Páleníková, Brigita; Staníčková, Michaela

Article

Contribution of EU funds to regional development in the Czech Republic: Presumption for improving the quality of life

World Economy and Policy (WEP)

Provided in Cooperation with:
Prague University of Economics and Business, Faculty of International Relations (FIR)

Suggested Citation: Páleníková, Brigita; Staníčková, Michaela (2023) : Contribution of EU funds to regional development in the Czech Republic: Presumption for improving the quality of life, World Economy and Policy (WEP), ISSN 2788-0672, Prague University of Economics and Business, Faculty of International Relations, Center for European Studies, Prague, Vol. 2, Iss. 1, pp. 1-17, https://doi.org/10.18267/j.wep.177

This Version is available at:
https://hdl.handle.net/10419/297892

CONTRIBUTION OF EU FUNDS TO REGIONAL DEVELOPMENT IN THE CZECH REPUBLIC – PRESUMPTION FOR IMPROVING THE QUALITY OF LIFE

Brigita Páleníková, Michaela Staníčková

Abstract

Where is the best place to live? Which area in the Czech Republic has the highest quality of life? There are localities where problems are concentrated. People usually decide where to live several times in their lifetime. They want a healthy, materially fulfilling life in a cultural, socially supportive and safe environment that is professionally managed. The way forward is to live where these values are optimal or to demand improvements from the existing state and local government. To this end, it is important to implement appropriately targeted regional policies. However, effective and efficient regional policy decisions can only be made if policy makers make decisions based on sound information, i.e., in practical terms, if they have relevant data. Only under such conditions can adequate and necessary evidence-based policy-making be implemented. Data analysis and detailed comparison of territories can help policy makers better set strategic priorities to effectively address the problems inherent in a given territory and develop it. The article aims to evaluate the level of EU funds (European Structural and Investment Funds in terminology of the programming period 2014–2020) absorption in cohesion regions of the Czech Republic as a prerequisite for subsequent assessing the level of regional development and quality of life through individual indicators, or composite indices.

Keywords: ESIF, composite index, quality of life, EU cohesion policy, evidence-based policy, regional development/disparities

Introduction

"Spatial issues have been so neglected in economics that this area is interesting in its own right." (Samuelson, 1952)

The Czech Republic (CR) is one of the net beneficiaries of the European Union (EU) budget and achieves a standard high allocation of EU funds under the cohesion policy across the programming periods. These facts are prerequisites for improving regional development and contributing to the quality of life of the Czech population. While the Czech Republic is losing ground to the average of EU countries in terms of economic development (but the trend is improving), the situation is already different in the regions. The article aims to evaluate the level of EU funds (European Structural and Investment Funds in terminology of the programming period 2014–2020) absorption in cohesion regions of the Czech Republic as a prerequisite for subsequent assessing the level of regional development and quality of life through individual indicators, or composite indices. Since improving the quality of life or raising the standard of living are frequently mentioned objectives in development or growth strategies, quality

of life and standard of living, and especially their long-term sustainability, lies in a better understanding of the factors that can or will influence them. Raising living standards is one of the EU's main objectives, and cohesion policy seeks to redress disparities between Member States' regions through support from European funds.

The first part of the article deals with the theoretical definition of the quality of life in the context of regional development/regional disparities and, moreover, the issue of drawing European funds and evaluating their benefits. The second part defines the methodology and the approaches chosen to investigate the matter. The third part of the article contains the results of the empirical analysis and the subsequent discussion on the evaluation of the quality of life and the level of regional development in terms of the use of European Structural and Investment Funds (ESIF) in the Czech Republic in the 2014–2020 programming period. In the theoretical parts of the text, a descriptive approach based on the analysis of the general background is used. The practical parts of the paper rely on methods of analysis involving the analysis of facts and proceeding from the whole to the parts and then synthesis. Data collection is based on document analysis and indirect observation. The data is taken from the Regional Competitiveness Index database, Places to Live/Místo pro život, Municipalities in Data/Obce v datech and the Ministry of Regional Development's Reports on the Status of Partnership Agreement Implementation and Monthly/Quarterly Reports on the implementation of ESIF in the 2014–2020 programming period.

The use of these tools is consistent with the principle of evidence-based policy-making. The potential of the golden era of evidence-based policy-making has never been greater. Greater availability of data, new investments in rigorous research and increasing public focus on results have given policy makers enhanced opportunities to determine whether public investments are achieving their intended results and to make informed decisions based on an assessment of societal costs and benefits. Evidence-based regional policy from practice can lead to better use of EU funds and better project outcomes. Thus, the main contribution of the article is the combination of several approaches that have much in common (in terms of subsequent explanatory power). Although the approaches differ mainly in terms of methodology (the methods used and the indicators), the connecting line is a certain statement about the level of regional development in the Czech Republic. Whether in terms of the level of competitiveness or the level of quality of life, the use of EU funds helps and strengthens both concepts.

1. Theory - coherence between quality of life, regional development and EU cohesion policy

The quality and development of human life is influenced by a wide variety of factors – economic, social, societal and environmental – but these factors have their own regional specificities, either in a positive or negative sense, in the form of regional disparities (territorial differences or imbalances). Disparities can be understood as a disproportion between different phenomena in a given territory. Therefore, the examination of regional disparities should be the basis for applying regional policy instruments to improve regional policy objectives. This will positively impact the impact of regional policy on citizens and increase or improve their quality of life.

Quality of life

Quality of life is a relatively new concept, which began to receive attention in the 1960s, following the considerable material wealth of the most developed and wealthiest countries in Western Europe and the USA, as well as the expansion of the consumerist way of life of the inhabitants of these countries (Heřmanová, 2012). However, in terms of the concept itself, it is argued that it emerged in the 1920s in the context of economic development considerations and the state's role in supporting the lower social classes. First of all, the influence of state subsidies on people's quality of life was discussed, but quality of life was understood as the material standard of living of a particular society, and only later was the concept introduced into other disciplines (Hnilicová, 2005; Wood-Dauphine, 1999).

