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Evaluation of the Performance of SMEs in the Context of Regional Development

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ABSTRACT

Research background: Regional development of the European territory is becoming a key priority area and thus arouses interest in analyzes of the impact of development not only of business activities on economic competitiveness. Entrepreneurship is an important part of every country's economic system and has important implications for the growth of society. The paper focuses on the possibility of identifying the determinants of regional competitiveness of the manufacturing industry with a focus on defining their impact on SME performance, in the sense of EVA in the programming period 2014-2020.

Purpose of the article: The presented paper focuses on the performance of companies in the Czech economy in connection with the reflection of national regional policy documents. Purpose of the article is to evaluate the economic performance of small and medium-sized enterprises in the manufacturing industry in connection with the level of development of the regions in the Czech Republic in which they are located.

Methods: The evaluation of the achieved level of regional development is performed at the level of regions and administrative districts of municipalities with extended powers. Through multidimensional regression modelling, the determinants of regional development disparities are identified with a focus on defining their impact on the performance of small and medium-sized enterprises expressed by the economic value added (EVA) indicator.

Findings & Value Added: Public sector expenditure on science and research was evaluated as the most important parameter of regional disparities, which explains the economic performance of companies. Based on the achieved results, measures are proposed for the cultivation of the business environment for the next programming period. The contribution is the proposals for the formulation of regional policy with a focus on the segment of small and medium-sized enterprises.

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INTRODUCTION

Regional development of the European territory is becoming a key priority area and thus arouses interest in analyzes of the impact of development not only of business activities on economic competitiveness, i.e. economic growth, employment, labor productivity, aggregate factor productivity and other key indicators (Fischer et al., 2013). Reducing economic disparities across regions and supporting employment and wealth activities are among the European Union's (EU) main objectives (Ionescu, 2016). Regional policies stimulate development with a view to creating sustainable and self-sufficient regions. Part of the formulation of regional policy is also the evaluation of these regional disparities and the definition of competitiveness, as a basic measure of the long-term success of states, their regions, but also companies. Entrepreneurship is an important part of every country's economic system and has important implications for the growth of society. Many authors therefore emphasize the role of small and medium-sized enterprises (SMEs) in the efficient functioning of economic systems (Laurin et al. 2020; Phillipson et al., 2019; Antoniuk et al., 2018; Petrů et al., 2018; Juhász, 2017 Kozubikova et al., 2017; Czarniewski, 2016). The result of the research is the support of regional development through the stimulation of SMEs, hence direct subsidies of companies. SMEs are an important factor in endogenous regional development (Gaganis et al. 2019; Čapková & Kluchová, 2018; Korcsmáros & Šimova, 2018; Arent et al., 2015; Parisa & Jerry, 2015). This statement is also supported by the focus of support for these entrepreneurs in the 2014–2020 programming period (MIT, 2012). SMEs are significantly business and social ties with the region (Laurin et al., 2020; Novotná et al., 2018). Due to their irreplaceable role in a market economy, they contribute to economic growth and to maintaining and strengthening social cohesion. This positive impact on the operation of the SME segment can only be realized if it maintains and increases its performance, which will also have a positive impact on the development of the region in which the company operates. The paper focuses on the possibility of identifying the determinants of regional competitiveness of the manufacturing industry with a focus on defining their impact on SME performance, in the sense of EVA in the programming period 2014-2020. The paper responds to the current decentralization of public administration and evaluation is performed at the level of administrative districts of municipalities with extended powers (SO ORP) in the Czech Republic. The evaluation of the achieved level of regional development is performed at the level of regions and administrative districts of municipalities with extended powers.

The basic conceptual document in the field of regional development for the period 2014–2020 is the Strategy of Regional Development of the Czech Republic (RR Strategy), which is the initial basis for formulating the principles of regional policy, setting their priorities, measures and tools. In connection with this strategic document and EU priorities, the government prepared the Concept of Support for Small and Medium-sized Enterprises for the period 2014–2020, the aim of which is the efficient operation and overall development of the economic performance of SMEs. SMEs in the context of regional development thus still represent the current area of research (eg Belas et al., 2020; Laurin et al., 2020; Čapková & Kluchová, 2018; Korcsmáros & Šimova, 2018; Juhász, 2017; Arent et al., 2015).

