-Crisioni C., Batista e Silva F., Lavallo C., et al. (2014) "Accessibility and territorial cohesion in a case of transport infrastructure improvements with endogenous population distributions." European Commission - Joint Research Centre.

<sup>497</sup> Medeiros, E. (2017) From smart growth to European spatial planning: a new paradigm for EU cohesion policy post-2020, *European Planning Studies*, 25(10), pp. 1856-1875

<sup>498</sup> Begg, I. (2010) Cohesion or Confusion: A Policy Searching for Objectives European Integration, *European Integration*, 32(1), pp. 77-96.

<sup>499</sup> Becker, P. (2019) The reform of European cohesion policy or how to couple the streams successfully, *Journal of European Integration*, 41(2), pp. 147-168,

Table 3.1.

**Summary output of regression analysis between GDP per capita growth and cohesion policy investments**

<i>Regression Statistics</i>	
Multiple R	0,235978
R Square	<b>0,055686</b>
Adjusted R Square	0,051507
Standard Error	1,561873
Observations	228

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	32,51078	32,51078	13,32712	0,000325
Residual	226	551,3148	2,439446		
Total	227	583,8256			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	2,168652	0,132344	16,38651	2,67E-40	1,907867	2,429438	1,907867	2,429438
Total CP funding	1,87E-10	5,12E-11	3,650632	0,000325	8,59E-11	2,88E-10	8,59E-11	2,88E-10

*Source: prepared by author based on Historic EU payments by MS & NUTS-2 region (filter by country, period and fund). European Commission European Structural and Investment Funds Data. [Online] – [reference on 07.05.2022.]. Available: <https://cohesiondata.ec.europa.eu/EU-Level/Historic-EU-payments-by-MS-NUTS-2-region-filter-by/2qa4-zm5t> and Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)*

The population change solely together with GDP per capita growth increases the  $R^2$  in the regression from 0,05 to 0,11, the correlation is negative, meaning that population decline has negative impact on the economic growth, with the coefficient -0,07. The projection is that by 2040 half of the European population will live in shrinking regions.<sup>500</sup> Knowing that the population decline is having an impact on the efficiency of the cohesion policy, this is indicating further gap in future. The variable of average proportion of population aged more than 65 increases the  $R^2$  value to 0,07 and it has a slightly negative impact as coefficient is -0,08. It has stronger effect together with other variables like low education levels ( $R^2 = 0,34$ ), unemployment ( $R^2 = 0,46$ ), Regional index of Good Governance ( $R^2 = 0,10$ ), employment ( $R^2 = 0,25$ ), Regional Competitiveness Index ( $R^2 = 0,14$ ).

<sup>500</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 187

Although it is argued that the population density might have negative impact on the development potential<sup>501</sup> and efficiency how the funding is used, the analysis carried out has found no significant relation between the GDP growth. This may indicate that concentration of population might be comparably less important. However, it does show some significance in combination with population change ( $R^2 = 0,13$ ). Results indicate that in controversy to the equity-efficiency dilemma, also sparsely populated areas can successfully utilize funding to ensure economic growth. However, multiple authors argue that rural territories benefit mostly in proximity of urban areas,<sup>502</sup> another aspect that is argued that NUTS3 scale is more appropriate to analyse the effects of population density and settlement patterns,<sup>503</sup> therefore this analysis might be insufficient and might be further tested on a smaller geographic scale. Linkage to multiplier and economies of scale has to be kept in mind suggesting that the returns in already well performing areas are higher.<sup>504</sup> Furthermore, it allows to draw conclusion consistent with Frick and Rodríguez-Pose finding that population density alone is not sufficient, infrastructure and good governance are needed.<sup>505</sup>

Secondly the employment and unemployment rates have been tested and they are indeed important determinants. Unemployment together with cohesion funding show strong correlation with economic growth as  $R^2 = 0,44$  and coefficient  $-0,18$ , while employment seems to be a little less significant, the  $R^2$  value reaches  $0,22$  and coefficient is  $0,08$ . Unemployment is especially important together with population change, both having negative impact on the GDP growth with  $R^2$  value  $0,51$ . Similar effect it has together with European Social Progress Index ( $R^2 = 0,50$ ), very low education levels ( $R^2 = 0,46$ ), Regional Competitiveness Index, Regional index of Good Governance ( $R^2 = 0,45$ ). Employment has synergizing effect with population change ( $R^2 = 0,31$ ), European Social Progress Index ( $R^2 = 0,38$ ), tertiary education levels ( $R^2 = 0,24$ ), low education levels ( $R^2 = 0,34$ ), Regional Competitiveness Index ( $R^2 = 0,23$ ), Regional index of Good Governance ( $R^2 = 0,26$ ). However, combined both indicators seen to have negative effect, also the employment levels, while both have negative coefficients,  $-0,04$  and  $-0,23$ , impact of the unemployment the latter, with rate much higher. The intuitive

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<sup>501</sup> Garcilazo, E., Moreno-Monroy, A. I., & Oliveira Martins, J. (2021). Regional inequalities and contributions to aggregate growth in the 2000s: An EU vs US comparison based on functional regions. *Oxford Review of Economic Policy*, 37(1), 70–96.

<sup>502</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>503</sup> *Ibid.*

<sup>504</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.247

<sup>505</sup> Frick, S., and Rodríguez-Pose, A. (2018), 'Big or Small Cities? On City Size and Economic Growth', *Growth and Change*, 49(1), 4–32.

conclusion can be drawn that higher employment rates will increase the efficiency of allocated funding, while higher unemployment rates will reduce the efficiency. However, the unemployment will have more impact.

Thirdly, education levels seem to have impact. The finding is conclusive with those of Annoni, et.al.<sup>506</sup> – the higher the share of lowly educated persons, the less efficient is the use of allocated funding ( $R^2 = 0,33$ , coefficient  $-0,06$ ). At the same time, increased shares of population having tertiary education do not seem to have a significant effect ( $R^2 = 0,05$ ) especially combined with other variables. For economic performance, inequalities in educational attainment levels matter more than average educational attainment.<sup>507</sup> During 2018-2020 most of the early leavers from education and training (12,1%) lived in less-developed regions. The rates are highest in the Southern EU geographically and in the towns and suburbs according to the settlement type.<sup>508</sup> Regression analysis suggest that low education rates are especially important for the successful accumulation of Cohesion funding and results are likely influenced by the tendency of having more early education leavers in the less developed regions. The proportion of population with lowest education levels synergizes with population decline, population density, employment rates, European Social Progress Index ( $R^2 = 0,38$ ). Regional Competitiveness Index and employment are the only variables with which the tertiary education seems to have slight impact, however negative, the same is the case if share of high and low education population is tested together.

European Social Progress Index alone has no major impact on the economic growth as  $R^2 = 0,06$  and coefficient is  $-0,01$ . It is significant together with very low education levels, employment, unemployment, Regional Competitiveness Index ( $R^2 = 0,29$ ), Regional Index of Good Governance ( $R^2 = 0,27$ ). Regional Competitiveness Index ( $R^2 = 0,11$ , coefficient  $0,01$ ) alone has little impact, it has a bit more impact together with population change, unemployment and tertiary education rates. Regional index of Good Governance increases the correlation only slightly to  $R^2 = 0,08$ , however the coefficient is  $0,27$ . But its` impact and coefficient increases together with population change, European Social Progress Index, it has negative coefficient in combination with unemployment and employment rates. EQI indicator has three pillars –

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<sup>506</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>507</sup> Rodriguez-Pose, A., Tselios, V. (2010) Inequalities in income and education and regional economic growth in western Europe. *Annals of Regional Science*, 44(2), pp. 349-375.

<sup>508</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.145

corruption, impartiality and quality of services.<sup>509</sup> If the decomposed values are tested, results suggest that corruption has the biggest impact ( $R^2 = 0,09$ , coefficient 0,37), followed by impartiality ( $R^2 = 0,08$ , coefficient 0,23) and quality ( $R^2 = 0,07$ , coefficient 0,18). Gross domestic expenditure on research and experimental development and accessibility showed no significant correlation tested alone nor with other variables.

By testing variable in various combinations, a set of indicators has been found that have an impact on how efficiently the cohesion policy funding is being allocated (see table 3.2.).  $R^2$  value has reached 0,59 by adding Regional Index of Good Governance, unemployment, shares of people with tertiary and very low education, European Social Progress Index and population change.

Table.3.2.

### Main factors influencing the efficiency of the cohesion policy

<i>Regression Statistics</i>								
Multiple R	0,772459							
R Square	<b>0,596693</b>							
Adjusted R Square	0,583861							
Standard Error	1,034542							
Observations	228							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	7	348,3647	49,76639	46,49862	4,62E-40			
Residual	220	235,4609	1,070277					
Total	227	583,8256						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	10,25135	1,280759	8,004121	6,88E-14	7,727225	12,77548	7,727225	12,77548
Total CP funding	1,84E-10	4,17E-11	4,42785	1,5E-05	1,02E-10	2,67E-10	1,02E-10	2,67E-10
EQI	0,562856	0,186301	3,021211	0,002816	0,195692	0,930019	0,195692	0,930019
Pop. Change, %	-0,05989	0,015767	-3,79806	0,000189	-0,09096	-0,02881	-0,09096	-0,02881
ESPI	-0,10832	0,020913	-5,17962	5,02E-07	-0,14954	-0,06711	-0,14954	-0,06711
Unemployment	-0,14886	0,019474	-7,64397	6,45E-13	-0,18724	-0,11048	-0,18724	-0,11048
High Edu	0,035216	0,012038	2,925486	0,0038	0,011492	0,058941	0,011492	0,058941
Low Edu	-0,0195	0,006991	-2,78919	0,005747	-0,03328	-0,00572	-0,03328	-0,00572

Source: prepared by author based on various data (see annex 2.)

<sup>509</sup> Charron, N., V. Lapuente & P. Annoni (2019). Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science*, 98(5), pp. 1925-1953.

Good governance is the most influential aspect, as the Regional Index of good governance has a coefficient of 0,56. Out of the 3 pillars, the corruption also seems to be most influential in the combination with other variables although the correlation slightly decreases ( $R^2=0,53$ ), the coefficient increases to 0,89 becoming almost the only determining factor. It shows that it is particularly important to invest in increasing the capacity of local and regional administrations to increase the efficiency of the funding. Actions of local governments have influence on regional growth.<sup>510</sup> In addition, it is important to have a creative, synergy-based thinking when the funding is allocated to create projects with high added value and innovation that can really serve not only to address basic needs, but to generate new knowledge and possibilities.<sup>511</sup> Furthermore, the decentralization and allocation of functions on lower governance levels is important as that provides the needed capacity to the regional administrations.<sup>512</sup> The EQI is the lowest in Bulgaria, Greece, Hungary, Italy and Romania.<sup>513</sup> In these countries many of the lagging regions are located, that are continuously eligible for higher amounts of cohesion policy funding. This poses risks for further increases of regional inequalities within Europe and low returns of the funding allocated. At the same time EQI is an indicator that has relatively little impact on internal disparities as the national level political environment has a significant role, therefore this should not be the main factor for fostering within country disparities.

Indicator with the highest negative influence in the unemployment with coefficient - 0,15, which is an important indicator hinting to regional inequalities.<sup>514</sup> There is a North-South divide apparent in the unemployment rates with highest within country disparities in Italy. In general, the unemployment rates vary within countries, in some cases like Vienna of Brussels the capital region has the highest unemployment rates.<sup>515</sup> The results suggest that the unemployment rates may not influence the advantage of large cities, however if there are significant differences between regions, they would have effect.

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<sup>510</sup> Wei, Y., D. (2015) Spatiality of Regional Inequality. *Applied Geography*, 61, pp. 1-10.

<sup>511</sup> Interview with Ieva Kalniņa, Head of Planning Department, Vidzeme Planning Region, Laila Gercāne, Head of Project Department, Vidzeme Planning Region and Andžejs Stepančuks, project manager/expert in Vidzeme Planning Region, conducted on 16.05.2022.

<sup>512</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>513</sup> Charron, N., V. Lapuente & P. Annoni (2019). Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science*, 98(5), pp. 1925-1953.

<sup>514</sup> Begg, I. (2003). Complementing EMU: Rethinking Cohesion Policy. *Oxford Review of Economic Policy*, 19(1), pp. 161–179.

<sup>515</sup> Unemployment rate by NUTS 2 regions. Eurostat. [Online] – [reference on 6.05.2022.]. Available: <https://ec.europa.eu/eurostat/databrowser/view/tgs00010/default/table?lang=en>

Another indicator with impact is the European Social Progress Indicator, however the regression analysis suggests that it has negative correlation. A possible explanation for that could be that the index is usually quite harmonized across countries, and it is higher in old MS, except for Italy.<sup>516</sup> In line with convergence theories the economic growth in general is slower in already better performing regions.

Population change is the only demographic variable out of the tested that have a significant effect on the efficiency of the cohesion policy. Tertiary education has slightly positive affect. It has to be noted that the share of population with tertiary education is significant only in combination with other variables. Share of population with low education does have a negative effect. This confirms the conclusion within scientific literature that the inequalities in educational attainment have effect on regional development.<sup>517</sup>

In various indicators it can be observed that the outermost regions, e.g., the GDP per capita is significantly different (see annex 1), the Regional Competitiveness Index,<sup>518</sup> LUISA accessibility indicator<sup>519</sup> have special characteristics that are very different from mainland Europe. Also, the regression analysis which excluded the Spanish and Portuguese islands and French outermost territories, show stronger correlation among the financial investments and the GDP per capita growth (see table 3.3.). The main influential variables also change – share of population with low education is no longer significant while the ageing becomes important. The outermost territories do have lower shares of population over 65 and the shares of persons with very low education levels is outstandingly high. This may hint to the low education levels to not be as influential as long as the share is not extreme.

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<sup>516</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp. 183.

<sup>517</sup> Rodriguez-Pose, A., Tselios, V. (2010) Inequalities in income and education and regional economic growth in western Europe. *Annals of Regional Science*, 44(2), pp. 349-375.

<sup>518</sup> Annoni, P., Dijkstra, L. (2019) The EU Regional Competitiveness Index 2019. Luxembourg: Publications Office of the European Union., pp. 8

<sup>519</sup> Jacobs-Crisioni C., Batista e Silva F., Lavalle C., et al. (2014) "Accessibility and territorial cohesion in a case of transport infrastructure improvements with endogenous population distributions." European Commission - Joint Research Centre.

Table.3.3.

**Main factors influencing the efficiency of the cohesion policy with adjusted sample without Greek regions and outermost territories of France, Spain, Portugal**

Without outer most territories			Without Greece and Outermost territories		
Regression Statistics			Regression Statistics		
Multiple R	0,81149173		Multiple R	0,830026507	
R Square	0,658518828		R Square	0,688944003	
Adjusted R Square	0,64894459		Adjusted R Square	0,673154358	
Standard Error	0,960342962		Standard Error	0,764357122	
Observations	221		Observations	208	
Significance F	3,0295E-47		Significance F	1,1021E-44	
	Coefficients		P-value		
Intercept	13,55449276	1,43312E-23	Intercept	10,9404433	5,38238E-21
High Edu	0,048924282	1,39019E-05	Total CP funding	1,17529E-10	0,000753017
Unemployment	-0,19191982	2,58011E-28	Low Edu	-0,023974349	0,000123153
ESPI	-0,120814497	1,42206E-08	High Edu	0,041665752	5,97836E-05
Pop. Change, %	-0,132126767	1,6184E-13	Unemployment	-0,132854066	7,81337E-10
EQI	0,661035148	0,000293781	ESPI	-0,092157588	5,62218E-07
Population over 65	-0,137323236	1,25428E-07	Pop. Change, %	-0,081291359	5,7194E-07
			EQI	0,549398155	0,00027315
			Pop. Density	0,000249626	0,07202271
			RCI, 2019	-0,015798748	0,024374866
			Population over 65	-0,047776689	0,03720273

Source: prepared by author based on various data (see annex 2.)

Interestingly, the correlation increases even more when Greek regions are taken out of the sample (see table 3.3.). Also, the influential variables are more – population density, competitiveness and ageing play role. Due to its geography, Greek regions could be considered remote territories on a European scale and accessibility is especially challenging. In addition, Greece has been hit especially hard by the Great Recession in 2008,<sup>520</sup> and based on the GDP per capita growth data, Greece was almost the only country with negative pattern.<sup>521</sup> This may indicate that Greek regions are apparently outliers in the growth patterns in the European regions. Firstly, this implies that on a European scale competitiveness proves to be important and efforts should be made to increase competitiveness especially of the lagging regions which

<sup>520</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', Growth and Change, 50(3), pp. 824-55

<sup>521</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

are not among strong innovators,<sup>522</sup> and this may increase inequalities in a long run. Secondly, the demographic patterns turn out to be increasingly important. The population decline is often associated with ageing, so the effects might be multiplying. Although ageing is observed in regions all over Europe, it is more extreme in the less developed regions, yet again another factor that might be continuously contributing to increasing inequalities and less efficiency in the funding implementation. Thirdly, the outstanding situation of Greece suggests that it currently reduces the efficiency of the funding implementation. This may mean that on a European scale a special approach has to be developed to address structural and demographic challenges and ensure convergence of Greek regions.