The authors agree that the lack of a unified approach to understanding this concept gives room for multiple definitions at different levels and meanings. It can be observed from the literature that the term quality of life and related concepts are used by a number of scientific disciplines, thus creating a wide range of definitions. One of the oldest definitions that could be seen as a disciplinary definition of quality of life is the definition of health proposed in 1948 by and adopted by the World Health Organization (WHO, 2022), which states that *"health is not merely the absence of disease or disorder, but is a comprehensive state of physical, mental and social well-being*". Using this definition, not only is the objective physical or physiological dimension of health captured but the subjective and social dimension is also highlighted (Heřmanová, 2012). Another definition is provided by Nobel Prize winner (1998) in economics, Amartya Kumar Sen (Nussbaum and Sen, 1993), who states that *"Quality of life (in a region) is determined by the degree of availability of options from which a person can choose in fulfilling his or her life." The* examination of quality of life from an economic perspective has been addressed by Guliyeva (2021), Tripathi, Rai and Rompay-Bartels (2021), Minařík, Borůvková and Vystrčil (2013), Heřmanová (2012), Rahman, Mittelhammer and Wandschneider (2005), Verdugo et al. (2005), Diener and Suh (1997), and others.

Regional development and regional disparities

Regional development is also a multidimensional concept with great socioeconomic diversity, determined by a multitude of factors such as natural resources, quality and quantity of labour, capital availability and access, productive and overhead investment, business culture and access, physical infrastructure and other factors (Nijkamp and Abreu, 2009). The authors agree that regional development is defined as a process of positive change, implemented to improve the quality of life by balancing regional disparities. It is an effort to make optimal use of the potential of a given territory through the implementation of supporting activities (Blažek and Uhlíř, 2020). It is important to emphasise that regional development is a process where something happens in a region. Quality of life is perceived as a state that characterises the situation in the region using indicators (Minařík, Borůvková and Vystrčil, 2013).

Regional development as a subject or scientific discipline, like the view of quality of life, has undergone several stages of development, which can be distinguished primarily by the extent to which and through which interventions states are supposed to intervene in the natural course and functioning of things. It is important to clarify that regional development and increasing

quality of life does not occur across the board, as different conditions between regions cause territorial imbalances or regional disparities (see Kutscherauer et al. (2010).

Although inequalities act as an important stimulus for social development and are a prerequisite for forming more efficient forms of territorial division of labour and specialisation (Blažek and Uhlíř, 2020), excessive disparities between regions have serious social and political consequences. Inequalities within regional development represent a significant obstacle to the balanced and harmonious development of the entire territory of a country or region.

EU cohesion policy

According to the proponents of the polarisation theory[1], the market mechanism does not lead to equalisation but to strengthening differences between regions. Therefore, a national regional policy is necessary to reduce and equalise differences between regions and thus promote their competitiveness and improve the quality of life of the inhabitants of a given territory (Blažek and Uhlíř, 2020; Kutscherauer et al., 2010; Molle, 2007; Leonardi, 2005).

Regional disparities are one of the main reasons for the existence of the EU's cohesion policy. The concept of cohesion is based on the theory of disparities, which, as Molle (2007) states, is the degree of difference between countries, regions or groups that is politically and socially acceptable. Thus, a territory with a higher degree of cohesion is better placed to achieve greater competitiveness and overall prosperity.

The concept of economic and social cohesion was formally identified as a key objective in the Treaty on European Union in 1993. However, it was already mentioned in the 1957 Treaty of Rome and thus formed one of the cornerstones of the EU (Zahradník, 2017; Piattoni and Polverari, 2016). This policy works on the principle of solidarity with less developed countries and regions by providing funding to these areas that can boost their competitiveness (Zahradník, 2017). Generally, more developed countries are characterised by smaller inter-regional disparities compared to less developed countries.

EU cohesion policy is also the main financial instrument available to the EU institutions to reduce disparities between Member States and their regions. EU cohesion policy thus plays a very important role in increasing the competitiveness, prosperity and standard of living of Member States and their regions. In general terms, EU cohesion policy involves the implementation of multiannual programmes at national and regional level that help to co-finance development activities based on the use of different types of financial instruments, mainly EU funds (Zahradník, 2017).

1 Two very important theories were developed in the 1950s: the theory of growth poles (Perroux and Boudeville) and the theory of cumulative causes (Myrdal and Hirschman). The authors of both these theories take uneven development for granted, as growth cannot occur everywhere at the same rate; see Blažek and Uhlíř (2020) for more details.

2. Methodology – approaches to measuring and assessing the level of regional development and quality of life

For the treatment of the article's subject matter, mainly logical methods are used, based on the principle of logical thinking. In particular, the method of deduction is used, which allows proceeding from general information to specific information, the method of description, analysis and synthesis of available information, based on which conclusions are drawn. In addition to these methods, the article applies mainly the method of comparison, i.e., the method of comparison, based on which the individual cohesion regions of the Czech Republic are compared to find common and different features in the level of quality of life through the prism of the evaluation of regional development and the use of ESIF.