THEORETICAL BACKGROUND

Regional development is represented by a set of processes that take place within a complex system of the region (Fratesi & Perucca, 2019). The practical application of regional development is implemented through regional policy and the practical significance is significantly strengthened by the decentralization of public administration (Laurin et al., 2020). In this sense, regional development is understood as a process of positive change, focused mainly on the part dealing with the balancing of regional disparities (Di Cataldo & Monastiriotis, 2020; Fratesi & Perucca, 2019; Russu, 2019). The basic objectives of regional policy include reducing regional disparities and developing regions aimed at their cohesion and increasing competitiveness. The emphasis in the literature is on a disparate approach aimed at supporting lagging regions (Laurin et al., 2020; Kiryluk-Dryjska et al., 2020).

The approaches of complex analyzes (mainly descriptive), whose goal is primarily the identification of key factors of regional development, economic growth and productivity, are also used by Cepel et al., (2019), Korcsmáros & Šimova (2018), Chládková (2015), Žítek & Klímová (2015), Melecky & Stanickova (2011), Viassone (2009). Another possible assessment of regions is carried out on the basis of pre-defined sets of indicators within strategic regional development program documents (e.g. Regional Development Strategy of the Czech Republic), through specific economic coefficients (e.g. Nevima, 2014), or using macroeconometric modeling by constructing a panel data regression econometric model (e.g. Nevima, 2014).

Regional Development

Russu (2019) and Domańska & Zajkowski (2018) state that regional policy represents all public interventions leading to the improvement of the geographical distribution of economic activities. Thus, regional policy represents a set of goals, measures and tools leading to the reduction of differences in the socio-economic development of regions (Russu, 2019; Viturka, 2010). McCann (2013) adds that these are economic policies implemented at the regional level, which include efforts to increase the attractiveness of a given region for the location of investments, especially in the case of less developed regions.

Among the basic goals of regional policy are the reduction of regional disparities and the development of regions aimed at their cohesion and increasing competitiveness. In the professional literature, there is an emphasis on a

disparate approach aimed at supporting lagging regions (e.g. Felixová, 2012; Beugelsdijk & Eijffinger, 2005; Fothergill, 2005). Despite this, Mackinnon (2017) criticizes these policy initiatives, which fail to reduce regional disparities and, on the contrary, increase them in recent decades. The author further adds that public policy in various areas tends to influence more prosperous regions. In this direction, a critical question is connected with the lack of coherence of regional policies formulated at the European level on the one hand and at the national level on the other (Di Cataldo & Monastiriotis, 2020; Russu, 2019; Kasza, 2009; Fothergill, 2005).

Regional disparities and its evaluation

In the European context, regional disparities are considered measures of the level of economic, social and territorial cohesion of a European region and are therefore most often understood in terms of an undesirable phenomenon, i.e. a problem that has a negative effect on regional development (Juhász, 2017). Disparities are often seen as an undesirable phenomenon, but positive disparities can also be formulated as comparative advantages on which the development of a region can be built (Zheng et al., 2021; Greenbgerg et al., 2018). Disparities are not examined to achieve a uniform level of regions, but to be able to differentiate the region efficiently and effectively and thus take advantage of comparative advantages (Kutscherauer, 2010). A wide range of indicators is used to measure and evaluate regional disparities, which are processed through various mathematical and statistical methods (Olimpia, 2019; Michalek, 2012). The goal of regional analysis is usually to obtain a meaningful index representing each analyzed region (Poledníková, 2014). The availability of relevant data is often a problem (Michalek, 2012). In this context, Sloboda (2006) also mentions the issue of defining suitable territorial units for carrying out evaluations, when, for example, NUTS 3 does not consider it appropriate.

Small and medium-sized enterprises such as the factor of regional development

Entrepreneurship is important for the competitiveness of regions and their growth (Belas et al., 2020; Laurin et al., 2020; Phillipson et al., 2019). Different regions have different relationships between the degree of business dynamics and competitiveness (Amorós et al., 2012). The influence of entrepreneurial activity in the region on its development represents a complex relationship (Phillipson et al., 2019; Spencer & Gómez, 2004). The indicators of the Global Partnership for Financial Inclusion (GPFI), managed by the International Finance Corporation (IFC), a member of the World Bank Group, show that there are 351 million SMEs in 155 national economies, representing almost 99.9% (SME Finance Forum, 2019). According to a study by the European Commission (EC, 2019), SMEs in the EU-28 represent a total of 99.8% of all enterprises. SMEs are thus one of the main components of every country's economy. In the Czech Republic (CR), according to the Ministry of Industry and Trade (2019a), SMEs account for 99.8% of the total number of business entities, regardless of industry. The share of this size group in total employment is 57.7% and 54.7% of value added (MIT, 2019a). SMEs are an important factor in all world economies, as evidenced by a number of global and domestic studies (Belas et al., 2020; Didonet et al., 2020; Park et al., 2020; Gaganis et al., 2019; Gómez et al., 2019; Phillipson et al., 2019; Antoniuk et al., 2018; Czarniewski, 2016; Arent et al., 2015).