### **3.3.1. Differences between less developed, transition and more developed regions**

Furthermore, the type of regions in terms of vis-à-vis European average GDP is considered to be determinant that may influence the efficiency. Based on the carried-out analysis certain patterns have been observed that suggest that there are certain differences among the most important factors that affect efficiency of the funding (see table. 3.4)

For the less developed regions the main influential factors are employment and unemployment, education levels, population change and regional competitiveness. For the transition regions the efficiency of funding depends on higher share of population with very low education levels, employment levels and good governance. It has to be noted though that the P-value is lower for Cohesion funding in the regression, making the results less reliable. For more developed regions the most influential factors are tertiary education rates, unemployment rates, European Social Progress Index, population change and good governance. The only factor that is important in all three types of regions is the unemployment and the highest impact for it is in developed regions. Population change seems to influence less developed and more developed regions but has no significant effect on transition regions. Similarly, high share of people with tertiary education do not show significant correlation in transition regions. However, high share of population with lower education do not seem to influence the funding efficiency in the more developed regions. Employment rates are only significant in less developed regions.

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<sup>522</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.49

Table 3.4..

**Summary output of the regression analysis of economic growth and cohesion policy funding and influential factors for different categories of regions**

<b>Whole sample</b>				<b>Less developed regions</b>			
<i>Regression Statistics</i>				<i>Regression Statistics</i>			
Multiple R	0,772459156			Multiple R	0,893902046		
R Square	0,596693147			R Square	0,799060868		
Adjusted R Square	0,583860657			Adjusted R Square	0,773486797		
Standard Error	1,03454177			Standard Error	0,704063721		
Observations	228			Observations	63		
<i>Significance F</i>	4,62315E-40			<i>Significance F</i>	5,54346E-17		
	<b>Coefficients</b>	<b>P-value</b>		<b>Coefficients</b>	<b>P-value</b>		
Intercept	10,25135203	6,87919E-14	Intercept	2,866504713	0,090711636		
Total CP funding	1,84472E-10	1,49919E-05	Total CP funding	8,81633E-11	0,07693593		
EQI	0,562855568	0,002815693	High Edu	0,080699082	0,00034762		
Pop. Change, %	-0,059885912	0,000188686	Unemployment	-0,074740015	0,060230748		
ESPI	-0,108323184	5,0161E-07	Pop. Change, %	-0,08519672	2,10942E-05		
Unemployment	-0,148862192	6,45457E-13	Employment	0,038590338	0,171614631		
High Edu	0,035216413	0,003799588	Low Edu	-0,036238632	0,000122431		
Low Edu	-0,01950024	0,005747304	RCI, 2019	-0,058593532	2,0207E-06		
<b>Transitions regions</b>				<b>More developed regions</b>			
<i>Regression Statistics</i>				<i>Regression Statistics</i>			
Multiple R	0,829166717			Multiple R	0,702794854		
R Square	0,687517444			R Square	0,493920607		
Adjusted R Square	0,64964077			Adjusted R Square	0,467516465		
Standard Error	0,987948002			Standard Error	0,763461425		
Observations	38			Observations	122		
<i>Significance F</i>	5,70273E-08			<i>Significance F</i>	4,32251E-15		
	<b>Coefficients</b>	<b>P-value</b>		<b>Coefficients</b>	<b>P-value</b>		
Intercept	1,988881161	0,00131612	Intercept	7,325933593	2,28487E-06		
Total CP funding	2,69163E-10	0,008028856	Total CP funding	3,36E-10	0,007543356		
Low Edu	0,035453995	0,035605232	High Edu	0,038390107	0,002521413		
Unemployment	-0,147799992	0,001066457	Unemployment	-0,190912992	6,12117E-13		
EQI	1,127535042	0,000681466	ESPI	-0,07367399	0,002335209		
			Pop. Change, %	-0,040486292	0,051565514		
			EQI	0,548430181	0,005974682		

Source: Prepared by author based on different data sources (see annex 2)

The social aspects (ESPI) are significant only in the more developed regions. This could be related with the fact that basic human needs under the European Social Progress Indicator are to certain extent equally ensured throughout the whole Europe, while there are more visible differences in the foundations of well-being and opportunity.<sup>523</sup> There is also a pattern of east and south regions doing particularly bad in the opportunity pillar,<sup>524</sup> which is also the dimension in which the less developed regions lag. While the competitiveness (RCI) has showed significant influence only in less developed regions. Good governance on the other hand (EQI) is not significant in less developed regions while it is the most influential factor in transition and more developed regions. The latter two are interesting outcomes, while according to the Regional Competitiveness Index none of the less developed regions is a strong innovator and the scores have even declined in 2021 compared to 2016.<sup>525</sup> Furthermore, the administrative capacity and governance problems are especially challenging aspect for successful implementation,<sup>526</sup> and the lack of capacity and quality governance has been acknowledged as a challenge by experts.<sup>527</sup>

Based on the regression analysis can be concluded that the main influential factors for the efficiency of the application of the cohesion policy funding are varying across the different types of regions and chosen sample. Unemployment is the only variable that proved to be significant in all samples. This means that the cohesion policy support to structural changes, creating new workplaces and SMEs as well as improving the skills of workers, is very important. In the context of this conclusion, the focus on job creation, business competitiveness and economic growth is valid in the new cohesion policy 2021-2027. Still, it is crucial that focus on reducing the unemployment is addressed horizontally with all five policy objectives and job creation should be an indirect target of green and digital transition. Employment patterns are closely linked with the educational levels and competitiveness that can influence the economic profile of a region. Therefore, shares of people with tertiary or very low education levels as well as Regional Competitiveness playing significant role in the economic growth and the ability of cohesion policy to efficiently support it is consequent. Aiming for high quality of

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<sup>523</sup> European Union (2022). Cohesion in Europe towards 2050: Eight report on economic, social and economic cohesion, Luxembourg: Publications Office of the European Union, pp.181.

<sup>524</sup> *Ibid.*, pp. 182

<sup>525</sup> *Ibid.*, pp. 49

<sup>526</sup> 16. Buseti, S. & Pacchi, C. (2014) Institutional Capacity for EU Cohesion Policy: Concept, Evidence and Tools that Matter, *disP - The Planning Review*, 50(4), pp. 16-28

<sup>527</sup> Interview with Ieva Kalniņa, Head of Planning Department, Vidzeme Planning Region, Laila Gercāne, Head of Project Department, Vidzeme Planning Region and Andžejs Stepančuks, project manager/expert in Vidzeme Planning Region, conducted on 16.05.2022.

education in all levels therefore can support the improvement in employment patterns. These are also interlinked with the social progress and especially the opportunity and foundations of well-being pillars that are lagging in the less developed regions.

Demographic changes in the society are another important factor that must be considered when the cohesion policy efficiency has to be evaluated. The population change has proved to be significant in all samples except for transition regions, meaning that investments in declining regions will have smaller returns. Declining is often related with ageing and without the European outermost regions in the sample, ageing has a negative effect – the returns are lower in declining areas. As the shrinking will be only increasing in Europe, adaptation strategies for growth while population declines, have to be considered for European regions will be very important.

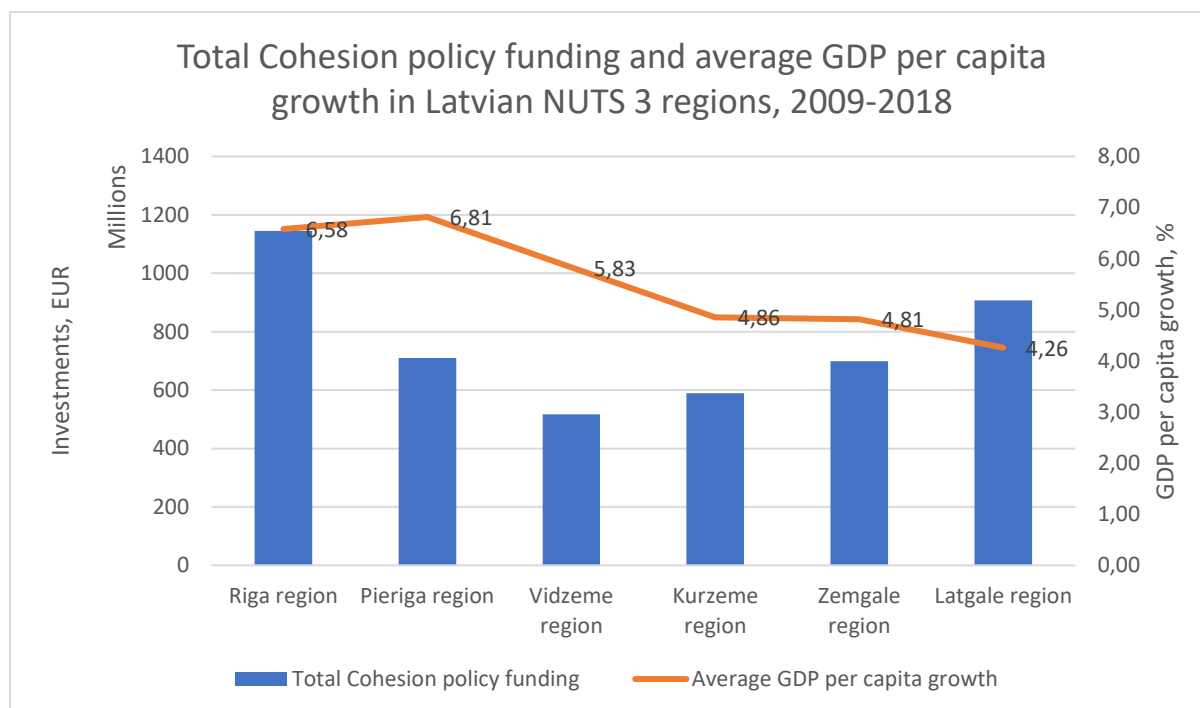
However, the most influential factor on how high the returns from the cohesion policy will be, is the quality of governance. Consisting of the population perception of the corruption levels and impartiality and quality of health, education and policing, the Regional Index of Good Governance shows the highest impact on the economic growth and subsequently funding efficiency. Especially important is the corruption pillar, indicating that corruption has a direct impact on the returns from the cohesion policy investments.

### **3.4. Applying the research findings to the analysis of Latvian regions**

The average GDP per capita growth rates in Latvian regions are not proportional to the investments (see Fig.3.x.). During the 2009-2018 period Latgale had the second highest cohesion policy investments - 907 268 385 euros, but the average growth rate was the slowest – only 4,26%. At the same time, Vidzeme and Pieriga have had lower investments – 517 034 003 and 710 383 489 euros, respectively, but the growth rates have been much higher – 5,83% and 6,81%. Therefore, it is clear that also in Latvia on regional level there are factors that influence how big are returns from the cohesion policy. The factors identified in the previous chapter will be further applied to Latvian context.

In the case of the cohesion policy, NUTS2 statistical units are the main level that is used for the decision on the fund allocation. Given that NUTS2 is a wide unit, in some cases covering even a whole country (e.g., Latvia, Lithuania, Malta), it means that some regions if evaluated on a smaller scale may actually be not falling in the category eligible for funding foreseen for lagging regions. It creates the so-called ‘accidental winners’ when their GDP is actually not

below 75% of the European GDP.<sup>528</sup> In Latvia theoretically it might be considered that Riga and Riga Planning Region actually could be a ‘accidental winner’ of the distribution of the Cohesion policy as its GDP per capita is actually above the European average.



**Fig. 3.x. Total Cohesion policy funding and average GDP per capita growth in Latvian NUTS3 regions, 2009-2018.**

Source: Prepared by author, based on ES fondu (ERAF, ESF, KF) projektu finansējuma summa (EUR, FM) Reģionālās attīstības indikatoru modulis [online] – [Reference: 16.05.2022.] Available: <https://raim.gov.lv/lv/node/39> and Iekšzemes kopprodukta reģionos un republikas pilsētās (faktiskajās cenās) 2000 – 2019. Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_VEK\\_IK\\_IKR/IKR010/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_VEK_IK_IKR/IKR010/table/tableViewLayout1/)

Population decline and ageing have been important factors for less efficient cohesion policy implementation in European regions. The results in Latvian regions are conclusive, the average growth is faster in areas with slower or no population decrease – GDP per capita growth during 2009-2018 has been the fastest in Pieriga, the only region with population growth and the slowest in Latgale with the highest population decline.<sup>529</sup> One of the potential

<sup>528</sup> Gagliardi, L., Percoco, M. (2017) The impact of European Cohesion Policy in urban and rural regions, *Regional Studies*, 51(6), pp. 857-868.

<sup>529</sup> Iedzīvotāji pēc dzimuma un vecuma grupām reģionos, ovados, pilsētās, pagastos, ciemos (atbilstoši robežām 2022. gada sākumā), apkaimēs un blīvi apdzīvotās teritorijās (eksperimentālā statistika). Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_POP\\_IR\\_IRD/RIG010/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_POP_IR_IRD/RIG010/table/tableViewLayout1/)

factors for regional inequalities in Latvia, especially in Latgale, could be the loss of population.<sup>530</sup> Average, unemployment levels during the period have been the lowest in Pierīga, followed by Rīga and Kurzeme.<sup>531</sup> Although the unemployment was higher in Vidzeme, the GDP growth has been higher there than in Kurzeme. According to the regression results, regions with higher share of population with tertiary education and lower share of people with very low education levels are willing to absorb funding better. This tendency is also visible in Latvian regions, where Rīga and Pierīga have a more desirable educational profile and also higher growth rates. However, in the regions outside Rīga the population share with tertiary education is approximately the same around 21%,<sup>532</sup> but the economic growth rates are different. In addition, the share of population with less than primary, primary and lower secondary education outside Rīga and Pierīga is the smallest in Latgale, but so is the growth. This indicates that there are other more influential factors than education levels in Latvia.

### **3.4.1. Governance principles and challenges in cohesion policy implementation in Latvia**

Governance quality is a parameter challenging to evaluate, and in the Regional Index of Good Governance the assessment is carried out based on citizen survey and their data is not collected on levels lower than NUTS2. Regional Index value for Latvia is -0,43 and it is negative in all three pillars and below the European average, suggesting there are challenges in both corruption perception, impartiality and quality of the basic services.

Although in Latvia there is an intermediate level of administration – the five planning regions, their functions are quite limited.<sup>533</sup> Although the scope of functions described in the law, is quite broad, no funding or administrative capacity follow.<sup>534</sup> Consequently, many of the functions important for citizens are carried out on a local or national level. This has also led to lack of strong regional policy in Latvia.<sup>535</sup> The amount of regional funding programs is also

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<sup>530</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>531</sup> <sup>531</sup> Ekonomiskās aktivitātes, nodarbinātības un bezdarba līmenis reģionos (procentos) Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_EMP\\_NBB\\_NBA/NBA030/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_EMP_NBB_NBA/NBA030/table/tableViewLayout1/)

<sup>532</sup> Iedzīvotāji 15 un vairāk gadu vecumā pēc izglītības līmeņa grupām reģionos, republikas pilsētās, novados un Rīgas apkaimēs gada sākumā. ) Oficiālās statistikas portāls datubāze. [Online] – [reference on 14.05.2022.] Available:

[https://data.stat.gov.lv/pxweb/lv/OSP\\_PUB/START\\_IZG\\_IZ\\_IZI/IZT040/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_PUB/START_IZG_IZ_IZI/IZT040/table/tableViewLayout1/)

<sup>533</sup> Reģionālās attīstības likums. Pieņemts 21.03.2002.

<sup>534</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Rīga Planning Region and Inga Brieze, Head of Project Department, Rīga Planning Region, conducted on 17.05.2022.

<sup>535</sup> Interview with Ieva Kalniņa, Head of Planning Department, Vidzeme Planning Region, Laila Gercāne, Head of Project Department, Vidzeme Planning Region and Andžejs Stepančuks, project manager/expert in Vidzeme Planning Region, conducted on 16.05.2022.

very limited.<sup>536</sup> It can be concluded that Latvia has failed to introduce decentralization that is one the approaches to reduce regional disparities. In addition, it is strongly related with the sectoral approach both in policy building as well as in the cohesion funding allocation. This is partly caused by the unwillingness to transfer functions and financial capacities to regional level<sup>537</sup>, as well as the fact that cohesion policy itself is very sectoral.<sup>538</sup> In the latest period, territoriality is distinguished as separate target<sup>539</sup> rather than overarching approach. With both aspects combined the challenges to efficiently address regional development problems may increase.