Evaluating regional development or quality of life is not easy as it cannot be measured simply or directly. A set of indicators or better aggregate/composite indices that offer a comprehensive view of the issues being assessed help to grasp this issue better. Countless individual indicators are used to measure and evaluate quality of life or regional development. Probably the most well-known way of expressing the quality of human life is through the Human Development Index (HDI), which tracks three main categories - human health, level of education and material standard of living. However, the HDI alone has proved insufficient to capture quality of life, and a number of other aggregate indices have been developed, such as Human Poverty Index (HPI), Gender Development Index (GDI), Gender Equality Index (GEI), Global Hunger Index (GHI), and Democracy Index by the Economist Intelligence Unit, Index of Economic Freedom by Heritage Foundation, Corruption Perception Index (CPI) by Transparency International, Happy Planet Index (HPI), Quality of Life Index/Where-to-be-born Index, Index of Sustainable Economic Welfare (ISEW).

A frequent problem in assessing regional development disparities is the lack of a uniform approach to measuring regional disparities. According to Kutscherauer et al. (2010), the methods that are considered the most suitable for assessing disparities are mathematical, statistical or scaling methods due to the complexity of calculation and high predictive power, and they specifically mention the following: method based on scaling techniques; the semaphore method; average deviation method; point method; standardised variable method; method of distance from a fictitious point; aggregate (integrated) index method.

Each of these methods has its pros and cons. Their use depends not only on the degree of difficulty with which these methods can be applied in practice, but also on the set of indicators chosen for a given evaluation, as some methods can only use indicators of a quantitative nature.

Investigating quality of life as a sociological discipline is not an inherently new institution. The concept of quality of life appears today and daily in research and professional journals and in the media. The field of quality of life has been studied for a long time from many perspectives, according to which quality of life can be measured in different ways. There are not a few aspects that affect everyday life, and the number of ways that can be used to assess and investigate quality of life is based on this. In this article, the quality of life in the Czech NUTS 2 cohesion regions, is evaluated in terms of the level of regional development and the status of the drawdown of ESIF funds in the 2014–2020 programming period.

Basis for empirical analysis of regional development and quality of life in the cohesion regions of the Czech Republic

For the analysis of regional development and quality of life in the cohesion regions of the Czech Republic, not diverse and partial approaches were used. Still, mainly the method of comparison for the following complex evaluation approaches:

- Regional Competitiveness Index – composite index approach;
- Municipalities in Data (Obce v datech) – composite index approach;
- Place to Live (Místo pro život) – composite index approach;
- Drawing on ESIF – Evaluation of benefits of European funds at regional level.

The reference period for the analysis is the currently ending 2014–2020 programming period, with the above approaches following it, but concerning the availability of data for the individual indices, i.e. the 2010/2013/2016 and 2019 editions of the evaluation for the RCI approach, as well as the evaluation under the Municipalities in data (Obce v datech) approach (2018/2019/2020/2021), as well as the year 2021 for the Drawing on ESIF – Evaluation of Benefits of European Funds at Regional Level, up to the most recent data for the year 2022 under Place to live (Místo pro život) evaluation approach.

The relevant territorial level monitored is the so-called cohesion regions[2] (8 NUTS 2 regions in the Czech Republic), while in the case where the results were identified at the regional level (14 NUTS 3 regions in the Czech Republic) under the above approaches, the values for cohesion regions (higher territorial units) were aggregated.

Regional competitiveness index (RCI)

The concept of competitiveness has expanded in recent decades from the micro level of enterprises to the macro level of countries. Between these two levels stands the concept of regional competitiveness, which is the focus of the Regional Competitiveness Index (RCI), a joint project of the European Commission's Joint Research Centre and the Directorate-General for Regional Policy. The RCI provides a comparable sub-national level, i.e., the assessment at a lower territorial level than the national/state level described by the RCI, allowing the assessment of inequalities in competitiveness levels between NUTS 2 regions. The RCI is considered as a tool to help design better policies and monitor their effectiveness, i.e., a comparable and transparent tool for national and local decision-makers responsible for regional development strategies, especially in the context of EU cohesion policy. The analysis of the RCI, the three sub-indices and the 11 dimensions helps to highlight the strengths and weaknesses of each

2 EU cohesion policy is about levelling out regional disparities across Member States. In order to clearly track progress, the EU has a special system of territorial units – Nomenclature of Territorial Units for Statistics (NUTS). EU cohesion policy is directed primarily towards NUTS 2 territorial units – in the Czech Republic specified as follows: NUTS 2 region Prague – Praha (CZ01), NUTS 2 region Central Bohemia – Střední Čechy (CZ02), NUTS 2 region South-West – Jihozápad (CZ03), NUTS 2 region North-West – Severozápad (CZ04), NUTS 2 region North-East – Severovýchod (CZ05), NUTS 2 region South-East – Jihovýchod (CZ06), NUTS 2 region Central Moravia – Střední Morava (CZ07), NUTS 2 region Moravia-Silesia – Moravskoslezsko (CZ08).

region, with the possibility to compare each of them with the EU average or with similar regions. The RCI is made up of more than 70 comparable indicators and measures a region's ability to offer residents an attractive and sustainable environment in which to live and work (European Commission, 2019).

Municipalities in data (Obce v datech)

The company Obce v datach, s.r.o. has developed a quality-of-life index that compares municipalities in the Czech Republic. The basic data is drawn from Big Data in cooperation with public institutions and other entities (e.g., Czech Statistical Office, CERMAT, Ministry of Education, Youth and Sports, Labour Office of the Czech Republic, Union of Film Distributors, Price Map and others). The calculation of the indices is then based primarily on OECD and UN approaches to quality-of-life comparisons and other tools. The index values take values from 0 to 10, with the municipality ranked in the comparison of all municipalities has a value of 0, and the municipality that ranked first has a value of 10. The other municipalities are distributed between 0 and 10 according to the relative relationship. For the article, which focuses on NUTS 2 cohesion regions, the values of the main regional cities within a given cohesion region have been averaged, see footnote 2 for a more detailed definition of the NUTS typology within the Czech Republic.