In the Czech Republic, manufacturing is an important segment of the economy, which is an important carrier of the development of technologies, knowledge and job opportunities. The number of enterprises in MI in the Czech Republic has been rising since the Ministry of Industry and Trade (2019b). In 2015, 172,640 companies operated in MI and in 2018 a total of 179,567 business entities, with 99.5% being SMEs and the remaining 0.5% being large companies. In the structure of MI according to the number of enterprises, divisions with a high share of micro-enterprises, including self-employed MITs, predominate (2019b). A total of 15,739 enterprises meet the defined criteria of the research sample, which represents 9.2% of the basic group of SMEs operating in the IP in 2015. Entrepreneurs meeting the definition of a micro enterprise present a total of 53% of the research sample, small enterprises are represented by 31% and the remaining 16% are medium-sized enterprises. The research sample of SMEs with its regional distribution corresponds to the distribution of the total number of SMEs in the Czech Republic at the NUTS 3 level in the PA in 2015.

Business performance

Performance is defined as a set of all business activities that need to be balanced so that the result is a functioning and prosperous company in a market environment with a long-term perspective, i.e. the ability to survive in the future (Onuferová et al., 2020). Performance is subjective and depends on the interpretation of the individual (Kasabov, 2021; Ulbinaite & Narkuniene, 2018). The basic goal of business is to grow the value of the company (Brigham et al., 2019). It is primarily the ability to evaluate investments made in business activities. At present, it is possible to use many modern indicators, which respond mainly to the critique of traditional performance measures (Pavláková-Dočekalová a kol., 2013). The new concept is based on modified financial indicators that allow better identification of processes that increase the overall value of the company in the long run (Dluhošová, 2010). Economic Value Added (EVA) is one of the modern indicators, which represents economic (extraordinary) profit reduced by the cost of all capital (foreign and own) needed to produce this profit. EVA is based on foreign accounting standards and thanks to that it cannot be applied to Czech companies in its original form without partial modifications (Lee and Kim, 2009). As reported by Guermat et al. (2019), EVA is one of the most popular performance measures and has a wide application across industries and continents. The indicator of economic added value, as a metric for measuring financial performance, is addressed by a number of authors,

such as Guermat et al. (2019), Rylkova (2016), Limarev et al. (2015).

RESEARCH OBJECTIVE, METHODOLOGY AND DATA

The aim of the paper is to evaluate the economic performance of small and medium-sized enterprises in the manufacturing industry in connection with the level of development of the regions in the Czech Republic in which they are located.

The paper focuses on the possibility of identifying the determinants of regional competitiveness of the manufacturing industry (MI) with a focus on defining their impact on SME performance, in the sense of EVA in the programming period 2014-2020. Due to the nature of the observed phenomena and the choice of objectives, regional disparities in the paper are examined similarly as in the studies of Annoni & Dijkstra (2017), Juhász (2017) and Lithuania (2017), who used the European RCI to assess regional disparities. However, in contrast to these researches, where the level of development is assessed at higher territorial administrative units (NUTS 3/2/1/0), the study responds to the current decentralization of public administration and evaluation is performed at the level of administrative districts of municipalities with extended powers (SO ORP) in Czech republic. At the same time, in contrast to similarly focused studies (e.g. Juhász, 2017; Burja & Marginean, 2014; Strnadová & Karas, 2013) using traditional indicators of measuring business performance, attention is paid to the modern EVA evaluation indicator for measuring economic performance of companies. In connection with the fulfillment of the set goal, the following research question is set: What are the significant determinants of regional development disparities affecting the economic performance of SMEs?