Furthermore, the political culture in municipalities is often unfavourable - there is a tendency to change the administration with every new council and corruption risks are present.<sup>540</sup> Lack of cooperation between municipalities has been a long-term challenge in Riga and Pierīga. Because of opposing political parties dominating in Riga and national government during the analysed period cooperation in Riga region was limited.<sup>541</sup> In the contrary – the so-called ‘Vidzeme triangle’ – strong cooperation and interaction among Valmiera, Cēsis and Valmiera are considered a success in being more efficient.<sup>542</sup> The efficiency, productivity, and governance differences of the local level,<sup>543</sup> that are likely to contribute to the further increase of inequalities and ability to successfully absorb funding. Due to differences in administrative capacity, some municipalities are lacking qualified workers who could apply for funding and later implement the projects. Increasing capacity of local municipalities is one of the intended results of the administrative territorial reform recently carried out in Latvia.<sup>544</sup> The possible

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<sup>536</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>537</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>538</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022

<sup>539</sup> Regulation (EU) 2021/1060 of the European Parliament and of the Council of the 24 June 2021 laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, the Just Transition Fund and the European Maritime, Fisheries and Aquaculture Fund and financial rules for those and for the Asylum, Migration and Integration Fund, the Internal Security Fund and the Instrument for Financial Support for Border Management and Visa Policy. Adopted 24.06.2022.

<sup>540</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022

<sup>541</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>542</sup> Interview with Ieva Kalniņa, Head of Planning Department, Vidzeme Planning Region, Laila Gercāne, Head of Project Department, Vidzeme Planning Region and Andžejs Stepančuks, project manager/expert in Vidzeme Planning Region, conducted on 16.05.2022.

<sup>543</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>544</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022

corruption or political or administrative level is another factor that may influence the efficiency of funding implementation.<sup>545</sup>

All interviewed experts in the planning regions acknowledged the challenges in the matching funding priorities to local level needs. This leads to implementation of projects that fit the eligibility criteria but cannot provide maximum returns.<sup>546</sup> There are also cases, where projects are chosen where the results seem more tangible and outputs more visible for local society.<sup>547</sup> Therefore, there is a need for more flexible and adaptive approach in the funding allocation that can be utilized in the most efficient and reasonable way. Decentralizing the defining of strategic priorities on regional level while allowing certain flexibility in reaching targets may help in addressing more specific needs.<sup>548</sup> The lack of decentralization and sectoral approach to funding allocation has led to failure of implementing another approach to reduce regional inequalities – place-based approach.

The strategic governance and policy alignment is an important pre-requisite to successful implementation of funding. In Latvia the Sustainable Development Strategy Latvia 2030<sup>549</sup>, National Development Plan 2021-2027,<sup>550</sup> Regional Development Guidelines 2021-2027,<sup>551</sup> Smart Specialization Strategy<sup>552</sup> are defining regional development priorities and funding allocation on national level. Latvia 2030 is the only document that foresees development based on territorial approach.<sup>553</sup> Regional level documents follow – regional development programmes and smart specialization strategies. Planning regions are responsible for coordinating the planning and development on a local scale. Smart specialization strategies are not compulsory for planning regions. Riga Planning Regions has carried out a study to

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<sup>545</sup> *Ibid.*

<sup>546</sup> Interview with Ieva Kalniņa, Head of Planning Department, Vidzeme Planning Region, Laila Gercāne, Head of Project Department, Vidzeme Planning Region and Andžejs Stepančuks, project manager/expert in Vidzeme Planning Region, conducted on 16.05.2022.

<sup>547</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022

<sup>548</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>549</sup> Sustainable Development Strategy of Latvia until 2030. Adopted by the Saeima of the Republic of Latvia 10.06.2010.

<sup>550</sup> National Development Plan of Latvia for 2021-2027. Approved by the Saeima of the Republic of Latvia, No. 418/Lm13

<sup>551</sup> Par Reģionālās politikas pamatnostādņēm 2021.-2027.gadam. Ministru kabineta rīkojums Nr.587. Pieņemts 26.11.2019.

<sup>552</sup> Zināšanu jomu ekosistēmu kopsavilkums: Viedās specializācijas stratēģija. [Accessed: 16.05.2022] Available: <https://www.izm.gov.lv/lv/viedas-specializācijas-stratēģija>

<sup>553</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

define the smart specialization opportunities,<sup>554</sup> Vidzeme has developed a smart specialization strategy,<sup>555</sup> Kurzeme has included smart specialization possibilities in the development programme for 2021-2027<sup>556</sup>, similarly as Zemgale.<sup>557</sup> Lack of clear strategic priorities and inability to consistently work towards them is mentioned as one of the factors reducing the funding efficiency.<sup>558</sup> Smart specialization strategies are considered a tool to reduce regional disparities and foster regional growth. Vidzeme is the only region who has developed it and in addition to consequent alignment of strategic priorities. Clearly, this is not the only influential factor, but it is very likely that it has played role in the high returns of cohesion policy investment in the region.

Another factor that has to be considered in the context of regional development in Latvia is the administrative territorial reform,<sup>559</sup> which has significantly reduced the number of municipalities in Latvia to 43. In addition, the reform has changed the statistical borders of regions and now more of the Riga spillover effect and citizens are shifted to other regions. Statistically, this will increase regional inequalities even more because Riga region territory will be smaller and therefore concentrate even more development.<sup>560</sup> There are doubts whether the administrative territorial reform will have positive benefits of regional development as it may cause worsening in the accessibility of services and that is an important prerequisite for individuals.<sup>561</sup> In some cases the Riga's functional urban area has not been considered, e.g. Ogre and Saulkrasti have been added to Vidzeme region, and this may be challenging for strategic planning in a long term.<sup>562</sup> The changes in territorial borders caused by administrative territorial reform will have influence in future analysis of the regional inequalities in Latvia.

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<sup>554</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>555</sup> Vidzemes Plānošanas Reģiona viedās specializācijas stratēģija 2022.-2030.gadam. Projekts. (Accessed: 18.05.2022.) Available: <http://www.vidzeme.lv/lv/vpr/viedas-specializācijas-attīstības-stratēģija-2022-2030>

<sup>556</sup> Kurzemes Plānošanas reģiona attīstības programmas 2021.-2027.gadam stratēģiskā daļa un rīcības plāns. 2.redakcija. [Accessed: 18.05.2022.] Available: <https://www.kurzemesregions.lv/darbības-nozares/attīstības-planosana/regiona-planosanas-dokumenti/kurzeme-2021-2027/>

<sup>557</sup> Zemgales Plānošanas Reģiona Attīstības programmas 2021-2027 Stratēģiskā daļa Rīcības plāns. [Accessed: 18.05.2022.] Available: <https://www.zemgale.lv/attīstības-planosana/planosanas-dokumenti/category/52-zpr-attīstības-programma-2021-2027>

<sup>558</sup> Interview with Ieva Kalniņa, Head of Planning Department, Vidzeme Planning Region, Laila Gercāne, Head of Project Department, Vidzeme Planning Region and Andžejs Stepančuks, project manager/expert in Vidzeme Planning Region, conducted on 16.05.2022.

<sup>559</sup> Administratīvo teritoriju un apdzīvoto vietu likums, pieņemts 10.06.2020.

<sup>560</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>561</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>562</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

There have been calculations that the investments needed to reduce regional inequalities in Latvia and achieve the 75% of OECD average are around 2 billion.<sup>563</sup> The EU Cohesion policy specifically assigns ~300 million in Latvia for this target.<sup>564</sup> There are a lot of needs, however the funding will never be enough for every aspect, and the even distribution results into projects of smaller scale that cannot have big impact.<sup>565</sup> Therefore, it is important to have a comprehensive integrated approach to regional inequalities and the sectoral cohesion funding also has to be implemented in a way it serves as an instrument to reduce regional inequalities.

The recent economic shocks – Covid-19 pandemics and war in Ukraine will likely have diverse effects and impacts on the regional development. It is hard to evaluate effects of the Covid-19 pandemics to the regional development, they may only emerge in long term. Although people were moving temporarily to more remote areas, e.g., their second homes, the taxes and services were continuously paid in the original place of residence. The regional gains from the Covid-19 pandemic were more on a human and community scale, knowledge was transferred, however the economic gains were rather limited. However, the consequences of the pandemics cannot be observed yet, the long-term effects have to be evaluated.<sup>566</sup>

In Latvia, there have been risks of increasing social inequalities due to the Covid-19 pandemics, the income changed in more than half of households. Especially changes have experienced single parent families,<sup>567</sup> that already are at higher risk. On a local scale there have also been winners of the Covid pandemic, for example tourism sector in regions outside Riga have experienced ‘the best season ever’ in 2020 due to the ‘Baltic bubble’ and influx of local tourists and guest from other Baltic states. Although the 2021 season was very good, these were short term effects and there is a decline again this year.<sup>568</sup> At the same time the tourism sector

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<sup>563</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

<sup>564</sup> Ministru kabineta rīkojums Nr. 841. Par Eiropas Savienības kohēzijas politikas programmu 2021.-2027.gadam. [Accessed: 12.05.2022.] Accessible: <https://likumi.lv/ta/id/327732-par-eiropas-savienibas-kohezijas-politikas-programmu-2021-2027-gadam>

<sup>565</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>566</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>567</sup> Mājsaimniecību ienākumu izmaiņas Covid-19 krīzes ietekmē (%). Oficiālās statistikas portāls datubāze. [Online] – [reference on 15.05.2022.]. Available: [https://data.stat.gov.lv/pxweb/lv/OSP\\_OD/OSP\\_OD\\_apsekojumi\\_covid\\_modulis/MOD21\\_01.px/table/tableViewLayout1/](https://data.stat.gov.lv/pxweb/lv/OSP_OD/OSP_OD_apsekojumi_covid_modulis/MOD21_01.px/table/tableViewLayout1/)

<sup>568</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

in Riga has been hit especially hard, foreign tourism was almost inexistent. It has also been harmful to niche products, like medical tourism.<sup>569</sup>

On the one hand, most of the impacts from the war in Ukraine, e.g., sanctions, price increase in energy and building sectors, will hit all regions similarly. There is a potential to utilize the support to introduce alternative energies, if some of the regions would manage to use it, it might provide development advantages.<sup>570</sup> On the other hand the economic profiles of regions differ and therefore the effects also will vary. Especially, hard will be hit the energy-intensive sectors.<sup>571</sup> At the same time, already since 2014 when Russian Federation invaded Crimea there have been impacts on the regional development. Since then, there have been negative effect on investments and trading, especially in Latgale. All the competitive advantages of the region, like logistics, of the region have faded away.<sup>572</sup> At the same time, part of the economy has already been reoriented to other markets besides Russia already in 2014.<sup>573</sup> Locally, there might be social effects as many municipalities have taken in immigrants, that may become an additional burden on budget, but there may also be some benefits for more local economic activity.<sup>574</sup>

Resilience is an important prerequisite to be less impacted by external economic shocks.<sup>575</sup> Strengthening self-sufficiency is one of the instruments for that.<sup>576</sup> The already wealthier regions have a better chance to implement resilience measures as they have more financial resources.<sup>577</sup> For resilience and adaptability it is important to have strong regional and local administrative units as small units are more capable it is to quickly react on changes and

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<sup>569</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>570</sup> Interview with Ivita Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

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<sup>574</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

<sup>575</sup> Annoni, P., de Dominicis, L., Khabirpour, N., (2019), 'Location matters: a spatial econometric analysis of regional resilience in the European Union', *Growth and Change*, 50(3), pp. 824-55.

<sup>576</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>577</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022

uses them as a development potential.<sup>578</sup> The economic resilience has to be considered in all governance levels to prepare for external shocks.

The urban areas, especially metropolitan areas do play a role in the regional development serving as growth poles.<sup>579</sup> The data on the European regions show a tendency for the regions with big cities to outperform others.<sup>580</sup> However, it is necessary for the growth poles to ensure the opportunities to serve as growth poles and spillover the agglomeration effects.<sup>581</sup> In the case of Latvia, experts discuss the catchment area from 50 km<sup>582</sup> to 100 km.<sup>583</sup> Proximity to Riga can be considered a factor influencing the growth potential of area in the Latvian context.<sup>584</sup> Physical infrastructure development is a crucial prerequisite to expand the catchment area and ensure that the benefits of the capital expand further in the territory of Latvia.<sup>585</sup> Knowing that capital regions and metropolitan regions are the main driver force for national convergence and improved competitiveness of the cohesion countries in the EU, the investments have to be balanced and also the capital regions would have to be supported. Riga is losing its` competitiveness on macro-regional scale, but retaining it is important for the national convergence to European averages. If the cohesion funding is no longer allocated to the capital region of Latvia, other financial instruments have to be developed to increase the Riga`s ability to grow and be competitive with other capital regions, but also to ensure the necessary infrastructure used by citizens of other regions as well.<sup>586</sup>

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<sup>578</sup> Interview with Ivīta Peipiņa, Regional Development Advisor in the Latvian Association of Local and Regional Governments, conducted on 12.05.2022.

<sup>579</sup> Novosák J., Novosáková J., Hájek O., Horváth P., 2017. Regional disparities, absorption capacity and Structural Fund payments: A case study of the Czech Republic. *Quaestiones Geographicae* 36(4), Bogucki Wydawnictwo Naukowe, Poznań, pp. 81–92

<sup>580</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

<sup>581</sup> Novosák J., Novosáková J., Hájek O., Horváth P., 2017. Regional disparities, absorption capacity and Structural Fund payments: A case study of the Czech Republic. *Quaestiones Geographicae* 36(4), Bogucki Wydawnictwo Naukowe, Poznań, pp. 81–92

<sup>582</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>583</sup> Interview with Raivis Bremšmits, Director of Regional Policy Department in the Ministry of Environmental Protection and Regional Development, conducted on 13.05.2022.

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<sup>585</sup> Interview with Rūdolfs Cimdiņš, Head of Planning Department, Riga Planning Region and Inga Brieze, Head of Project Department, Riga Planning Region, conducted on 17.05.2022.

<sup>586</sup> *Ibid.*

Addressing climate change won't be a priority for the upcoming years, while the economic consequences of the war in Ukraine will be mitigated.<sup>587</sup> Comparably the climate challenges in Latvia and its` regions are not that pressing and visible both today and future-looking, therefore the sense of urgency to mitigate consequences of climate change is missing. This is a worrisome challenge for the upcoming years. Furthermore, the overseeing of the instruments toward climate neutrality as tools also to reduce regional disparities may be challenging in a long run. Developing resilience strategies to be able to mitigate climate changes will be important.

Based on the carried-out analysis can be concluded:

- demographic factors do influence the efficiency of the cohesion policy funding, population decline and high share of population over 65 have negative impact on the returns of investments.
- Employment rates do not have significant influence on the ability to efficiency of the funding, but the unemployment rate is the second important factor significant in all types of regions, the higher the unemployment rates, the less efficient the funding.
- Educational profile of the region is a significant factor for efficient implementation of the cohesion policy. The higher the share of the population with tertiary education, the more efficient the cohesion policy. The higher the share of population with low levels of education, the less efficient the cohesion policy.
- Quality of governance has a significant impact on the efficiency of the efficiency of the cohesion policy implementation. High quality governance is the most influential factor necessary for efficient implementation of the cohesion policy funding.
- The sub-aspect of governance – corruption is especially significant.
- Physical accessibility did not show significant correlation with average GDP per capita growth, however, in depth analysis of Latvia suggest that the aspects cannot be overseen.
- regional competitiveness has significant impact on the efficiency of the cohesion policy implementation if the specific regions – outermost territories and Greek regions are taken out of analysis. However, the gross domestic expenditure on research and experimental development showed no significant correlation.

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<sup>587</sup> Interview with Evita Dreijere, Head of Administration, Kurzeme Planning Region and Aiga Meri, Head of Project Department, Kurzeme Planning Region, conducted on 13.05.2022.

- Social progress has significant impact on the efficiency of the cohesion policy implementation.

In Latvian regions, the tendencies are quite similar, however, the accessibility and proximity to Riga also play a role. From the governance perspective, Latvia has a strongly centralized and sectoral approach that is hindering integrated regional development. Strengthening the capacity of all governance levels will be a crucial prerequisite to successfully implement the cohesion policy in the future.

## CONCLUSIONS

1. The general trend of east-west and north-south divides are playing a role in the regional inequalities across the Europe. The general trend is for Central and Eastern European regions to show high rates of economic growth, while Southern regions are declining. However, at the same time there is a tendency of internal disparities – the economic convergence of European countries happens due to the well performing capital regions, while the growth rates are much slower in the rest of the country. The trends are also depicted in the efficiency of the cohesion policy.
2. The capital regions, especially capital metropolitan areas and metropolitan areas as such are outperforming other territories not only in terms of GDP per capita, but also in competitiveness, innovation levels and educational attainments, physical accessibility, and other factors. The DGP per capita in PPS changes against the European average confirms that the gap between capital and other regions is growing in majority of European countries. Comparative advantages as described in the growth pole theory of the capital regions are present and cohesion policy in the period after the Great Recession has not managed to achieve more balanced regional development.
3. Hypothesis of the master thesis were that demographic factors, employment and unemployment rates, education levels, quality of governance, including corruption levels, physical accessibility, regional competitiveness, and social progress have significant impact on the efficiency of the cohesion policy implementation. The hypothesis set out for the master thesis has been proven for following aspects: unemployment rate, population change, educational profile of the region and social aspects in the society.
4. The most influential factor for the efficiency of the cohesion policy implementation is quality of governance. Therefore, the capacity of the actors involved in the implementation of the cohesion policy must be strengthen in all governance levels. From all governance aspects the highest correlation with the returns of cohesion policy investments builds the corruption levels.
5. The socio-economic indicators of Greek regions are standing out of the data sample and the correlation between average GDP growth and the efficiency of the cohesion policy implementation increases if they are taken out from the sample. In line with convergence theories, the lagging regions should be catching up, but many Southern European regions, especially in Greece, show an opposite tendency. Greece has been showing economic

decline and most of the tested indicators are reaching low scores. To address the specific needs of the Greek regions the conventional Cohesion policy is not efficient and other instruments should be looked for.