Place to live (Místo pro život)

The Place for Life research aims to collect data that will provide an objective view of the current state of affairs. Each year the research analyses and evaluates the results for individual regions of the Czech Republic in a national context. The evaluation is carried out in three main areas. The first two areas, environmental and social, are based on data from public institutions. The third area, covering the subjective satisfaction of the population, is provided through a questionnaire survey with 3 000 respondents. The evaluation thus covers the sub-areas of ecology and the environment, care childcare and education, infrastructure development, health and social services, labour, security, civil society and tolerance, leisure and tourism. The research examines each region of the 8 areas surveyed against 55 criteria from up to 46 information sources. The data is collected in cooperation with a broad base of institutions, which include the Czech Statistical Office, CzechInvest, CRIF, the Ministry of Labour and Social Affairs, the Ministry of the Interior, the National Monitoring Centre for Drugs and Drug Addiction, the Institute for Information and Education, the Agency for Nature and Landscape Protection of the Czech Republic, the Central Register of Vehicles, the Czech Hydrometeorological Institute and others (Place to Live/Místo pro život, 2022a).

Drawing on ESIF – Evaluation of benefits of European funds at regional level (ESIF)

To determine the use of the ESIF for the past period of the Multiannual Financial Framework (MFF), or the 2014–2020 programming period, the *Result Evaluation of the Benefits of the European Funds at the Regional Level* created by Ernst & Young, s.r.o for the Ministry for Regional Development of the Czech Republic is used. This evaluation includes interventions supported by the European Fund for Regional Development (ERDF), the European Social

Fund (ESF) and the Cohesion Fund (CF). The selected funds – ERDF, ESF and CF – represent over 89% of the total financial volume of the ESIF[3]. For the 2014–2020 programming period, the Czech Republic has, or should have, from the European Funds EUR 24 billion, i.e., almost CZK 610 billion. The ESIF is thus an important investment instrument in the Czech Republic.

The report presents a unique summary of data on the spatial absorption of ESIF funds in the Czech Republic The evaluation is processed from the data of the monitoring system MS2014+[4], thanks to which projects have been assigned according to the place of implementation down to the level of municipalities, which allows for a very detailed analysis of the spatial distribution of EU funds in the Czech Republic, according to a number of aspects, such as operational programmes and their subparts. The analysed sample includes 88 286 projects submitted in the territory of the Czech Republic for the 2014–2020 programming period as of 1 June 2021[5]. The total amount of funds for all planned projects was CZK 1 238 billion (funds in registered applications for support), of which the EU funds contribution is CZK 811 billion. At the same date, 61 004 projects were approved for a total planned amount of CZK 782 billion, which is the amount of funds in the legal acts granting/transferring support. Of this, the EU contribution amounts to CZK 545 billion. The category of reimbursed projects contains 48 742 projects. For these projects, a total of CZK 438 billion has been cleared in payment claims, of which the EU funds' contribution amounts to CZK 319 billion. As of 1 June 2021, 28 760 projects have been closed, totalling CZK 256 billion in financially closed operations. Of this, the contribution from EU funds amounts to CZK 174 billion. The Partnership Agreement (EU contribution) allocation for the seven[6] operational programmes analysed was CZK 575 billion. Thus, the funds in the legal acts of approved projects already cover 95% of the planned total allocation of the Partnership Agreement, and the cleared funds have so far used up 59% of the total allocation of the Partnership Agreement in the Payment Requests for reimbursed projects.

3. Results and discussion

Quality of life is a difficult concept to grasp, which is confirmed by the fact that even today there is no clear or, more precisely, universally accepted interpretation of its meaning. The basic characteristics of the concept of quality of life include, in particular, its complexity, duality, interdisciplinarity, and temporal and spatial variability, which only confirm or reinforce

3 In view of this limitation, the term ESIF (or EU funds, European funds) refers only to a selected part of the funds: the ERDF, ESF and CF. Overall, the ESIF for the 2014–2020 programming period included the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF), in addition to the ERDF, ESF and CF already mentioned.

4 MS2014+ is a unified monitoring system where applicants enter their applications for European subsidies from the ESI funds, manage them after they have been received and administer individual operational programmes. It covers all European subsidies in the Czech Republic within the 2014–2020 programming period, except for subsidies in agriculture.

5 The disbursement of ESIF funding for the 2014-2020 programming period will be completed by the end of 2023.

6 The subject of the evaluation are mainly projects implemented in seven operational programmes co-financed from the ESIF: Integrated Regional Operational Programme, OP Transport, OP Enterprise and Innovation, OP Environment, OP Research, Development and Education, OP Prague – Growth Pole, OP Employment.

the difficulty of measurement and evaluation. In territorial terms, or in a regional context, quality of life is perceived either narrowly as a partial part of the profile of a competitive region, where an increase or decrease in competitiveness leads to an adequate increase or decrease in quality of life, i.e., quality of life as a consequence of economic success, or more comprehensively, where, on the contrary, economic factors are only one of the components of quality of life. At least at EU level, there has been a long-standing and ongoing debate on the need for economic, social and territorial cohesion between regions and the need to develop them more evenly and to strengthen their competitiveness. In this context, it is necessary to stress the usefulness of 'decentralising' the concept of quality of life. In other words, to shift it, in line with the trend mentioned above, to the lower territorial levels, for which it takes on specific and often very different values compared to national and international quality of life. Here, the concept of quality of life and its assessment, following the well-known principle of subsidiarity and all the advantages it entails, can find a far more practical application and use than at national level. Many mutually dependent factors influence the quality of life in the regions. This article aims to assess regional disparities in the quality of life of the Czech population, particularly in terms of the region's economic performance, social and societal conditions, etc. Interregional inequalities are examined based on identifying key and relevant approaches and subsequent quantifying differences using composite indices. Since there is no single and exact way to measure disparities in quality of life, the article synthesises several assessment methods, which was complemented by looking at the level of EU funds absorption in NUTS 2 regions of the Czech Republic for the 2014–2020 programming period.

The results of the composite index approaches under the RCI, Municipalities in Data, Place to Life and Drawing on ESIF – Evaluation of Benefits of European Funds at Regional Level approaches are highlighted using the traffic light method. The colour range varies from dark shadows of green to medium shades of yellow to dark shades of red. The regions with the highest and, therefore, best values have a better competitiveness/quality of life/regional development and are highlighted in dark green – the higher the value, the darker the shade of green. Conversely, regions with the lowest and, therefore, worst values have worse performance levels. The level of competitiveness/quality of life/regional development is highlighted in dark shades of red – the lower the value, the darker the shade of red. Regions with values between the highest and lowest value groups (best and worst performers) are highlighted with shades of yellow, which is thus a transitional way of visualisation.

Regional competitiveness index (RCI)

Comparisons for each edition of the RCI, i.e., 2010, 2013, 2016 and 2019, are presented in Table 1. The best performing NUTS 2 cohesion region is Prague has had identical results to the NUTS 2 cohesion region Central Bohemia since 2013. Both regions are the only ones to have positive scores in the other years under review, thus occupying the 1st place. The last NUTS 2 cohesion region Moravia-Silesia took 8th place in 2010. Still, afterwards, with the 7th place, it replaced the NUTS 2 cohesion region North-West with the worst results for the remaining years under review. The NUTS 2 cohesion region Moravia-Silesia ranked higher in the remaining years, with the best result for 2019 (4th place).

Table 1 – Regional competitiveness index in 2010, 2013, 2016 and 2019

Code	NUTS 2 Region	Regional competitiveness index							
		2010		2013		2016		2019	
		Score	Rank	Score	Rank	Score	Rank	Score	Rank
CZ01	Prague* (Praha)	0.561	1	0.213	1	0.257	1	0.425	1
CZ02	Central Bohemia* (Střední Čechy)	−0.238	4						
CZ03	South-West (Jihozápad)	−0.212	2	−0.328	3	−0.307	5	−0.148	6
CZ04	North-West (Severozápad)	−0.491	7	−0.445	7	−0.535	7	−0.376	7
CZ05	North-East (Severovýchod)	−0.261	5	−0.296	2	−0.233	3	−0.096	3
CZ06	South-East (Jihovýchod)	−0.221	3	−0.338	4	−0.140	2	0.044	2
CZ07	Central Moravia (Střední Morava)	−0.406	6	−0.444	6	−0.298	4	−0.139	5
CZ08	Moravia-Silesia (Moravskoslezsko)	−0.503	8	−0.414	5	−0.315	6	−0.126	4

Note: * In 2013, 2016 and 2019 editions, NUTS 2 regions CZ01 and CZ02 were merged into one NUTS 2 region.

Source: European Commission, 2019; Annoni and Kozovska, 2010; Annoni and Dijkstra, 2013; Annoni, Dijkstra and Gargano, 2017; Annoni and Dijkstra, 2019; own elaboration, 2022

Municipalities in data (Obce v datech)

Municipalities in Data give individual municipalities a rating based on the quality-of-life index in a given location, see Table 2 for more details. Table 2 shows that during the 2018-2021 period, the scores for individual NUTS 2 cohesion regions have fluctuated at an unstable pace, with both increases and decreases. Traditionally, the best results were achieved by the NUTS 2 cohesion regions Prague and Central Bohemia, however, the second and third positions were occupied by the NUTS 2 cohesion regions South-West and South-East, and can be said to belong to the higher part of the ranking. On the other hand, the NUTS 2 cohesion regions Moravia-Silesia and North-West have the worst situation in this comparison, with the lowest scores in the long term. The remaining regions were between the two ends of the scale and showed a slight improvement or deterioration in the quality-of-life index.

Table 2 – Municipalities in data in 2018, 2019, 2020 and 2021

Code	NUTS 2 Region	Municipalities in data							
		2018		2019		2020		2021	
		Score	Rank	Score	Rank	Score	Rank	Score	Rank
CZ01	Prague (Praha)	9.800	1	9.700	1	9.400	1	9.400	1
CZ02	Central Bohemia (Střední Čechy)								
CZ03	South-West (Jihozápad)	7.150	2	6.800	2	6.600	2	6.400	2
CZ04	North-West (Severozápad)	4.000	6	3.750	6	4.000	6	3.700	5
CZ05	North-East (Severovýchod)	5.967	4	6.067	4	6.000	4	5.867	3
CZ06	South-East (Jihovýchod)	6.200	3	6.700	3	6.500	3	6.400	2
CZ07	Central Moravia (Střední Morava)	5.150	5	5.500	5	5.150	5	5.250	4
CZ08	Moravia-Silesia (Moravskoslezsko)	3.400	7	3.600	7	3.200	7	3.200	6

Source: Municipalities in data/Obce v datech, 2022; own processing, 2022

Place to live (Místo pro život)

Place to Live survey determines the overall ranking of counties representing the best places to live for the year, see Table 3 for more details. For this article, the county values have been averaged for the NUTS 2 cohesion regions assessed and then a ranking has been produced. NUTS 2 cohesion region Prague came in first place for 2022 with a total score of 84 points. It can be seen from Table 3 that the NUTS 2 cohesion region Prague has a significantly higher ranking compared to the following NUTS 2 cohesion regions South-West and North-West. The 5th place is shared equally by two NUTS 2 cohesion regions, namely Central Moravia and South-East. The last 7th place is occupied by the NUTS 2 cohesion region Moravia-Silesia with the significantly lowest score of 30 points for 2022.