6. Sectoral approach, centralization and lack of multi-level governance are influential factors for lower efficiency of the funding implementation in Latvia. The efficiency of funding does not solely depend on the local factors, but the strategic decisions on the allocation of funding also have impacts. More integrated approach on all governance levels would benefit the efficiency of the cohesion policy. It would have to be further investigated on how to ensure that funding is adapted to specific local needs that would bring the best returns.
7. If the equity-efficiency dilemma is applied to the case of Latvia, there have to be balance found between the funding allocated to Riga and its` catchment area and the rest of the territory. Strengthening the competitiveness of Riga is necessary to increase convergence on European scale, however, spillover effects from capital development do not reach the whole country. Therefore, to avoid further internal disparities between Latvian regions equity principle must be applied as well.
8. A consequence of sectoral approach the European cohesion policy and its implementation is the overseeing of the opportunities provided by the funding to other sectors beyond integrated regional development. To reduce regional disparities funding allocated to other thematic priorities must be enhanced. Especially the funding following the European Green Deal to mitigate the effects of climate change and towards carbon neutrality needs to show the effects to regional cohesion more clearly on pan-European, national, and regional scale.

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## **ANNEXES**

**Regional GDP per capita in European NUTS2 regions PPS per inhabitant in % and  
absolute numbers**

Country	NUTS2 Region	Regional GDP (PPS per inhabitant in % of the EU27 <sup>588</sup> )						Regional GDP (PPS per inhabitant) <sup>589</sup>		
		2009	2018	Change 09-18	Position 2009	Position 2018	Change position	2009	2018	Change 09-18
AT	Burgenland	95	101	6	129	102	27	20 400	27 100	6 700
	Niederösterreich	117	119	2	80	70	10	25 200	32 000	6 800
	Wien	188	170	-18	10	15	-5	40 500	45 500	5 000
	Kärnten	120	123	3	66	65	1	25 900	33 000	7 100
	Steiermark	126	130	4	51	50	1	27 200	34 800	7 600
	Oberösterreich	142	148	6	35	28	7	30 500	39 700	9 200
	Salzburg	165	171	6	16	14	2	35 400	45 900	10 500
	Tirol	149	153	4	26	24	2	32 000	41 000	9 000
	Vorarlberg	148	162	14	28	18	10	31 900	43 600	11 700
BE	Région de Bruxelles-Capitale	254	230	-24	2	4	-2	54 200	61 600	7 400
	Prov. Antwerpen	156	156	0	22	21	1	33 200	41 900	8 700
	Prov. Limburg	106	109	3	103	86	17	22 700	29 100	6 400
	Prov. Oost-Vlaanderen	120	122	2	67	68	-1	25 700	32 600	6 900
	Prov. Vlaams-Brabant	144	144	0	30	36	-6	30 700	38 700	8 000
	Prov. West-Vlaanderen	125	129	4	53	53	0	26 800	34 500	7 700
	Prov. Brabant Wallon	143	165	22	33	17	16	30 500	44 200	13 700
	Prov. Hainaut	85	84	-1	144	137	7	18 200	22 500	4 300
	Prov. Liège	98	94	-4	122	114	8	20 900	25 300	4 400
	Prov. Luxembourg	88	82	-6	138	140	-2	18 800	21 900	3 100
	Prov. Namur	93	90	-3	133	127	6	19 900	24 100	4 200
BG	Severozapaden	13	17	4	235	235	0	6 600	10 300	3 700
	Severen tsentralen	14	18	4	233	234	-1	7 100	10 700	3 600
	Severioiztochen	17	21	4	230	232	-2	8 700	12 500	3 800
	Yugoiztochen	17	22	5	231	230	1	8 800	12 800	4 000
	Yugozapaden	35	43	8	204	197	7	17 700	25 200	7 500
	Yuzhen tsentralen	14	19	5	234	233	1	7 400	11 000	3 600
CY	Kýpros	96	82	-14	126	141	-15	25 600	27 500	1 900
CZ	Praha	132	146	14	42	31	11	46 400	62 300	15 900
	Střední Čechy	54	58	4	187	174	13	19 000	24 700	5 700
	Jihozápad	51	56	5	190	178	12	18 100	23 700	5 600
	Severozápad	46	45	-1	193	195	-2	16 300	19 000	2 700

<sup>588</sup> Regional gross domestic product (PPS per inhabitant in % of the EU27 (from 2020) average) by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 11.05.2022.]. Available: <https://ec.europa.eu/eurostat/databrowser/view/tgs00006/default/table?lang=en>

<sup>589</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

	Severovýchod	47	54	7	191	180	11	16 700	22 800	6 100
	Jihovýchod	53	59	6	188	171	17	18 700	25 100	6 400
	Střední Morava	46	53	7	194	182	12	16 300	22 400	6 100
	Moravskoslezsko	47	53	6	192	183	9	16 600	22 800	6 200
DE	Stuttgart	154	177	23	23	13	10	34 500	49 500	15 000
	Karlsruhe	143	148	5	34	29	5	32 100	41 200	9 100
	Freiburg	119	128	9	70	55	15	26 700	35 700	9 000
	Tübingen	129	145	16	47	33	14	28 900	40 600	11 700
	Oberbayern	180	194	14	12	10	2	40 400	54 200	13 800
	Niederbayern	119	130	11	71	51	20	26 600	36 300	9 700
	Oberpfalz	125	141	16	54	39	15	27 900	39 300	11 400
	Oberfranken	114	127	13	85	56	29	25 500	35 500	10 000
	Mittelfranken	139	150	11	38	26	12	31 000	42 000	11 000
	Unterfranken	124	135	11	56	43	13	27 700	37 700	10 000
	Schwaben	122	132	10	61	44	17	27 400	37 000	9 600
	Berlin	126	136	10	52	42	10	28 200	38 100	9 900
	Brandenburg	90	96	6	135	110	25	20 100	26 800	6 700
	Bremen	158	159	1	20	20	0	35 500	44 500	9 000
	Hamburg	223	214	-9	3	6	-3	49 900	59 700	9 800
	Darmstadt	176	170	-6	13	16	-3	39 500	47 600	8 100
	Gießen	111	114	3	91	80	11	24 700	31 900	7 200
	Kassel	116	121	5	83	69	14	26 000	33 700	7 700
	Mecklenburg-Vorpommern	86	91	5	141	123	18	19 200	25 400	6 200
	Braunschweig	134	162	28	40	19	21	29 900	45 100	15 200
	Hannover	124	127	3	57	57	0	27 800	35 600	7 800
	Lüneburg	86	93	7	142	117	25	19 200	25 900	6 700
	Weser-Ems	109	116	7	99	75	24	24 400	32 500	8 100
	Düsseldorf	142	138	-4	36	41	-5	31 800	38 600	6 800
	Köln	139	143	4	39	38	1	31 200	39 900	8 700
	Münster	109	111	2	100	82	18	24 300	30 900	6 600
	Detmold	118	126	8	75	59	16	26 500	35 300	8 800
	Arnsberg	111	116	5	92	76	16	24 900	32 400	7 500
	Koblenz	103	111	8	109	83	26	23 100	31 000	7 900
	Trier	97	101	4	124	103	21	21 600	28 100	6 500
	Rheinessen-Pfalz	119	124	5	72	62	10	26 600	34 600	8 000
	Saarland	117	119	2	81	71	10	26 200	33 300	7 100
	Dresden	94	103	9	131	97	34	21 100	28 900	7 800
Chemnitz	85	94	9	145	115	30	19 100	26 400	7 300	
Leipzig	99	108	9	119	89	30	22 100	30 200	8 100	
Sachsen-Anhalt	86	93	7	143	118	25	19 300	25 900	6 600	
Schleswig-Holstein	106	109	3	104	87	17	23 700	30 300	6 600	
Thüringen	84	96	12	148	111	37	18 900	26 700	7 800	
DK	Hovedstaden	214	224	10	4	5	-1	37 400	50 600	13 200
	Sjælland	119	118	-1	73	74	-1	20 800	26 800	6 000

	Syddanmark	157	152	-5	21	25	-4	27 400	34 500	7 100
	Midtjylland	162	156	-6	18	22	-4	28 300	35 400	7 100
	Nordjylland	151	144	-7	24	37	-13	26 500	32 600	6 100
EE	Eesti	44	65	21	196	162	34	15 400	24 600	9 200
EL	Attiki	121	75	-46	63	148	-85	31 100	27 400	-3 700
	Voreio Aigaio	71	38	-33	166	209	-43	18 200	13 700	-4 500
	Notio Aigaio	95	59	-36	130	172	-42	24 500	21 500	-3 000
	Kriti	77	47	-30	158	190	-32	19 900	17 100	-2 800
	Anatoliki Makedonia Thraki	63	38	-25	177	210	-33	16 400	13 800	-2 600
	Kentriki Makedonia	70	43	-27	167	198	-31	18 100	15 800	-2 300
	Dytiki Makedonia	73	51	-22	163	184	-21	18 800	18 600	-200
	Ipeiros	60	39	-21	181	206	-25	15 600	14 100	-1 500
	Thessalia	66	42	-24	174	201	-27	17 000	15 100	-1 900
	Ionia Nisia	84	51	-33	149	185	-36	21 600	18 500	-3 100
	Dytiki Ellada	65	40	-25	176	204	-28	16 900	14 500	-2 400
	Stereia Ellada	77	50	-27	159	187	-28	20 000	18 200	-1 800
	Peloponnisos	70	46	-24	168	193	-25	18 100	16 800	-1 300
ES	Galicia	85	76	-9	146	147	-1	21 400	24 800	3 400
	Principado de Asturias	87	75	-12	140	149	-9	22 000	24 300	2 300
	Cantabria	91	78	-13	134	145	-11	22 900	25 400	2 500
	País Vasco	122	109	-13	62	88	-26	30 800	35 500	4 700
	Comunidad Foral de Navarra	118	103	-15	76	98	-22	29 800	33 300	3 500
	La Rioja	103	91	-12	110	124	-14	25 900	29 500	3 600
	Aragón	104	93	-11	107	119	-12	26 200	30 100	3 900
	Comunidad de Madrid	130	116	-14	44	77	-33	32 800	37 600	4 800
	Castilla y León	89	80	-9	137	142	-5	22 600	26 100	3 500
	Castilla-La Mancha	77	67	-10	160	160	0	19 500	21 900	2 400
	Extremadura	68	62	-6	172	167	5	17 100	20 200	3 100
	Cataluña	112	101	-11	89	104	-15	28 200	32 700	4 500
	Comunidad Valenciana	85	75	-10	147	150	-3	21 400	24 200	2 800
	Illes Balears	102	92	-10	112	121	-9	25 800	29 900	4 100
	Andalucía	73	63	-10	164	164	0	18 500	20 500	2 000
	Región de Murcia	79	69	-10	156	156	0	20 100	22 600	2 500
	Ciudad Autónoma de Ceuta	83	67	-16	150	161	-11	21 000	21 800	800
Ciudad Autónoma de Melilla	78	62	-16	157	168	-11	19 700	20 000	300	
Canarias	82	69	-13	152	157	-5	20 800	22 500	1 700	
FI	Länsi-Suomi	127	123	-4	49	66	-17	25 600	29 700	4 100
	Helsinki-Uusimaa	194	182	-12	9	11	-2	39 300	43 800	4 500
	Etelä-Suomi	124	124	0	58	63	-5	25 100	29 900	4 800
	Pohjois- ja Itä-Suomi	111	116	5	93	78	15	22 500	28 000	5 500
	Åland	174	145	-29	15	34	-19	35 200	34 900	-300
FR	Île de France	202	196	-6	6	8	-2	42 500	53 300	10 800
	Champagne-Ardenne	109	97	-12	101	106	-5	22 900	26 500	3 600
	Picardie	96	85	-11	127	135	-8	20 200	23 100	2 900

	Haute-Normandie	110	97	-13	98	107	-9	23 200	26 300	3 100
	Centre	106	95	-11	105	113	-8	22 300	25 800	3 500
	Basse-Normandie	102	90	-12	113	128	-15	21 400	24 400	3 000
	Bourgogne	107	96	-11	102	112	-10	22 500	26 000	3 500
	Nord - Pas-de-Calais	102	94	-8	114	116	-2	21 500	25 500	4 000
	Lorraine	97	84	-13	125	138	-13	20 500	22 800	2 300
	Alsace	119	107	-12	74	91	-17	25 000	29 200	4 200
	Franche-Comté	101	86	-15	115	132	-17	21 200	23 400	2 200
	Pays de la Loire	111	102	-9	94	99	-5	23 300	27 700	4 400
	Bretagne	104	97	-7	108	108	0	21 900	26 400	4 500
	Poitou-Charentes	100	93	-7	118	120	-2	21 000	25 200	4 200
	Aquitaine	111	101	-10	95	105	-10	23 300	27 600	4 300
	Midi-Pyrénées	111	106	-5	96	92	4	23 300	28 700	5 400
	Limousin	96	85	-11	128	136	-8	20 300	23 200	2 900
	Rhône-Alpes	125	116	-9	55	79	-24	26 300	31 600	5 300
	Auvergne	99	91	-8	120	125	-5	20 700	24 900	4 200
	Languedoc-Roussillon	98	86	-12	123	133	-10	20 600	23 300	2 700
	Provence-Alpes-Côte d'Azur	116	108	-8	84	90	-6	24 500	29 300	4 800
	Corse	101	91	-10	116	126	-10	21 300	24 700	3 400
	Guadeloupe	83	75	-8	151	151	0	17 400	20 400	3 000
	Martinique	80	80	0	155	143	12	16 900	21 700	4 800
	Guyane	60	51	-9	182	186	-4	12 500	13 900	1 400
	Réunion	77	73	-4	161	152	9	16 300	19 800	3 500
HR	Jadranska Hrvatska	42	42	0	197	202	-5	14 700	19 200	4 500
	Közép-Magyarország	66	69	3	175	158	17			
	Közép-Dunántúl	33	43	10	207	199	8	13 200	20 100	6 900
	Nyugat-Dunántúl	38	47	9	199	191	8	15 000	22 100	7 100
	Dél-Dunántúl	27	32	5	215	217	-2	10 700	15 000	4 300
	Észak-Magyarország	25	31	6	218	220	-2	9 200	14 900	5 700
	Észak-Alföld	23	32	9	224	218	6	9 900	13 900	4 000
	Dél-Alföld	25	30	5	219	223	-4	10 500	15 800	5 300
	Piemonte	113	104	-9	88	96	-8	26 700	31 500	4 800
	Valle d'Aosta/Vallée d'Aoste	149	126	-23	27	60	-33	35 000	38 100	3 100
	Liguria	121	106	-15	64	93	-29	28 500	31 900	3 400
	Lombardia	144	130	-14	31	52	-21	33 900	39 200	5 300
	Abruzzo	94	84	-10	132	139	-7	22 100	25 200	3 100
	Molise	88	70	-18	139	154	-15	20 800	21 000	200
	Campania	74	63	-11	162	165	-3	17 500	18 900	1 400
	Puglia	70	63	-7	169	166	3	16 500	19 100	2 600
	Basilicata	81	77	-4	154	146	8	19 000	23 200	4 200
	Calabria	70	57	-13	170	176	-6	16 400	17 300	900
	Sicilia	73	59	-14	165	173	-8	17 100	17 900	800
	Sardegna	82	70	-12	153	155	-2	19 300	21 200	1 900
	Provincia Autonoma di Bolzano/Bozen	161	156	-5	19	23	-4	38 000	47 100	9 100