Table 3 – Results of 2022 Place to live survey

Code	NUTS 2 Region	A place to live	
		2022	
		Score	Rank
CZ01	Prague (Praha)	84.000	1
CZ02	Central Bohemia (Střední Čechy)	53.000	4
CZ03	South-West (Jihozápad)	66.000	2
CZ04	North-West (Severozápad)	60.000	3
CZ05	North-East (Severovýchod)	49.667	6
CZ06	South-East (Jihovýchod)	51.000	5
CZ07	Central Moravia (Střední Morava)	51.000	5
CZ08	Moravia-Silesia (Moravskoslezsko)	30.000	7

Source: Place to Live/Místo pro život, 2022b; own elaboration, 2022

Drawing on ESIF – Evaluation of benefits of European funds at regional level (ESIF)

According to the evaluation of the benefits of the European Funds at the regional level, the drawdown of ESI funds covers the entire territory of the Czech Republic, as illustrated by the regional distribution at the NUTS 2 level in Table 4. While the lowest level of absorption in ESIF co-financed projects is represented by the NUTS 2 cohesion regions North-East and Prague, which absorbed more than half as much and did not exceed CZK 30 billion compared to the NUTS 2 cohesion region South-East. However, the NUTS 2 cohesion region Prague is somewhat smaller, or in terms of average population for the 2014–2020 programming period, it occupies 4th place, i.e., a medium position compared to the other seven NUTS 2 cohesion regions, which corresponds to a lower or rather smaller absorption of ESI funds and a smaller or more precisely the smallest number of projects. Prague is thus at the other end of the spectrum in terms of absorption, which is in line with the specificity of Prague as an economic centre of the country and its developed nature. As regards the specific position of Prague, i.e., the Czech metropolis/capital city, it should be mentioned that it is considerably richer than other Czech regions and therefore has a significantly different position in the European system, also in terms of its demands on European funds. Prague is the only one that falls into the category of so-called more developed regions. In contrast, the rest of the Czech cohesion regions belong to the category of less developed[7] or transition[8] regions.

Table 4 – Outcome evaluation of benefits of European Funds at regional level

Code	NUTS 2 Region	ESIF drawing							
		2014-2020 (dataset from MS2014+ as of 1 June 2021)							
		Population (millions, average 2014–2020)	Rank	Disburse-ments (billion CZK)	Rank	Number of projects	Rank	Drawing/ inhabitant	Projects/ inhabitant
CZ01	Prague (Praha)	1.283	4	27.700	7	4 808.00	8	21.598	3 748.861
CZ02	Central Bohemia (Střední Čechy)	1.342	3	43.600	2	9 070.00	4	32.500	6 760.900
CZ03	South-West (Jihozápad)	1.219	5	38.200	4	7 728.00	6	31.325	6 337.202
CZ04	North-West (Severozápad)	1.119	8	27.100	8	6 269.00	7	24.210	5 600.497
CZ05	North-East (Severovýchod)	1.510	2	43.000	3	11 278.00	2	28.473	7 467.836
CZ06	South-East (Jihovýchod)	1.689	1	66.500	1	12 241.00	1	39.362	7 245.544
CZ07	Central Moravia (Střední Morava)	1.218	6	37.200	5	10 274.00	3	30.539	8 434.288
CZ08	Moravia-Silesia (Moravskoslezsko)	1.210	7	35.700	6	8 062.00	5	29.496	6 660.905

Source: Ministry of Regional Development of the Czech Republic, EY, 2022, Eurostat, 2022, DotaceEU.cz 2022; own processing, 2022

7 North-West – Ústecký and Karlovarský kraj, North-East – Pardubický, Liberecký and Královehradecký kraj, Moravskoslezsko – Moravskoslezský kraj, Central Moravia – Olomoucký and Zlínský kraj.

8 Central Bohemia – Středočeský kraj, South-West – Plzeňský and Jihočeský kraj, South-East – – Jihomoravský kraj and Kraj Vysočina.

The use of EU funds in each NUTS 2 region is strongly influenced by population size. More significant regions draw the most in absolute terms. When considering the per capita ratio, they also perform best, except again for the specificity of the capital city. From the point of view of evaluation, it is therefore preferable not to take the results in absolute terms but in relative terms, i.e., to consider the population of the region concerned for the given evaluation criteria. From this point of view, it can be seen that in the criterion of ESIF absorption per capita, the NUTS 2 cohesion region South-East again achieves the best results, and at the other end of the spectrum is the NUTS 2 cohesion region Prague. On the other hand, in the criterion of the number of implemented projects per capita, the NUTS 2 cohesion region Central Moravia achieves the highest results, while the NUTS 2 cohesion region Prague is once again in last place in the final values of the criterion, with a large difference to other cohesion regions.

Conclusion

Regional development and quality of life are widely used terms, but their definitions and measurement are inconsistent due to the existence of several possible levels of conceptualisation. In principle, they can only be objectively assessed if we base our assessment on an existing concept or the prevailing opinion. In this context, it should be stressed that different approaches to assessing regional development and quality of life generate different results. And each applied approach – composite index has its advantages and disadvantages. For instance, Regional competitiveness index (RCI) is the most complex index covering more than 70 comparable indicators. However, the results of the RCI index are available only for the years 2010, 2013, 2016, and 2019, thus it is not possible to compare RCI with other used indices by each year. Municipalities in Data (Obce v datech) has given individual municipalities a rating based on the quality-of-life index since 2018 and is a decent indicator used by not only the private sector but also by the public. Nevertheless, the reference period of the index does not cover the reference programming period of 2014–2020 completely. On the contrary, Place to Live (Místo pro život) presents current results for the year 2022, the results of which are periodically broadcasted to the public. Provided that, the index is composed of data from public institutions as well as from a public questionnaire, thus being subjective to a certain extent compared to the rest of the indexes.