	Provincia Autonoma di Trento	144	127	-17	32	58	-26	33 800	38 300	4 500
	Veneto	120	110	-10	68	84	-16	28 300	33 200	4 900
	Friuli-Venezia Giulia	114	105	-9	86	94	-8	26 900	31 700	4 800
	Emilia-Romagna	130	119	-11	45	72	-27	30 500	36 000	5 500
	Toscana	117	105	-12	82	95	-13	27 600	31 500	3 900
	Umbria	103	87	-16	111	131	-20	24 200	26 100	1 900
	Marche	106	92	-14	106	122	-16	24 900	27 600	2 700
	Lazio	141	114	-27	37	81	-44	33 100	34 400	1 300
LT	Lietuva	35	54	19	205	181	24	13700	24700	11 000
LU	Luxembourg	326	327	1	1	1	0	65 500	79 200	13 700
LV	Latvija	37	50	13	200	188	12	12 800	20 900	8 100
MT	Malta	63	88	25	178	129	49	20 100	30 800	10 700
NL	Groningen	176	139	-37	14	40	-26	37 700	36 800	-900
	Friesland	111	102	-9	97	100	-3	23 800	27 000	3 200
	Drenthe	114	102	-12	87	101	-14	24 500	26 900	2 400
	Overijssel	130	124	-6	46	64	-18	27 900	32 900	5 000
	Gelderland	132	125	-7	43	61	-18	28 300	33 000	4 700
	Flevoland	118	110	-8	77	85	-8	25 300	29 200	3 900
	Utrecht	201	182	-19	7	12	-5	43 000	48 300	5 300
	Noord-Holland	195	196	1	8	9	-1	41 700	51 900	10 200
	Zuid-Holland	165	145	-20	17	35	-18	35 300	38 300	3 000
	Zeeland	118	119	1	78	73	5	25 300	31 400	6 100
	Noord-Brabant	151	150	-1	25	27	-2	32 300	39 800	7 500
	Limburg	128	131	3	48	46	2	27 500	34 600	7 100
PL	Łódzkie	31	40	9	209	205	4	13 200	19 900	6 700
	Mazowieckie	53	69	16	189	159	30			
	Małopolskie	30	39	9	210	207	3	12 800	19 700	6 900
	Śląskie	36	44	8	203	196	7	15 300	22 300	7 000
	Lubelskie	24	29	5	222	226	-4	9 900	14 500	4 600
	Podkarpackie	24	30	6	223	224	-1	10 200	15 100	4 900
	Świętokrzyskie	27	31	4	216	221	-5	11 400	15 500	4 100
	Podlaskie	25	31	6	220	222	-2	10 600	15 400	4 800
	Wielkopolskie	37	46	9	201	194	7	15 500	23 100	7 600
	Zachodniopomorskie	30	36	6	211	211	0	12 600	17 800	5 200
	Lubuskie	29	35	6	212	213	-1	12 300	17 600	5 300
	Dolnośląskie	37	47	10	202	192	10	15 800	23 500	7 700
	Opolskie	28	34	6	214	215	-1	11 800	17 000	5 200
	Kujawsko-Pomorskie	29	35	6	213	214	-1	12 100	17 400	5 300
	Warmińsko-Mazurskie	25	30	5	221	225	-4	10 600	14 800	4 200
	Pomorskie	34	42	8	206	203	3	14 200	20 800	6 600
PT	Norte	55	56	1	186	179	7	16 000	20 200	4 200
	Algarve	70	73	3	171	153	18	20 400	26 300	5 900
	Centro	58	57	-1	184	177	7	16 800	20 500	3 700
	Lisboa	99	86	-13	121	134	-13	28 600	30 800	2 200

	Alentejo	62	61	-1	179	169	10	17 900	21 900	4 000
	Região Autónoma dos Açores	62	58	-4	180	175	5	18 100	20 900	2 800
	Região Autónoma da Madeira	68	64	-4	173	163	10	19 700	23 100	3 400
RO	Nord-Vest	22	32	10	226	219	7	10 900	18 300	7 400
	Centru	23	33	10	225	216	9	11 400	19 000	7 600
	Nord-Est	15	22	7	232	231	1	7 400	12 500	5 100
	Sud-Est	20	29	9	228	227	1	9 700	16 500	6 800
	Sud - Muntenia	21	27	6	227	228	-1	10 300	15 500	5 200
	București - Ilfov	57	79	22	185	144	41	28 000	45 300	17 300
	Sud-Vest Oltenia	18	27	9	229	229	0	9 100	15 400	6 300
	Vest	27	36	9	217	212	5	13 200	20 400	7 200
SE	Stockholm	204	210	6	5	7	-2	44 100	49 900	5 800
	Östra Mellansverige	120	132	12	69	45	24	25 900	31 300	5 400
	Småland med öarna	118	131	13	79	47	32	25 400	31 200	5 800
	Sydsverige	121	131	10	65	48	17	26 200	31 100	4 900
	Västssverige	134	148	14	41	30	11	29 000	35 300	6 300
	Norra Mellansverige	112	123	11	90	67	23	24 100	29 300	5 200
	Mellersta Norrland	127	131	4	50	49	1	27 500	31 100	3 600
	Övre Norrland	124	146	22	59	32	27	26 800	34 700	7 900
SI	Zahodna Slovenija	60	60	0	183	170	13	25 200	31 700	6 500
	Vzhodna Slovenija	90	88	-2	136	130	6	16 900	21 800	4 900
SK	Bratislavský kraj	123	129	6	60	54	6	43 500	50 300	6 800
	Západné Slovensko	45	49	4	195	189	6	15 900	19 100	3 200
	Stredné Slovensko	39	43	4	198	200	-2	13 800	16 900	3 100
	Východné Slovensko	33	39	6	208	208	0	11 700	15 300	3 600
IE	Northern and Western	101	97	-4	117	109	8	20 300	25 200	4 900
	Eastern and Midland	182	231	49	11	3	8	29 700	70 800	41 100
	Southern	147	273	126	29	2	27	36 600	60 000	23 400

#### F-Test Two-Sample for Variances

	<i>GDP per capita2009</i>	<i>GDP per capita2018</i>
Mean	23216,7382	28741,20172
Variance	78251658,28	123650795,1
Observations	233	233
df	232	232
F	0,632843956	
P(F<=f) one-tail	0,000264412	
F Critical one-tail	0,805394443	

## Variables used in the regression analysis

Country	NUTS 2 region	Avg. GDP Growth, 2009-2018, % <sup>590</sup>	Total CP funding, 2009-2018, EUR <sup>591</sup>	Population Change, % <sup>592</sup>	Share of population over 65, % <sup>593</sup>	Pop. Density <sup>594</sup>
AT	Burgenland	3,21	192521081	3,50	20,28	248,71
	Niederösterreich	2,70	250805437	4,22	19,21	192,66
	Wien	1,31	197677893	12,42	16,80	185,21
	Kärnten	2,74	106779509	0,26	20,11	342,03
	Steiermark	2,78	177948206	2,94	19,33	406,71
	Oberösterreich	2,98	170051363	4,61	17,57	281,38
	Salzburg	2,95	52516720	4,91	17,36	904,19
	Tirol	2,80	82288549	6,92	16,87	1020,12
	Vorarlberg	3,56	78967454	6,73	16,11	1266,50
BE	Région de Bruxelles-Capitale	1,45	136924192	12,82	13,37	213,04
	Prov. Antwerpen	2,63	228359079	6,84	18,27	503,95
	Prov. Limburg	2,81	180692586	4,75	17,85	520,46
	Prov. Oost-Vlaanderen	2,69	158861552	6,04	18,69	498,18
	Prov. Vlaams-Brabant	2,61	119053743	6,52	18,29	527,08
	Prov. West-Vlaanderen	2,85	150165377	3,20	21,58	375,98
	Prov. Brabant Wallon	4,35	312340628	6,88	17,12	358,53
	Prov. Hainaut	2,40	777084312	3,01	17,20	352,23
	Prov. Liège	2,15	167828690	4,56	17,46	284,33
	Prov. Luxembourg	1,73	52751281	6,77	15,83	62,67
	Prov. Namur	2,16	78152827	5,67	16,89	132,85
BG	Severozapaden	5,15	842308990	-14,25	24,00	43,24
	Severen tsentralen	4,69	844014477	-10,16	21,52	57,02
	Severoztochen	4,14	848998738	-4,34	18,06	65,90
	Yugoiztochen	4,31	1293515653	-5,00	18,90	54,59
	Yugozapaden	4,04	2430909315	-1,01	17,82	105,61
	Yuzhen tsentralen	4,54	1473868878	-5,54	19,34	66,13
CY	Kýpros	0,93	823630278	8,45	13,88	92,19
CZ	Praha	3,35	2074168830	6,61	17,61	2587,86
	Střední Čechy	3,00	3530149617	9,95	16,00	120,79

<sup>590</sup> Gross domestic product (GDP) at current market prices by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 07.05.2022.]. Available: [https://ec.europa.eu/eurostat/databrowser/view/NAMA\\_10R\\_2GDP/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/NAMA_10R_2GDP/default/table?lang=en)

<sup>591</sup> Historic EU payments by MS & NUTS-2 region (filter by country, period and fund). European Commission European Structural and Investment Funds Data. [Online] – [reference on 07.05.2022.]. Available: <https://cohesiondata.ec.europa.eu/EU-Level/Historic-EU-payments-by-MS-NUTS-2-region-filter-by/2qa4-zm5t>

<sup>592</sup> Population on 1 January by age, sex and NUTS2 region. Eurostat. [Online] – [reference on 06.05.2022.]. Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_r\\_d2jan&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_r_d2jan&lang=en)

<sup>593</sup> Population structure indicators by NUTS 2 region. Eurostat. [Online] – [reference on 06.05.2022.]. Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_r\\_pjanind2&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_r_pjanind2&lang=en)

<sup>594</sup> Population density by NUTS 2 regions. Eurostat. [Online] – [reference on 06.05.2022.]. Available: <http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tps00024&lang=en>

	Jihozápad	3,06	3664314320	1,54	17,29	70,93
	Severozápad	1,75	3220566113	-1,60	16,14	132,81
	Severovýchod	3,56	3407725073	0,46	17,38	123,06
	Jihovýchod	3,34	4580706373	1,52	17,43	122,62
	Střední Morava	3,62	3793780352	-1,15	17,47	134,12
	Moravskoslezsko	3,62	3907234739	-2,96	16,76	230,07
DE	Stuttgart	4,14	296304646	3,00	19,61	380,67
	Karlsruhe	2,83	223359632	2,03	19,89	396,15
	Freiburg	3,31	169331426	2,69	19,85	235,82
	Tübingen	3,88	156685924	2,15	19,08	203,99
	Oberbayern	3,34	263263793	7,25	19,15	257,41
	Niederbayern	3,57	213003657	3,20	19,54	116,34
	Oberpfalz	3,91	249147386	1,90	19,36	112,21
	Oberfranken	3,76	242248958	-1,45	21,52	147,23
	Mittelfranken	3,44	184321258	2,76	20,16	237,81
	Unterfranken	3,52	161335465	-1,06	20,44	153,48
	Schwaben	3,41	155427219	4,86	20,10	182,57
	Berlin	3,42	1588829254	5,30	19,09	3953,90
	Brandenburg	3,26	2703203839	-0,73	22,89	84,42
	Bremen	2,56	339273612	2,90	21,35	1631,88
	Hamburg	2,02	254382867	3,30	18,75	2392,08
	Darmstadt	2,11	315308249	5,11	19,60	518,84
	Gießen	2,90	177535625	-0,27	20,05	192,52
	Kassel	2,94	398350972	-0,98	22,13	146,38
	Mecklenburg-Vorpommern	3,19	2178244488	-3,20	22,61	70,16
	Braunschweig	4,87	792461418	-1,72	22,16	196,52
	Hannover	2,81	208385892	-0,24	21,90	234,91
	Lüneburg	3,40	998130966	0,58	21,54	109,03
	Weser-Ems	3,26	223762303	1,56	19,64	165,45
	Düsseldorf	2,19	681185802	0,15	21,31	978,51
	Köln	2,78	682535102	1,55	19,62	596,17
	Münster	2,73	383181200	0,61	19,58	375,51
	Detmold	3,25	306087594	0,18	20,22	313,17
	Arnsberg	2,99	684296477	-3,14	21,20	449,41
	Koblenz	3,34	193880670	-0,43	21,63	184,36
	Trier	2,98	96567671	2,77	20,17	106,19
	Rheinessen-Pfalz	2,99	277380233	1,86	20,38	296,03
	Saarland	2,74	375383140	-3,51	22,45	389,45
	Dresden	3,56	1997107668	-2,41	24,58	203,29
	Chemnitz	3,68	1796798838	-4,01	26,86	225,09
Leipzig	3,55	1234709888	7,38	22,76	254,38	
Sachsen-Anhalt	3,34	2839671887	-6,67	24,72	111,26	
Schleswig-Holstein	2,78	687755754	1,96	22,14	181,14	
Thüringen	3,94	2780024036	-5,14	23,71	134,97	
DK	Hovedstaden	3,46	159968816	9,65	16,10	695,91
	Sjælland	2,89	95050720	1,68	19,95	114,60
	Syddanmark	2,61	120888227	1,76	19,04	99,19

	Midtjylland	2,54	112371061	5,28	16,98	98,88	
	Nordjylland	2,34	115020428	1,49	19,27	74,38	
	Eesti	5,38	4111547873	-1,24	18,30	30,44	
EL	Attiki	-1,29	4267566373	-6,08	18,54	1017,51	
	Voreio Aigaio	-3,03	781759956	5,82	22,47	52,69	
	Notio Aigaio	-1,31	701481553	2,73	16,21	63,51	
	Kriti	-1,49	1459657398	2,46	18,11	75,57	
	Anatoliki Makedonia Thraki	-1,80	3707363146	-1,23	21,75	43,04	
	Kentriki Makedonia	-1,39	2106863470	-1,98	20,56	100,30	
	Dytiki Makedonia	0,00	769800798	-6,09	22,38	29,82	
	Ipeiros	-1,04	990822798	-3,14	24,63	37,38	
	Thessalia	-1,16	2670633108	-3,15	22,82	52,53	
	Ionía Nisia	-1,53	1024595037	-1,73	21,60	90,12	
	Dytiki Ellada	-1,60	2798716179	-4,84	20,67	60,63	
	Stereá Ellada	-0,97	1492181289	-0,30	22,60	36,06	
	Peloponnisos	-0,75	1932145772	-1,77	23,33	37,71	
	ES	Galicia	1,68	4896828152	-2,32	23,37	93,44
		Principado de Asturias	1,14	1479528129	-4,52	23,37	99,87
Cantabria		1,19	415310314	-0,58	19,75	111,40	
País Vasco		1,61	837888297	-0,15	20,58	301,96	
Comunidad Foral de Navarra		1,27	207969550	2,64	18,48	61,68	
La Rioja		1,48	170152227	-2,16	19,39	62,90	
Aragón		1,58	622021663	-2,21	20,50	28,04	
Comunidad de Madrid		1,55	1902743820	3,51	16,13	807,31	
Castilla y León		1,64	2167890709	-5,12	23,56	26,58	
Castilla-La Mancha		1,34	3029611563	-1,64	18,03	26,19	
Extremadura		1,91	3051168210	-2,21	19,55	26,74	
Cataluña		1,68	2961495068	0,83	17,68	233,37	
Comunidad Valenciana		1,41	3749233707	-0,70	17,83	215,11	
Illes Balears		1,68	359971146	9,04	14,70	224,90	
Andalucía		1,18	12746288322	2,40	15,74	96,63	
Región de Murcia		1,34	1784155643	2,34	14,65	129,63	
Länsi-Suomi		1,69	409156484	2,28	20,30	23,52	
Helsinki-Uusimaa		1,23	179400882	10,26	15,24	174,23	
Etelä-Suomi		2,00	240256444	0,48	21,39	36,65	
Pohjois- ja Itä-Suomi		2,48	1154491638	-0,43	20,18	6,39	
Åland	-0,02	6373773	7,40	19,58	18,46		
FR	Île de France	2,56	886221845	4,14	13,57	1001,89	
	Champagne-Ardenne	1,68	379461943	-1,09	18,50	65,51	
	Picardie	1,52	498110720	1,05	16,37	51,88	
	Haute-Normandie	1,41	463505640	1,25	17,25	72,61	
	Centre	1,64	428817069	1,35	20,09	83,52	
	Basse-Normandie	1,49	397971399	0,05	20,61	150,64	
	Bourgogne	1,64	413293762	-0,83	21,63	327,20	
	Nord - Pas-de-Calais	1,92	1169487108	0,99	15,46	99,30	
	Lorraine	1,20	607039528	-0,92	18,08	226,34	
	Alsace	1,75	264492296	3,01	16,71	52,16	

	Franche-Comté	1,13	345397408	0,93	18,70	99,50
	Pays de la Loire	1,95	637027343	6,85	18,41	114,57
	Bretagne	2,10	583368283	5,05	19,88	119,81
	Poitou-Charentes	2,05	450107121	2,87	22,20	80,78
	Aquitaine	1,91	706932840	7,21	20,64	43,48
	Midi-Pyrénées	2,35	643912026	6,72	20,09	69,36
	Limousin	1,51	272938745	-1,42	24,07	100,21
	Rhône-Alpes	2,07	922834052	7,32	17,18	65,50
	Auvergne	2,09	458293276	1,83	21,78	52,16
	Languedoc-Roussillon	1,39	662428917	8,41	21,04	146,49
	Provence-Alpes-Côte d'Azur	2,02	775268117	3,35	20,93	158,96
	Corse	1,67	309465112	10,76	21,32	37,32
HR	Jadranska Hrvatska	3,05	469336258	-2,59	19,53	56,83
HU	Közép-Dunántúl	4,83	3474408115	-4,31	17,09	98,54
	Nyugat-Dunántúl	4,47	3468029501	-1,28	17,60	87,75
	Dél-Dunántúl	3,86	2936492386	-6,94	18,29	65,65
	Észak-Magyarország	5,58	3768254672	-7,22	17,73	87,80
	Észak-Alföld	3,89	5738991628	-2,82	15,99	84,20
	Dél-Alföld	4,68	4981096237	-6,16	18,60	70,25
IT	Piemonte	1,88	1106223322	0,45	24,03	175,59
	Valle d'Aosta/Vallée d'Aoste	0,99	62147018	-0,13	21,98	39,21
	Liguria	1,28	388335793	-1,29	27,71	293,55
	Lombardia	1,65	743888657	5,14	21,24	429,60
	Abruzzo	1,49	322682534	0,70	22,29	123,23
	Molise	0,16	131413710	-2,67	22,87	71,12
	Campania	0,88	6357088552	1,33	17,08	431,28
	Puglia	1,66	5542591137	0,11	19,80	210,99
	Basilicata	2,31	605878074	-2,82	21,16	58,65
	Calabria	0,61	3230199458	-0,72	19,76	132,07
	Sicilia	0,53	7015900334	0,73	19,48	197,37
	Sardegna	1,07	1087899901	0,34	20,92	69,00
	Provincia Autonoma di Bolzano	2,43	102829317	6,71	18,60	69,65
	Provincia Autonoma di Trento	1,41	115914098	4,86	20,34	86,42
	Veneto	1,81	669767062	1,60	21,15	277,62
	Friuli-Venezia Giulia	1,86	487334770	-0,48	24,54	160,92
	Emilia-Romagna	1,88	633223523	4,10	23,19	196,51
	Toscana	1,50	825884570	2,62	24,31	163,29
	Umbria	0,88	325071523	1,07	24,18	107,06
	Marche	1,17	446860655	-0,30	23,38	164,29
Lazio	0,46	907507908	9,16	20,53	336,84	
LT	Lietuva	6,81	8263702623	-11,78	18,37	47,20
LU	Luxembourg	2,14	76302067	21,99	14,09	213,05
LV	Latvija	5,61	5133621481	-10,56	18,98	32,22
MT	Malta	4,91	870921981	15,76	17,03	1388,88
NL	Groningen	-0,15	198544694	1,54	17,27	248,71
	Friesland	1,43	141359770	0,38	18,51	192,66
	Drenthe	1,07	158010991	0,45	19,93	185,21

	Overijssel	1,87	148848042	2,32	16,93	342,03
	Gelderland	1,74	238492622	3,47	17,50	406,71
	Flevoland	1,62	108817117	7,36	11,21	281,38
	Utrecht	1,32	129517255	6,99	14,89	904,19
	Noord-Holland	2,47	246446497	6,98	16,02	1020,12
	Zuid-Holland	0,92	338593352	5,73	16,22	1266,50
	Zeeland	2,45	72787586	0,35	20,68	213,04
	Noord-Brabant	2,36	222581365	3,85	17,55	503,95
	Limburg	2,60	179909536	-0,48	20,22	520,46
PL	Łódzkie	4,70	5584132892	-1,46	17,78	136,97
	Małopolskie	4,94	6132970110	1,90	14,63	221,15
	Śląskie	4,32	8807157570	-3,12	15,64	374,74
	Lubelskie	4,37	4856423733	-1,36	16,52	85,05
	Podkarpackie	4,48	5783006091	0,11	15,16	117,82
	Świętokrzyskie	3,51	3043656139	-1,68	17,40	106,82
	Podlaskie	4,27	2649006966	-0,91	16,42	58,03
	Wielkopolskie	4,55	5854752382	2,00	13,48	116,84
	Zachodniopomorskie	3,94	3968508999	-0,83	14,16	77,59
	Lubuskie	4,08	2453401874	-0,48	13,53	73,19
	Dolnośląskie	4,57	6774192777	-0,41	15,09	145,23
	Opolskie	4,17	1934194962	-8,15	15,82	104,01
	Kujawsko-Pomorskie	4,14	3966648151	-0,40	14,21	117,90
	Warmińsko-Mazurskie	3,80	4128476026	-1,31	13,17	62,09
	Pomorskie	4,36	5319595536	3,40	13,66	128,46
PT	Norte	2,65	10996781894	-3,67	17,77	171,54
	Algarve	2,92	1106015913	-0,11	20,02	89,07
	Centro	2,27	6818731096	-4,72	22,46	81,18
	Lisboa	0,86	1777287343	1,49	19,64	956,83
	Alentejo	2,33	4165072062	-6,89	24,18	23,51
RO	Nord-Vest	6,07	1990278901	-5,91	15,39	77,73
	Centru	5,94	2898204226	-7,94	15,70	70,93
	Nord-Est	6,21	2405335175	-13,31	16,17	93,82
	Sud-Est	6,14	3000225359	-14,03	16,81	82,01
	Sud - Muntenia	4,78	2310081201	-9,59	18,23	92,73
	București - Ilfov	5,53	2443182103	2,18	14,60	1297,15
	Sud-Vest Oltenia	6,21	1697035046	-13,64	18,10	72,73
	Vest	5,01	2804118175	-7,28	15,88	58,15
SE	Stockholm	1,41	178864662	16,50	15,34	331,49
	Östra Mellansverige	2,15	223721550	9,20	19,77	41,95
	Småland med öarna	2,34	147636814	6,07	21,27	24,92
	Sydsverige	1,95	203826245	10,02	19,29	103,16
	Västsverige	2,23	207117735	8,85	18,88	66,01
	Norra Mellansverige	2,23	324391361	2,63	22,52	13,10
	Mellersta Norrland	1,42	273616384	1,49	22,46	5,24
	Övre Norrland	3,07	375733730	2,42	20,94	3,36
SI	Zahodna Slovenija	2,61	2762774617	-0,56	17,69	88,78
	Vzhodna Slovenija	2,89	1656149345	4,34	17,39	123,39
SK	Bratislavský kraj	1,69	1511325638	9,39	14,61	304,19

	Západné Slovensko	2,12	4086869496	-0,93	14,56	122,82
	Stredné Slovensko	2,37	3670585678	-0,67	13,46	82,91
	Východné Slovensko	3,10	3598366295	1,95	12,11	102,66
ES	Canarias	0,90	1998752383	7,48	14,43	284,01
PT	Região Autónoma dos Açores	1,65	2102599167	-1,14	13,18	106,26
	Região Autónoma da Madeira	1,83	798543694	-4,06	14,89	106,26
FR	Guadeloupe	1,83	682575285	3,66	16,98	266,77
	Martinique	2,83	660245022	-6,97	17,42	342,87
	Guyane	1,21	506776989	23,01	4,65	3,04
	Réunion	2,19	1886137174	4,85	9,68	337,71

## Variables used in the regression analysis

Country	NUTS 2 regions	Employment, % <sup>595</sup>	Unemployment, % <sup>596</sup>	Tertiary education, % <sup>597</sup>	Lower Education, % <sup>598</sup>	Type of region 2007-2013 <sup>599</sup>	Type of region 2014-2020 <sup>600</sup>
AT	Burgenland	70,41	4,64	21,29	17,48	Phasing out	Transition
	Niederösterreich	73,02	4,68	24,10	15,30	Comp & Empl	More developed
	Wien	65,56	9,66	34,07	17,53	Comp & Empl	More developed
	Kärnten	69,56	5,06	23,14	11,97	Comp & Empl	More developed
	Steiermark	71,38	4,44	22,06	14,80	Comp & Empl	More developed
	Oberösterreich	74,97	3,84	22,65	17,99	Comp & Empl	More developed
	Salzburg	74,83	3,17	25,60	14,15	Comp & Empl	More developed
	Tirol	74,24	3,02	23,20	18,58	Comp & Empl	More developed
	Vorarlberg	74,76	3,73	22,18	20,52	Comp & Empl	More developed
BE	Région de Bruxelles-Capitale	54,66	16,80	43,62	30,51	Comp & Empl	More developed
	Prov. Antwerpen	64,71	5,74	36,85	24,54	Comp & Empl	More developed
	Prov. Limburg	65,02	4,93	36,02	26,49	Comp & Empl	More developed
	Prov. Oost-Vlaanderen	68,20	4,01	37,50	24,93	Comp & Empl	More developed
	Prov. Vlaams-Brabant	67,82	4,60	45,60	18,31	Comp & Empl	More developed
	Prov. West-Vlaanderen	68,32	3,63	33,19	25,77	Comp & Empl	More developed
	Prov. Brabant Wallon	62,92	7,68	52,99	16,18	Comp & Empl	More developed
	Prov. Hainaut	53,80	12,41	28,19	33,44	Phasing out	Transition
	Prov. Liège	56,54	10,92	32,95	31,90	Comp & Empl	Transition
	Prov. Luxembourg	62,84	7,43	34,37	26,86	Comp & Empl	Transition
	Prov. Namur	59,36	8,97	35,19	25,88	Comp & Empl	Transition
BG	Severozapaden	55,48	12,19	19,44	18,85	Convergence	Less developed
	Severen tsentralen	58,76	11,19	22,19	22,27	Convergence	Less developed
	Severoiztochen	60,08	12,71	24,28	24,50	Convergence	Less developed
	Yugoiztochen	60,69	9,94	20,13	23,93	Convergence	Less developed
	Yugozapaden	67,83	6,59	36,27	9,28	Convergence	Less developed
	Yuzhen tsentralen	60,89	9,93	20,53	24,14	Convergence	Less developed
CY	Kýpros	65,06	11,71	39,54	22,43	Phasing in	More developed
CZ	Praha	74,69	2,67	39,45	3,20	Comp & Empl	More developed
	Střední Čechy	71,42	3,99	19,47	6,20	Convergence	Less developed
	Jihozápad	70,63	4,17	17,37	6,87	Convergence	Less developed
	Severozápad	66,17	7,66	12,18	13,53	Convergence	Less developed

<sup>595</sup> Employment rates by sex, age and NUTS 2 regions (%). [Online] – [reference on 06.05.2022.] Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst\\_r\\_lfe2emppt&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfst_r_lfe2emppt&lang=en)

<sup>596</sup> Unemployment rate by NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 06.05.2022.] Available: <https://ec.europa.eu/eurostat/databrowser/view/tgs00010/default/table?lang=en>

<sup>597</sup> Population by educational attainment level, sex and NUTS 2 regions (%). Eurostat. [Online] – [reference on 06.05.2022.] Available: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat\\_lfse\\_04&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat_lfse_04&lang=en)

<sup>598</sup> *Ibid.*

<sup>599</sup> European Communities (2007) Cohesion policy 2007-2013 Commentaries and official texts, Luxembourg: Office for Official Publications of the European Communities.

<sup>600</sup> COMMISSION IMPLEMENTING DECISION of 18 February 2014 setting out the list of regions eligible for funding from the European Regional Development Fund and the European Social Fund and of Member States eligible for funding from the Cohesion Fund for the period 2014-2020. Adopted 18 February 2014.

	Severovýchod	68,91	5,58	16,88	7,53	Convergence	Less developed
	Jihovýchod	69,24	5,44	22,16	5,81	Convergence	Less developed
	Střední Morava	67,79	5,94	17,13	6,99	Convergence	Less developed
	Moravskoslezsko	66,12	7,88	17,67	8,40	Convergence	Less developed
DE	Stuttgart	76,70	3,40	31,73	14,54	Comp & Empl	More developed
	Karlsruhe	74,91	3,68	30,70	14,92	Comp & Empl	More developed
	Freiburg	77,92	2,96	28,25	14,41	Comp & Empl	More developed
	Tübingen	77,53	2,83	30,95	13,51	Comp & Empl	More developed
	Oberbayern	78,53	2,62	36,92	10,15	Comp & Empl	More developed
	Niederbayern	77,50	2,74	21,93	12,95	Comp & Empl	More developed
	Oberpfalz	76,39	2,92	24,56	13,08	Comp & Empl	More developed
	Oberfranken	76,13	3,74	24,87	13,06	Comp & Empl	More developed
	Mittelfranken	76,31	3,20	28,64	14,18	Comp & Empl	More developed
	Unterfranken	76,22	3,11	27,18	12,41	Comp & Empl	More developed
	Schwaben	77,50	3,09	25,40	12,85	Comp & Empl	More developed
	Berlin	69,68	9,48	37,67	14,54	Comp & Empl	More developed
	Brandenburg	75,23	6,63	28,89	6,58	Convergence	Transition
	Bremen	68,81	6,14	26,89	19,80	Comp & Empl	More developed
	Hamburg	74,51	4,89	33,24	15,34	Comp & Empl	More developed
	Darmstadt	73,77	4,31	32,06	15,17	Comp & Empl	More developed
	Gießen	72,30	4,46	27,42	14,35	Comp & Empl	More developed
	Kassel	74,00	4,03	24,28	12,74	Comp & Empl	More developed
	Mecklenburg-Vorpommern	71,68	8,53	26,14	7,07	Convergence	Transition
	Braunschweig	70,98	5,38	25,03	14,49	Comp & Empl	More developed
	Hannover	72,21	5,30	26,02	14,77	Comp & Empl	More developed
	Lüneburg	75,22	4,03	22,42	13,08	Convergence	Transition
	Weser-Ems	73,93	3,97	21,06	14,71	Comp & Empl	More developed
	Düsseldorf	69,83	5,87	24,69	18,74	Comp & Empl	More developed
	Köln	70,61	5,06	28,86	17,66	Comp & Empl	More developed
	Münster	71,07	4,78	23,38	16,14	Comp & Empl	More developed
	Detmold	72,77	4,79	22,15	16,66	Comp & Empl	More developed
	Arnsberg	69,53	5,93	21,54	18,79	Comp & Empl	More developed
	Koblenz	74,48	3,77	22,61	16,21	Comp & Empl	More developed
	Trier	76,61	3,00	26,45	13,06	Comp & Empl	More developed
	Rhein Hessen-Pfalz	72,87	4,37	27,36	16,80	Comp & Empl	More developed
	Saarland	70,40	5,46	21,84	15,85	Comp & Empl	More developed
Dresden	75,62	6,71	32,61	4,20	Convergence	Transition	
Chemnitz	75,52	6,58	26,75	3,82	Convergence	Transition	
Leipzig	73,82	8,19	33,10	5,08	Phasing out	More developed	
Sachsen-Anhalt	73,22	8,53	24,02	6,64	Comp & Empl	Transition	
Schleswig-Holstein	73,88	4,64	23,96	12,48	Comp & Empl	More developed	
Thüringen	75,32	6,09	28,21	4,44	Convergence	Transition	
DK	Hovedstaden	73,80	7,17	46,78	17,17	Comp & Empl	More developed
	Sjælland	71,11	6,46	28,60	24,43	Comp & Empl	Transition
	Syddanmark	70,53	6,86	29,26	24,81	Comp & Empl	More developed
	Midtjylland	72,23	6,26	33,62	22,14	Comp & Empl	More developed
	Nordjylland	70,54	6,81	29,35	24,39	Comp & Empl	More developed

	Eesti	69,22	8,83	37,30	11,16	Convergence	Less developed
EL	Attiki	53,17	22,46	34,76	21,25	Phasing out	More developed
	Voreio Aigaio	53,49	19,07	22,41	35,81	Convergence	Transition
	Notio Aigaio	56,94	16,87	16,83	41,67	Phasing in	More developed
	Kriti	55,66	19,66	22,95	38,16	Convergence	Transition
	Anatoliki Makedonia Thraki	52,22	21,12	21,28	46,94	Convergence	Less developed
	Kentriki Makedonia	50,34	23,62	28,08	33,51	Phasing out	Less developed
	Dytiki Makedonia	47,68	27,28	20,92	41,67	Phasing out	Transition
	Ipeiros	51,44	22,17	25,39	39,85	Convergence	Less developed
	Thessalia	52,59	21,51	25,98	35,12	Convergence	Less developed
	Ionia Nisia	57,99	17,04	17,68	43,05	Convergence	Transition
	Dytiki Ellada	49,40	24,54	21,54	42,33	Convergence	Less developed
	Stereia Ellada	52,17	22,77	18,91	42,20	Phasing in	Transition
Peloponnisos	57,89	17,84	19,29	39,77	Convergence	Transition	
ES	Galicia	58,97	18,03	33,19	46,91	Convergence	More developed
	Principado de Asturias	55,97	18,30	37,73	39,86	Phasing out	More developed
	Cantabria	59,82	15,93	37,36	37,88	Comp & Empl	More developed
	País Vasco	64,10	13,37	46,70	31,48	Comp & Empl	More developed
	Comunidad Foral de Navarra	64,49	13,47	41,54	35,44	Comp & Empl	More developed
	La Rioja	63,57	15,71	36,36	40,64	Comp & Empl	More developed
	Aragón	63,29	16,18	35,24	39,05	Comp & Empl	More developed
	Comunidad de Madrid	65,02	16,38	44,90	29,86	Comp & Empl	More developed
	Castilla y León	60,41	17,26	33,84	43,42	Comp & Empl	More developed
	Castilla-La Mancha	54,87	24,52	26,26	52,66	Convergence	Transition
	Extremadura	50,06	27,92	24,97	58,71	Convergence	Less developed
	Cataluña	63,54	18,00	35,50	42,81	Comp & Empl	More developed
	Comunidad Valenciana	57,02	22,79	31,22	45,89	Comp & Empl	More developed
	Illes Balears	63,56	18,07	26,52	46,32	Comp & Empl	More developed
	Andalucía	49,12	30,24	27,54	52,77	Convergence	Transition
	Región de Murcia	55,39	23,37	27,31	51,59	Phasing out	Transition
	Länsi-Suomi	68,59	8,73	38,71	14,24	Comp & Empl	More developed
	Helsinki-Uusimaa	73,58	6,94	49,62	13,29	Comp & Empl	More developed
	Etelä-Suomi	67,80	8,66	37,21	15,21	Comp & Empl	More developed
	Pohjois- ja Itä-Suomi	65,56	9,69	35,88	13,75	Phasing in	More developed
Åland	80,68	3,46	30,83	19,02	Comp & Empl	More developed	
FR	Île de France	66,44	8,86	43,79	23,55	Comp & Empl	More developed
	Champagne-Ardenne	61,32	10,53	23,27	31,56	Comp & Empl	More developed
	Picardie	61,83	10,62	22,37	34,14	Comp & Empl	Transition
	Haute-Normandie	62,17	10,63	24,99	30,28	Comp & Empl	More developed
	Centre	64,72	9,29	27,65	30,28	Comp & Empl	More developed
	Basse-Normandie	64,72	8,49	25,44	27,10	Comp & Empl	Transition
	Bourgogne	64,33	9,53	26,20	26,15	Comp & Empl	More developed
	Nord - Pas-de-Calais	57,52	13,18	27,65	28,90	Comp & Empl	Transition
	Lorraine	62,06	11,09	27,14	25,85	Comp & Empl	Transition
	Alsace	66,30	8,98	31,01	21,62	Comp & Empl	More developed
	Franche-Comté	65,86	8,44	26,70	26,28	Comp & Empl	Transition
Pays de la Loire	67,18	8,41	29,85	22,48	Comp & Empl	More developed	