As mentioned above, the results of the Evaluation of benefits of European funds at regional level (Drawing on ESIF) can be observed in absolute as well as in relative terms, which leads us to different interpretations of the results. The results are measured for the whole programming period 2014–2020 (in this programming period, EU funds were referred to as ESIF, i.e., European Structural and Investment Funds). That said, it would be interesting to focus on the lower territorial level (NUTS 3 regions). Nonetheless, in light of cohesive and available data, it was chosen to use data on the NUTS 2 level (due to comparison with the results of used indices). When the comparison method is applied to the approaches under consideration, a greater or lesser degree of regional disparities between the NUTS 2 cohesion regions of the Czech Republic is confirmed. Within the framework of the individual approaches, a general rule can be observed whereby the regions located in the agglomerations

of the main cities achieve the highest degree of regional development and high values in the area of quality of life, which is also evidenced by the assessment at the level of the NUTS 2 regions of the Czech Republic. The excellent position of the NUTS 2 cohesion regions Prague and Central Bohemia can be observed for most of the approaches. The only exception is the evaluation of the absorption of ESIF, where the NUTS 2 cohesion region Prague is ranked at the bottom. The results of evaluation of benefits of ESIF at regional level can be viewed in two ways, in absolute and relative terms. In an absolute comparison in individual categories, i.e., in terms of population, the least populous NUTS 2 region is the North-West, while the most populous NUTS 2 cohesion region is the South-East. These values are matched by identical results in terms of the level of absorption of ESIF, with the highest absorption level recorded in the NUTS 2 region South-East, while the lowest absorption level is recorded in the NUTS 2 cohesion region North-West. However, the results need to be relativised, i.e., to relate the level of absorption per capita. It is evident from the results (based on study *Result Evaluation of the Benefits of the European Funds at the Regional Level*, Ministry of Regional Development of the Czech Republic, EY, 2022) that there is a strong positive correlation between the population of a given region and the level of absorption. The highest level of per capita absorption is shown by the NUTS 2 cohesion region South-East, while the lowest level of per capita absorption is shown by the NUTS 2 cohesion region Prague. In terms of absorption, the most populous regions generally benefit the most. In terms of future research, it would be possible to relate the absorption of ESIF at the level of individual NUTS 2 regions in terms of operational programmes to assess the level of importance of programmes in individual regions, or by type of applicants to assess the success rate of applicants from public and non-profit sectors and applicants from the private sector.

Furthermore, it would be appropriate to focus on the lower territorial level, i.e., NUTS 3 regions in the Czech Republic. After the accession of the Czech Republic to the EU, the NUTS 3 regions had to recede into the background from a European perspective. However, they are still important in the eyes of the EU in terms of statistics; the European Statistical Office itself describes them as 'small regions for specific diagnostics'. However, as far as EU funding is directly concerned, NUTS 3 regions are among the largest recipients of EU funding in the Czech Republic. Therefore, assessing the benefits of ESIF at the regional level is appropriate. An interesting angle may be the location of the applicant of the projects supported by the ESIF, which will have an impact on the % distribution of support in terms of the type of territory (peripheral, stabilised and developing according to the Regional Development Strategy). The results are likely to be influenced by the specificity of some programmes, where a large part of the applicants is e.g., state administration authorities or institutions usually present in larger cities. However, other reasons may be low absorption capacity in peripheral areas, manifested by a lack of human resources, knowledge and funding to prepare a larger number of quality project applications. In the previous programming periods 2004–2006, 2007–2013, 2014–2020, as well as in the current 2021–2027, EU funding is one of the most important instruments of support for regional development in the Czech Republic, both in terms of the amount of allocation and the thematic and territorial scope of coverage. Therefore, the Czech Republic will continue to draw more money from the common EU budget

in the coming years than it contributes to it, i.e., it still holds the position of a net beneficiary. However, the development of the regions depends on many other factors, especially those of endogenous nature, which need to be focused on, worked with and exploited to their potential because with external sources, such as EU funds, their generous amount is only temporary, as the richer we are, the less we receive.

Acknowledgements

The article was supported by SGS project (SP2022/7) of the Faculty of Economics, VSB-TUO.

References

ANNONI, Paola and Lewis DIJKSTRA. (2013). *EU Regional Competitiveness Index 2013*. Luxembourg: Publications Office of the EU. 183 p. ISBN 978-92-79-32370-6.

ANNONI, Paola and Lewis DIJKSTRA. (2019). EU Regional Competitiveness Index 2019. *Working Paper WP 2019*. European Commission: DG for Regional and Urban Policy.

ANNONI P., L. DIJKSTRA and N. GARGANO. (2017). EU Regional Competitiveness Index 2016. *Working Paper WP 02/2017*. European Commission: DG for Regional and Urban Policy.

ANNONI, Paola and Kornelia KOZOVSKA. (2010). *EU Regional Competitiveness Index 2010*. Luxembourg: Publications Office of the EU. 289 p. ISBN 978-92-79-15693-9.

BLAŽEK, Jiří and David UHLÍŘ. (2020). *Regional development theory: outline, critique, implications. (Teorie regionálního rozvoje: nástin, kritika, implikace)*. Prague: Charles University. 312 p. ISBN 978-80-246-4566-7.

DIENER, Ed and Eunkook SUH. (1997). Measuring Quality of Life: Economic, Social, and Subjective Indicators. *Social Indicators Research*, 40: 189-216.

DOTACEEU.CZ. (2022). List of operations (beneficiaries). (Seznam operací (příjemců)). *DotaceEU.cz* [online]. [cited 2022 November 10]. Available from: https://www.dotaceeu.cz/cs/statistiky-a-analyzy/seznamy-prijemcu

EUROPEAN COMMISSION. (2019). The EU Regional Competitiveness Index 2019. *cohesiondata.ec.europa.eu* [online]. [cited 9 November 2022]. Available from: https://cohesiondata.ec.europa.eu/stories/s/Regional-Competitiveness-Index-2019/363v-4uq6/

EUROSTAT (2022). Population (regional level). ec.*europa.eu/eurostat/en/* [online]. [cited 21 October 2022]. Available from: https://ec.europa.eu/eurostat/databrowser/view/DEMO_R_PJANGROUP__custom_3791022/default/table?lang=en

GULIYEVA, Aygun (2021). Measuring quality of life: a system of indicators. *Economic and Political Studies*, 10(4): 476-491.

HEŘMANOVÁ, Eva. (2012). *Concepts, theories and measurement of quality of life*. (*Koncepty, teorie a měření kvality života)*. Prague: Sociological Publishing House (SLON). 239 p. ISBN 978-80-7419-106-0.

HNILICOVÁ, Helena. (2005). *Quality of life and its importance for medicine and health care.* (*Kvalita života a její význam pro medicínu a zdravotnictví*). In: PAYNE, J. et al.: Quality of life and health, Prague: Tritorn. 656-660 p. ISBN 80-7254-657-0.

KUTSCHERAUER, A. et al. (2010). *Regional disparities. Disparities in regional development of a country - concept, theory, identification and assessment. (Regionální disparity. Disparity v regionálním rozvoji země – pojetí, teorie, identifikace a hodnocení).* Ostrava: VŠB-TU Ostrava. 248 p. ISBN 978-80-248-2335-5.

LEONARDI, Robert. (2005). *Cohesion policy in the European Union: the building of Europe.* Basingstoke: Palgrave Macmillan. 230 p. ISBN 1-4039-4955-7.

MINAŘÍK, B., J. BORŮVKOVÁ and M. VYSTRČIL (2013). *Analysis in regional development.* (*Analýzy v regionálním rozvoji*). Prague: Professional Publishing. 244 p. ISBN 978-80-7431-129-1.

MINISTRY OF REGIONAL DEVELOPMENT, EY. (2022). *Outcome evaluation of the benefits of European funds at regional level*. (*Výsledková evaluace přínosů Evropských fondů na regionální úrovni*). Prague: Ernst & Young.

PLACE TO LIVE/MÍSTO PRO ŽIVOT. (2022a). Research methodology. (Metodika výzkumu). *byznysakce.cz* [online]. [cited 2022 November 9]. Available from: https://www.byznysakce.cz/mistoprozivot2022#/metodika?lang=cs

PLACE TO LIVE/ MÍSTO PRO ŽIVOT. (2022b). Research results of Place for Life 2022. (Výsledky výzkumu Místo pro život 2022). *byznysakce.cz* [online]. [cited 11 October 2022]. Available from: https://www.byznysakce.cz/mistoprozivot2022#/vysledky?lang=cs

MOLLE, Willem. (2007). *European cohesion policy.* Abingdon: Routledge. 368 p. ISBN 978-0-415-43812-4.

NIJKAMP, Peter and Maria ABREU (2009). Regional development theory. *Serie Research Memoranda 0029*. Amsterdam: VU University Amsterdam.

NUSSBAUM, Martha C. and Amartya SEN. (1993). The Quality of Life. *WIDER Studies in Development Economics*. Oxford: Clarendon Press Oxford. 468 p. ISBN 9780198287971.

MUNICIPALITIES IN DATA/OBCE V DATECH. (2022). Overview of municipalities. (Přehled obcí.) *obcevdatech.cz* [online]. [cited 11 October 2022]. Available from: https://www.obcevdatech.cz/

PIATTONI, Simona and Laura POLVERARI (2016). *Handbook on Cohesion Policy in the EU*. Cheltenham, Gloucestershire: Edward Elgar Publishing. 576 p. ISBN 978-1-78471-566-3.

RAHMAN, T., R.C. MITTELHAMMER and P. WANDSCHNEIDER (2005). Measuring the Quality of Life Across Countries: A Sensitivity Analysis of Well-Being Indices. *Meresearch Paper 2005/006.* Helsinki: Unu-Wider. 32 p. ISBN 92-9190-673-5.

SAMUELSON, Paul A. (1952): Spatial Price Equilibrium and Linear Programming. *American Economic Review*, 42: 283-303.

TRIPATHI, S., R. RAI and I. V. ROMPAY-BARTELS (2021). *quality of life: An Interdisciplinary Perspective.* CRC Press. 236 p. ISBN 9780367433994.

WOOD-DAUPHINE, Sharon. (1999). Assessing quality of life in clinical research: from where have we come and where are we going? *Journal of Epidemiology*, 52: 355-363.

VERDUGO, MA. et al. (2005). Quality of life and its measurement: important principles and guidelines. *Journal of Intellectual Disability Research*, 49: 707-717.

WHO. (2022). Constitution. *who.int* [online]. [cited 2022 Nov 9]. Available from: https://www.who.int/about/governance/constitution

ZAHRADNÍK, Petr. (2017). *Cohesion Policy of the European Union (Kohezní politika Evropské unie)*. Prague: C. H. Beck. 614 p. ISBN 978-80-7400-527-5.

Bc. Brigita Páleníková

doc. Ing. Michaela Staníčková, Ph.D.*

Department of International Economic Relations, Faculty of Economics, VSB – Technical University of Ostrava, Havlíčkovo nábřeží 38a, 702 00 Ostrava 1

* Corresponding author: michaela.stanickova@vsb.cz, +420 596 992 230