	Bretagne	66,14	7,53	32,29	18,35	Comp & Empl	More developed
	Poitou-Charentes	65,24	9,06	25,27	24,47	Comp & Empl	Transition
	Aquitaine	64,93	9,29	30,77	22,64	Comp & Empl	More developed
	Midi-Pyrénées	66,73	8,21	38,52	18,74	Comp & Empl	More developed
	Limousin	67,41	7,41	28,60	22,40	Comp & Empl	Transition
	Rhône-Alpes	66,88	8,08	34,64	22,19	Comp & Empl	More developed
	Auvergne	65,18	8,17	27,30	23,66	Comp & Empl	Transition
	Languedoc-Roussillon	57,93	12,74	29,22	30,22	Comp & Empl	Transition
	Provence-Alpes-Côte d'Azur	62,42	10,11	32,88	26,30	Comp & Empl	More developed
	Corse	61,70	8,88	24,26	36,88	Comp & Empl	Transition
HR	Jadranska Hrvatska	55,19	13,63	22,16	13,65	-	Less developed
HU	Közép-Dunántúl	64,22	6,17	18,05	18,60	Convergence	Less developed
	Nyugat-Dunántúl	65,28	5,26	17,83	15,67	Convergence	Less developed
	Dél-Dunántúl	57,63	8,97	18,61	21,76	Convergence	Less developed
	Észak-Magyarország	55,89	10,80	16,55	21,69	Convergence	Less developed
	Észak-Alföld	56,92	11,46	16,99	23,65	Convergence	Less developed
	Dél-Alföld	60,42	8,01	18,67	18,46	Convergence	Less developed
IT	Piemonte	63,90	9,21	16,01	40,62	Comp & Empl	More developed
	Valle d'Aosta/Vallée d'Aoste	66,66	7,39	14,79	44,76	Comp & Empl	More developed
	Liguria	62,17	8,89	19,39	35,85	Comp & Empl	More developed
	Lombardia	65,57	6,94	17,91	38,81	Comp & Empl	More developed
	Abruzzo	55,84	11,02	17,30	37,16	Comp & Empl	Transition
	Molise	50,50	12,87	17,04	42,81	Comp & Empl	Transition
	Campania	40,27	19,24	14,15	50,04	Comp & Empl	Less developed
	Puglia	43,99	17,50	12,94	52,69	Comp & Empl	Less developed
	Basilicata	48,14	13,50	14,51	42,73	Phasing out	Less developed
	Calabria	40,63	19,89	14,60	47,04	Comp & Empl	Less developed
	Sicilia	40,68	19,67	13,06	51,41	Comp & Empl	Less developed
	Sardegna	50,54	16,23	14,03	51,77	Phasing in	Transition
	Provincia Autonoma di Bolzano	71,83	3,60	14,88	37,30	Comp & Empl	More developed
	Provincia Autonoma di Trento	66,28	5,80	17,89	32,16	Comp & Empl	More developed
	Veneto	64,66	6,52	15,40	39,75	Comp & Empl	More developed
	Friuli-Venezia Giulia	64,21	6,91	16,78	36,58	Comp & Empl	More developed
	Emilia-Romagna	67,60	6,83	18,84	36,25	Comp & Empl	More developed
	Toscana	64,57	8,17	17,94	40,51	Comp & Empl	More developed
	Umbria	62,21	9,31	19,10	33,47	Comp & Empl	More developed
	Marche	62,60	9,09	17,94	38,56	Comp & Empl	More developed
Lazio	59,32	10,86	21,95	31,91	Comp & Empl	More developed	
LT	Lietuva	59,93	15,53	36,31	6,63	Convergence	Less developed
LU	Luxembourg	65,89	5,58	40,07	21,75	Comp & Empl	More developed
LV	Latvija	65,81	12,11	30,36	10,68	Convergence	Less developed
MT	Malta	63,72	5,44	19,80	57,28	Convergence	Transition
NL	Groningen	69,90	7,42	33,54	24,62	Comp & Empl	More developed
	Friesland	73,92	6,42	27,01	25,87	Comp & Empl	More developed
	Drenthe	73,63	6,01	26,96	26,30	Comp & Empl	More developed
	Overijssel	75,26	5,76	30,51	25,09	Comp & Empl	More developed
	Gelderland	75,26	5,31	32,55	25,46	Comp & Empl	More developed

	Flevoland	73,61	7,26	29,37	24,77	Comp & Empl	More developed
	Utrecht	77,38	5,04	45,27	19,28	Comp & Empl	More developed
	Noord-Holland	75,89	5,47	40,74	21,41	Comp & Empl	More developed
	Zuid-Holland	72,87	6,58	34,74	25,72	Comp & Empl	More developed
	Zeeland	75,77	3,88	25,58	27,97	Comp & Empl	More developed
	Noord-Brabant	75,99	5,30	32,28	26,29	Comp & Empl	More developed
	Limburg	71,77	5,63	27,95	28,99	Comp & Empl	More developed
PL	Łódzkie	64,43	7,98	24,70	11,26	Convergence	Less developed
	Małopolskie	61,99	7,58	27,51	7,94	Convergence	Less developed
	Śląskie	60,12	7,33	24,81	6,55	Convergence	Less developed
	Lubelskie	61,40	9,07	25,01	11,13	Convergence	Less developed
	Podkarpackie	58,76	11,30	24,08	9,41	Convergence	Less developed
	Świętokrzyskie	60,43	10,47	24,86	11,19	Convergence	Less developed
	Podlaskie	63,10	7,70	26,68	12,81	Convergence	Less developed
	Wielkopolskie	64,33	6,48	23,27	9,09	Convergence	Less developed
	Zachodniopomorskie	58,71	8,49	23,82	12,91	Convergence	Less developed
	Lubuskie	60,72	7,20	20,91	10,68	Convergence	Less developed
	Dolnośląskie	61,70	8,21	25,70	9,33	Convergence	Less developed
	Opolskie	62,28	7,19	21,76	9,47	Convergence	Less developed
	Kujawsko-Pomorskie	60,13	9,08	20,77	11,76	Convergence	Less developed
	Warmińsko-Mazurskie	56,91	9,18	21,30	16,57	Convergence	Less developed
	Pomorskie	62,50	7,27	27,11	10,67	Convergence	Less developed
PT	Norte	62,68	12,92	17,24	65,25	Convergence	Less developed
	Algarve	66,26	12,62	18,84	56,72	Phasing out	Transition
	Centro	67,14	9,06	18,31	62,03	Convergence	Less developed
	Lisboa	65,28	13,14	28,20	47,10	Comp & Empl	More developed
	Alentejo	64,39	12,44	16,20	62,32	Convergence	Less developed
RO	Nord-Vest	63,29	4,39	14,94	24,99	Convergence	Less developed
	Centru	56,04	7,81	14,87	23,11	Convergence	Less developed
	Nord-Est	67,61	3,88	11,94	30,56	Convergence	Less developed
	Sud-Est	56,47	8,49	12,00	29,52	Convergence	Less developed
	Sud - Muntenia	60,20	8,59	11,56	26,84	Convergence	Less developed
	București - Ilfov	66,08	5,54	32,93	12,54	Convergence	More developed
	Sud-Vest Oltenia	60,27	7,51	14,61	24,33	Convergence	Less developed
	Vest	58,48	5,01	14,89	21,03	Convergence	Less developed
SE	Stockholm	77,72	6,67	46,80	14,06	Comp & Empl	More developed
	Östra Mellansverige	72,81	8,24	35,14	18,08	Comp & Empl	More developed
	Småland med öarna	75,94	6,62	30,58	19,31	Comp & Empl	More developed
	Sydsverige	72,66	9,13	39,39	17,29	Comp & Empl	More developed
	Västsverige	75,80	7,12	37,16	17,22	Comp & Empl	More developed
	Norra Mellansverige	73,36	8,06	29,24	18,65	Comp & Empl	More developed
	Mellersta Norrland	74,54	7,52	31,37	16,73	Comp & Empl	More developed
	Övre Norrland	74,12	7,12	35,35	13,23	Comp & Empl	More developed
SI	Zahodna Slovenija	64,53	8,96	24,48	16,04	Convergence	Less developed
	Vzhodna Slovenija	67,51	7,07	33,47	11,57	Convergence	More developed
SK	Bratislavský kraj	72,19	5,33	38,03	4,75	Comp & Empl	More developed
	Západné Slovensko	64,46	9,40	17,00	7,88	Convergence	Less developed

	Stredné Slovensko	60,73	13,53	18,48	9,10	Convergence	Less developed
	Východné Slovensko	57,01	15,73	17,96	10,67	Convergence	Less developed
ES	Canarias	51,97	28,38	26,80	49,50	Phasing in	Transition
PT	Região Autónoma dos Açores	60,17	12,00	12,57	73,00	Convergence	Less developed
	Região Autónoma da Madeira	60,94	13,11	16,44	66,46	Phasing in	More developed
FR	Guadeloupe	48,59	23,54	21,22	41,46	Convergence	Less developed
	Martinique	52,53	19,53	24,82	36,72	Convergence	Less developed
	Guyane	44,92	21,52	19,52	51,72	Convergence	Less developed
	Réunion	45,81	26,10	21,16	43,34	Convergence	Less developed

## Variables used in the regression analysis

Country	NUTS 2 regions	ESPI, 2016 <sup>601</sup>	EQI, 2017 <sup>602</sup>	RCI, 2019 <sup>603</sup>	GERD <sup>604</sup>	Accessibility <sup>605</sup>
AT	Burgenland	69,90	0,86	73,33	74,39	51335
	Niederösterreich	71,01	0,79	82,49	1047,41	54378
	Wien	73,11	0,93	82,49	3343,17	70735
	Kärnten	71,24	0,72	70,30	584,18	48578
	Steiermark	73,82	0,83	74,21	2320,33	49206
	Oberösterreich	72,12	0,77	75,02	2191,16	57429
	Salzburg	75,82	0,96	74,07	443,02	52814
	Tirol	75,13	1,10	73,04	968,24	55051
	Vorarlberg	71,75	1,15	74,96	317,88	60446
BE	Région de Bruxelles-Capitale	66,85	-0,05	84,67	1681,49	132917
	Prov. Antwerpen	72,06	1,04	82,42	2934,78	114847
	Prov. Limburg	72,44	1,04	76,81	441,25	112152
	Prov. Oost-Vlaanderen	73,82	1,04	82,06	1466,90	105510
	Prov. Vlaams-Brabant	74,31	1,04	84,67	2029,83	112168
	Prov. West-Vlaanderen	70,75	1,04	76,81	603,67	94587
	Prov. Brabant Wallon	68,89	0,28	84,67	1404,49	109753
	Prov. Hainaut	62,44	0,28	59,59	478,04	98804
	Prov. Liège	64,80	0,28	63,82	675,32	101920
	Prov. Luxembourg	65,84	0,28	60,57	19,19	81586
	Prov. Namur	66,54	0,28	64,60	133,03	89056
BG	Severozapaden	40,62	-2,16	25,08	16,00	13138
	Severen tsentralen	46,22	-0,88	19,14	15,46	13370
	Severoiztochen	45,67	-1,25	20,01	26,40	10877
	Yugoiztochen	39,72	-2,06	13,79	19,99	10024
	Yugozapaden	50,70	-1,76	44,29	275,41	12715
	Yuzhen tsentralen	44,22	-1,44	21,21	35,46	11325
CY	Kýpros	58,98	-0,02	48,93	110,21	402
CZ	Praha	65,85	-0,08	75,61	1216,82	65936
	Střední Čechy	59,09	-0,57	75,61	545,36	53399
	Jihozápad	63,20	-0,21	54,29	248,49	50881
	Severozápad	56,52	-0,91	45,78	42,26	57605
	Severovýchod	61,54	-0,08	56,21	297,09	45271

<sup>601</sup> European Social Progress Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/social\\_progress2020/](https://ec.europa.eu/regional_policy/en/information/maps/social_progress2020/)

<sup>602</sup> Charron, N., V. Lapuente & P. Annoni (2019). Measuring Quality of Government in EU Regions Across Space and Time. *Papers in Regional Science*, 98(5), pp. 1925-1953.

<sup>603</sup> European Regional Competitiveness Index. European Commission. [Online] – [reference on 14.05.2022.]. Available: [https://ec.europa.eu/regional\\_policy/en/information/maps/regional\\_competitiveness/](https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness/)

<sup>604</sup> GERD by sector of performance and NUTS 2 regions. Eurostat Data Browser. [Online] – [reference on 06.05.2022.] Available: [https://ec.europa.eu/eurostat/databrowser/view/rd\\_e\\_gerdreg/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/rd_e_gerdreg/default/table?lang=en)

<sup>605</sup> Jacobs-Crisioni C., Batista e Silva F., Lavalle C., et al. (2014) "Accessibility and territorial cohesion in a case of transport infrastructure improvements with endogenous population distributions." European Commission - Joint Research Centre.

	Jihovýchod	63,55	0,10	61,41	640,79	48219
	Střední Morava	61,41	0,06	54,62	255,37	43884
	Moravskoslezsko	58,33	-0,19	55,09	187,17	43740
DE	Stuttgart	73,60	1,14	87,80	15918,81	87903
	Karlsruhe	73,79	1,14	88,62	5923,09	95432
	Freiburg	74,35	1,14	80,96	2313,35	74530
	Tübingen	74,30	1,14	85,00	3740,17	73974
	Oberbayern	74,01	1,40	94,20	10695,68	71425
	Niederbayern	70,82	1,40	72,23	631,62	64615
	Oberpfalz	71,90	1,40	76,17	1134,89	71294
	Oberfranken	72,00	1,40	75,47	830,76	76986
	Mittelfranken	72,37	1,40	82,74	2745,74	82749
	Unterfranken	73,43	1,40	79,73	1479,29	85258
	Schwaben	72,71	1,40	78,64	1166,18	72569
	Berlin	72,81	0,67	81,69	4742,51	78396
	Brandenburg	70,01	0,80	81,69	1192,37	58994
	Bremen	73,43	1,16	77,30	907,38	78644
	Hamburg	74,21	1,31	90,05	2495,82	78327
	Darmstadt	73,43	1,40	88,83	6561,11	106769
	Gießen	73,91	1,40	80,58	901,07	96527
	Kassel	73,09	1,40	72,73	712,31	87315
	Mecklenburg-Vorpommern	71,09	1,23	65,92	784,01	45940
	Braunschweig	71,54	1,40	78,35	5875,97	79389
	Hannover	71,32	1,40	76,79	1812,18	82969
	Lüneburg	70,85	1,40	73,53	425,92	66936
	Weser-Ems	70,46	1,40	69,40	807,19	74564
	Düsseldorf	71,08	1,40	80,17	4121,56	135505
	Köln	72,38	1,40	86,57	5523,77	121261
	Münster	71,22	1,40	78,47	1043,63	109309
	Detmold	71,71	1,40	74,40	1495,79	91421
	Arnsberg	71,36	1,40	76,53	2134,36	107514
	Koblenz	72,49	1,19	76,22	343,65	99183
	Trier	72,32	1,19	73,97	142,37	91394
	Rheinhausen-Pfalz	72,89	1,19	80,88	3008,99	100317
	Saarland	70,60	1,10	71,77	618,61	92274
Dresden	72,89	0,88	76,74	1990,80	61964	
Chemnitz	71,63	0,88	72,57	750,51	70435	
Leipzig	73,33	0,88	78,22	652,52	71615	
Sachsen-Anhalt	69,18	0,65	68,06	916,25	68018	
Schleswig-Holstein	71,65	1,17	75,43	1447,00	52403	
Thüringen	72,58	1,01	73,28	1358,81	75764	
DK	Hovedstaden	81,67	1,40	97,75	5509,51	25258
	Sjælland	78,25	1,29	78,25	407,34	26984
	Syddanmark	79,94	1,42	74,22	733,61	31235
	Midtjylland	81,98	1,71	78,47	1493,02	23262
	Nordjylland	81,36	1,41	70,68	498,08	17243
	Eesti	64,87	0,31	53,87	304,32	2992

EL	Attiki	57,31	-1,54	44,97	1242,33	
	Voreio Aigaio	60,11	-1,06	0,00	16,74	
	Notio Aigaio	55,03	-1,06	7,93	10,60	
	Kriti	60,40	-1,06	12,93	128,80	
	Anatoliki Makedonia Thraki	55,31	-1,04	5,67	49,15	
	Kentriki Makedonia	58,28	-1,04	20,29	280,90	
	Dytiki Makedonia	57,68	-1,04	6,05	14,27	
	Ipeiros	57,13	-1,04	11,61	58,46	
	Thessalia	57,04	-1,29	11,11	60,04	
	Ionia Nisia	55,07	-1,29	10,15	7,72	
	Dytiki Ellada	55,29	-1,29	6,53	106,82	
	Stereia Ellada	52,60	-1,29	10,48	37,90	
	Peloponnisos	51,81	-1,29	8,84	24,70	
ES	Galicia	66,27	-0,34	40,16	572,00	12708
	Principado de Asturias	68,27	0,31	43,18	183,00	13410
	Cantabria	69,28	0,52	47,43	109,00	18665
	País Vasco	71,41	0,75	63,60	1351,00	27581
	Comunidad Foral de Navarra	69,90	0,60	51,90	343,00	22445
	La Rioja	68,10	0,34	41,04	74,00	20274
	Aragón	68,24	0,19	41,79	313,00	17941
	Comunidad de Madrid	71,92	-0,13	70,83	3695,00	38580
	Castilla y León	68,86	-0,24	37,61	683,00	16446
	Castilla-La Mancha	64,34	-0,21	30,16	229,00	16205
	Extremadura	64,77	0,11	19,03	114,00	11559
	Cataluña	65,51	-0,30	53,45	3276,00	29979
	Comunidad Valenciana	66,60	-0,36	41,15	1082,00	21426
	Illes Balears	63,84	-0,46	37,33	114,00	2010
	Andalucía	63,81	-0,65	27,16	1423,00	12706
	Región de Murcia	65,53	-0,05	31,11	280,00	14208
	Länsi-Suomi	80,27	1,39	67,07	1233,86	2155
	Helsinki-Uusimaa	81,19	1,55	92,27	3067,28	4364
	Etelä-Suomi	79,98	1,46	70,93	731,11	2912
	Pohjois- ja Itä-Suomi	80,41	1,49	57,05	1136,72	726
Åland	81,61	2,38	57,37	4,30	1777	
FR	Île de France	71,24	0,61	91,14		98825
	Champagne-Ardenne	66,92	0,48	51,89		65754
	Picardie	64,29	0,40	59,17		80245
	Haute-Normandie	66,77	0,50	61,95		65664
	Centre	69,20	0,44	63,52		53271
	Basse-Normandie	68,62	0,53	55,89		45774
	Bourgogne	68,46	0,51	57,45		55009
	Nord - Pas-de-Calais	65,92	0,39	59,59		85117
	Lorraine	67,78	0,29	60,68		71231
	Alsace	70,29	0,34	69,15		75733
	Franche-Comté	69,98	0,56	58,90		56440
	Pays de la Loire	69,65	0,83	66,23		43017
	Bretagne	70,81	0,88	63,84		29963

	Poitou-Charentes	68,67	0,54	55,45		36119
	Aquitaine	69,37	0,43	64,23		29068
	Midi-Pyrénées	70,56	0,69	68,07		30487
	Limousin	69,55	0,80	56,31		36756
	Rhône-Alpes	69,60	0,24	73,52		50896
	Auvergne	69,73	0,55	59,80		40381
	Languedoc-Roussillon	68,58	0,73	56,35		35584
	Provence-Alpes-Côte d'Azur	67,72	0,32	64,28		40769
	Corse	62,75	0,18	43,26		7408
HR	Jadranska Hrvatska	56,59	-1,16	30,37	67,71	20442
HU	Közép-Dunántúl	56,21	-0,86	40,57	131,96	41226
	Nyugat-Dunántúl	57,83	-0,91	40,40	83,59	42782
	Dél-Dunántúl	55,52	-0,87	26,59	52,40	29964
	Észak-Magyarország	52,72	-0,98	27,08	47,49	30971
	Észak-Alföld	53,98	-1,17	25,42	112,90	26894
	Dél-Alföld	54,54	-0,64	30,54	123,05	27490
IT	Piemonte	57,07	-1,09	50,74	2775,62	58633
	Valle d'Aosta/Vallée d'Aoste	59,65	-0,56	39,36	24,85	53604
	Liguria	58,87	-1,15	48,55	692,61	54149
	Lombardia	57,80	-0,39	57,01	4904,43	70294
	Abruzzo	61,05	-1,85	34,20	316,77	30167
	Molise	58,22	-1,07	33,78	68,97	26406
	Campania	49,72	-1,78	25,89	1324,37	34935
	Puglia	51,71	-1,44	22,72	579,53	21576
	Basilicata	55,28	-1,55	26,03	80,78	19985
	Calabria	52,35	-2,09	18,42	173,24	14395
	Sicilia	50,09	-1,45	19,07	673,80	11591
	Sardegna	59,36	-1,12	23,75	261,74	2685
	Provincia Autonoma di Bolzano	64,08	-0,25	46,67	163,62	50297
	Provincia Autonoma di Trento	67,71	-0,25	54,55	303,99	52335
	Veneto	59,93	-0,36	50,07	2106,96	59060
	Friuli-Venezia Giulia	62,15	-0,38	49,17	585,91	48509
	Emilia-Romagna	60,78	-0,36	53,19	3120,35	54323
	Toscana	61,10	-0,75	47,77	1666,21	41329
	Umbria	62,98	-1,41	43,49	214,53	33306
	Marche	60,65	-1,27	41,72	457,21	33484
Lazio	60,13	-1,43	53,09	3298,17	36252	
LT	Lietuva	59,02	-0,18	44,72	378,91	8827
LU	Luxembourg	73,40	1,26	94,43	720,70	87683
LV	Latvija	54,60	-0,43	38,69	137,90	5560
MT	Malta	60,08	0,01	45,94	65,93	4430
NL	Groningen	80,55	1,42	79,77		66600
	Friesland	79,41	1,42	73,65		62601
	Drenthe	78,11	1,42	76,04		74434
	Overijssel	80,32	1,39	81,69		89057
	Gelderland	81,11	1,39	86,40		107394
	Flevoland	79,61	1,39	93,20		88799

	Utrecht	81,37	1,16	98,99		118784
	Noord-Holland	80,95	1,16	93,20		90950
	Zuid-Holland	80,28	1,16	88,82		109059
	Zeeland	76,97	1,16	76,68		88744
	Noord-Brabant	78,48	1,29	86,45		115002
	Limburg	77,42	1,29	82,83		119354
PL	Łódzkie	54,71	-0,06	41,23	201,72	35200
	Małopolskie	57,08	-0,34	47,36	694,86	37355
	Śląskie	53,79	-0,42	48,98	359,53	47473
	Lubelskie	57,84	-0,45	34,66	157,11	19056
	Podkarpackie	57,53	-0,56	34,95	185,69	23331
	Świętokrzyskie	55,89	-0,59	34,44	33,73	31745
	Podlaskie	60,44	-0,39	34,46	61,43	14635
	Wielkopolskie	57,91	-0,40	40,46	292,27	37121
	Zachodniopomorskie	58,69	-0,30	35,77	77,29	34273
	Lubuskie	56,53	-0,57	34,22	38,57	45114
	Dolnośląskie	56,41	-0,34	43,83	356,54	46832
	Opolskie	54,38	-0,41	38,96	43,90	44712
	Kujawsko-Pomorskie	57,00	-0,22	34,63	102,68	30985
	Warmińsko-Mazurskie	57,46	-0,27	28,57	62,18	17642
	Pomorskie	60,52	-0,27	43,91	295,28	24740
PT	Norte	60,16	0,01	38,03	863,02	15308
	Algarve	61,90	-0,21	30,81	27,32	10154
	Centro	61,05	0,16	40,15	485,50	14547
	Lisboa	63,99	0,19	63,06	1107,91	26600
	Alentejo	58,20	0,33	30,28	72,15	11952
RO	Nord-Vest	48,67	-1,74	17,45	54,20	17534
	Centru	49,46	-1,32	13,18	56,04	15094
	Nord-Est	43,49	-1,46	9,05	33,70	13008
	Sud-Est	42,89	-1,87	5,35	13,53	11728
	Sud - Muntenia	41,82	-1,00	15,62	75,07	17868
	București - Ilfov	52,03	-1,47	55,92	614,49	33569
	Sud-Vest Oltenia	46,32	-1,51	10,57	28,07	15323
	Vest	50,07	-1,22	20,09	69,82	18133
SE	Stockholm	79,90	1,51	100,00	5566,00	5950
	Östra Mellansverige	80,16	1,51	81,62	2439,73	4031
	Småland med öarna	78,87	1,38	67,71	:	6049
	Sydsverige	78,48	1,38	84,81	1962,20	14800
	Västsverige	79,46	1,38	81,40	4535,81	6465
	Norra Mellansverige	78,64	1,54	61,87	389,41	1854
	Mellersta Norrland	78,96	1,54	57,64	:	651
	Övre Norrland	82,33	1,54	59,90	540,32	288
SI	Zahodna Slovenija	65,76	-0,21	54,65	263,10	43232
	Vzhodna Slovenija	69,94	-0,21	67,98	539,20	45653
SK	Bratislavský kraj	62,59	-0,86	75,96	383,07	52396
	Západné Slovensko	56,64	-0,92	45,73	173,34	42684
	Stredné Slovensko	57,46	-0,53	39,94	97,05	33911

	Východné Slovensko	54,93	-0,59	32,93	95,49	25675
ES	Canarias	65,32	-0,62	26,84	220,00	
PT	Região Autónoma dos Açores	55,13	0,09	11,11	12,47	
	Região Autónoma da Madeira	58,93	0,25	22,55	16,72	
FR	Guadeloupe	65,01	-0,93	28,54		
	Martinique	67,37	-0,63	37,68		
	Guyane	54,03	-1,45	5,84		
	Réunion	65,21	-0,31	32,93		

## Questions for interviews

### 1. Questions for experts in planning regions

- 1) Kādas pastāvošās reģionālās atšķirības Latvijā būtu jāņem vērā plānojot attīstību un investīcijas?
- 2) Vai jūsu reģionam ir izstrādāta viedās specializācijas stratēģija? Vai ir kādi citi instrumenti, kas izmantoti, lai veicinātu konkurētspēju?
- 3) Vai ir kādas jūsu reģionam specifiskas attīstības īpatnības, kuras nav iespējams 'pamanīt' nacionālā līmenī?
- 4) Kādi, Jūsaprāt, ir noteicošie faktori kohēzijas politikas veiksmīgā īstenošanā un maksimālai atdevei ES ieguldījumiem?
- 5) Kādi priekšnoteikumi būtu jāņem vērā lemjot par kohēzijas finansējuma piešķiršanu?
- 6) Vai arī Latvijā novērojams, ka ES fondu ieguldījumi tiek izmantoti ar dažādu efektivitāti? Ja iespējams, miniet piemērus vai faktorus, kas to ietekmē.
- 7) Vai, jūsaprāt, Kohēzijas politikas finansējuma piešķiršana atbilstoši NUTS3 līmenim būtu efektīvāka/ļautu mērķtiecīgāk adresēt reģionu vajadzības Latvijā? Kāpēc?
- 8) Vai, jūsaprāt, Kohēzijas politika ir mazinājusi reģionālās nevienlīdzības Latvijā (novērojama konverģence)?
- 9) Kas jums plānošanas reģiona līmenī būtu nepieciešams, lai efektīvāk izmantotu ES finansējumu?
- 10) Kāda bijusi Covid pandēmijas ietekme uz reģionālo attīstību Latvijā? Kāda būs klimata pārmaiņu ietekme?
- 11) Vai jūs saredzat, ka sankcijām, kas ieviestas kara Ukrainā dēļ būs ietekme uz reģionālo attīstību Eiropā un Latvijā?
- 12) Atbilstoši zinātniskai literatūrai, noteicošie faktori ir:
  - a. pārvaldes kvalitāte/kapacitāte,
  - b. politiskais klimats, nodarbinātība,
  - c. demogrāfiskie rādītāji, iedzīvotāju skaita sarukšana,
  - d. atrašanās vieta, sasniedzamība,
  - e. konkurētspēja (ieguldījumu R&D),
  - f. Izglītības līmenis

Vai saskatāt, ka šie faktori ietekmē Kohēzijas politikas īstenošanas efektivitāti arī Latvijā?

## 2. Questions for Latvian Association of Local and Regional Governments and Ministry of Environmental Protection and Regional Development

- 1) Vai ir kādas īpašas atšķirības starp Latvijas reģioniem, kas būtu jāņem vērā plānojot attīstību un investīcijas?
- 2) Vai tiek ņemtas vērā reģionālās atšķirības kohēzijas politikas finansējuma piešķiršanā? Ja jā, lūdzu, nosauciet piemēru!
- 3) Kādi, Jūsaprāt, ir noteicošie faktori kohēzijas politikas veiksmīgā īstenošanā un maksimālai atdevei ES ieguldījumiem?
- 4) Vai arī Latvijā novērojams, ka ES fondu ieguldījumi tiek izmantoti ar dažādu efektivitāti? Kādas tās ir un kāpēc?
- 5) Vai, jūsaprāt, Kohēzijas fondu piešķiršana atbilstoši NUTS3 līmenim būtu efektīvāka/ļautu mērķtiecīgāk adresēt reģionu vajadzības Latvijā? Kāpēc? Vai ir kādi reģioni ieguvēji un reģioni zaudētāji?
- 6) Vai, jūsaprāt, Kohēzijas politika ir veicinājusi ekonomiskās konverģences procesu un mazinājusi reģionālās nevienlīdzības Latvijā?
- 7) Kāda ir bijusi/būs Covid19 un kara Ukrainā ietekme uz reģionālo attīstību Latvijā?
- 8) Kādas ir jūsu prognozes, cik veiksmīga būs 2021.-2027.gada programmas ieviešana? Vai mērķi ir atbilstoši Latvijai un tās reģioniem?

1. a more **competitive and smarter** Europe;
2. a greener, **low-carbon transitioning** towards a net zero carbon economy;
3. a more connected Europe by **enhancing mobility**;
4. a more **social and inclusive** Europe;
5. Europe closer to citizens by fostering the sustainable and integrated **development of all types of territories**.
- Interreg programmes additional priorities
  - ‘A better cooperation governance’
  - ‘A safer and more secure Europe’
- 9) Atbilstoši zinātniskai literatūrai, noteicoši faktori ir:
  - pārvaldes kvalitāte/kapacitāte,
  - politiskais klimats, nodarbinātība,
  - demogrāfiskie rādītāji, iedzīvotāju skaita sarukšana,
  - atrašanās vieta, sasniedzamība,
  - konkurētspēja (ieguldījumu R&D),
  - Izglītības līmenis

Vai saskatāt, ka šie faktori ietekmē Kohēzijas politikas īstenošanas efektivitāti arī Latvijā?

The Master`s thesis “**Efficiency of the European Union’s Cohesion Policy in reducing regional inequalities in the European Union and regions in Latvia**” has been developed at the Faculty of Business, Management and Economics of the University of Latvia.

With this signature, I confirm that the research has been done independently, only the stated sources of information have been used, and the electronic copy of the thesis is identical to the printed copy.

Author: **Liene Gaujeniete, 19.05.2022.**

**I recommend / do not recommend** the thesis for defence.

Academic advisor: *Dr.habil.oec.*, professor Inna Šteinbuka

Reviewer: professor Baiba Šavriņa

The thesis has been submitted to the dean`s designated responsible person at the Study Centre of the UL Faculty of Business, Management and Economics

Methodologist: \_\_\_\_\_  
(signature) (name and surname) (date)

The thesis has been defended at the meeting of the Master`s Examination Commission on 01.06.2022.

Secretary of the commission: \_\_\_\_\_  
(signature) (name and surname) (date)