Data collection

Indicators of regional development

At the national level, it is possible to easily monitor the long-term development of many indicators, but this fact no longer applies to data at the regional level. The research uses regions at the regional level (NUTS 3) and SO ORP. Due to the preservation of the area of the entire Czech Republic, disparities are analyzed only for 2015 without a time series. This decision is also based on the fact that it is not possible to obtain all relevant data in lower territorial administrative units (SO ORP), so the indicators from the last Census of Population, Housing and Dwellings from 2011 (SLDB 2011), which is implemented every 10 years. 2015 was a normal economic year, without a normal recession. Defined indicators used for the analysis of regional disparities in the Czech Republic come from public and non-public databases: Czech Statistical Office, Ministry of Labor and Social Affairs of the Czech Republic, Ministry of Transport, Czech Surveying and Cadastre Office, State Administration of Surveying and Cadastre, Czech Hydrometeorological Institute, Ministry of the Environment of the Czech Republic, Ministry of Education of the Czech Republic, Czech National Bank, Nature and Landscape Protection Agency of the Czech Republic, Territorial Development Policy of the Czech Republic and Principles of Territorial Development of individual regions of the Czech Republic Pardubice).

Small and medium-sized enterprises

The research sample consists of a group of SMEs, which, due to their predominant activity according to the CZ NACE classification of economic activities, belong to the MI category. MI represents the complete section "C". The basic representative sample is defined (in addition to the above) by other criteria: registered office in the Czech Republic, active company, financial statements for 2015, positive equity values. In connection with the acquisition of these secondary company data and a representative research sample, the source data of the archive of financial statements of the Albertina database of Bisnode Česká republika, a.s. From the regional point of view, the archive of financial statements does not meet the needs of research, and therefore it is necessary to manually aggregate all companies based on municipality to the level of the relevant SO ORP.

Dependence of business performance on regional competitiveness determinants at NUTS 3 level

It was not possible to use all final variables for modeling (after the decomposition of RCI-CZ). There were a total of 32 of these variables, which is more than the number of regions (NUTS 3 = 14), and this would cause a problem in estimating the model. There was a problem of outliers. The capital city of Prague had considerable values from other regions, within all variables. A procedure covering but also excluding Prague was applied for modeling, but there were no significant differences between these variants. The economic performance of SMEs (spreads) EVA and EVA was subjected to a more detailed analysis of the economic dimension of regional development with 8 incoming variables, i.e. pillars, of the aggregated RCI-CZ indicator. Within these explanatory variables, strong links are observed, and therefore the parameter Sophistication of Business and Technological Readiness was removed due to multicollinearity. A statistically significant model was found for EVA spreads only for small enterprises, where a positive link between the Innovation pillar was demonstrated. Modeling with absolute EVA values evaluated other statistically significant parameters. When modeling with the explanatory variable EVA, it was necessary to remove the explanatory parameter Sophistication of Business and Technological Readiness due to multicollinearity. The resulting EVA values of the SME research group show a positive effect of the Infrastructure parameter. The group of small enterprises had a positive impact of the Infrastructure pillar and a positive impact of the Innovation pillar on EVA results. All the mentioned models had met all the assumptions of the classical linear model estimates can be considered BUE.

Data analysis

Evaluation of disparities of regional development

The evaluation of the economic pillar of regional development is a modification of the basic concept of RCI. The methodology of the European Commission is adapted to the conditions of the Czech Republic. A total of 8 pillars with regionally differentiated data enter the index. 32 indicators at the NUTS 3 level and 28 indicators at the SO ORP level are used to calculate the Regional Competitiveness Index (RCI-CZ). Individual indicators entering into the RCI-CZ calculation are based on Collection of authors (2011). When processing on the NUTS 3 territorial division, the indicator of the number of passive licenses for patents and utility models is not included in the evaluation, as the CZSO has not monitored this figure since 2010. Due to the unavailability of data at the level of SO ORP, the indicators of the share of knowledge-intensive services in the total value added in the monitored sectors and the share of technologically demanding fields in the total value added in the monitored sectors are not included. Some SO ORP indicators are obtained through the calculation of regional / district values based on population. The initial methodological procedure for calculating the RCI-CZ is the standardization of the determined absolute values of individual indicators based on two basic principles: 1) the value of the indicator for the Czech Republic is a benchmark with a value equal to 100 and for each examined region the percentage deviation from the national average is calculated; 2) the percentage deviation towards the positive evaluation is added to the value of the average (100) and the percentage deviation towards the negative evaluation is subtracted from the average (100).

To take into account the relative importance of each indicator, they are assigned weights within a specific pillar. The individual pillars are part of the RCI-CZ sub-indices, which then determine the specific weight. The formula for classifying partial competitiveness in a particular pillar is as follows:

$$P_i^N = \frac{1}{\sum \alpha^{Uk_x}} \sum Uk_x^N \cdot \alpha^{Uk^x},$$

where Pi is a pillar of competitiveness i, Ukx is an indicator x, N is a standartized indicator, α is an appropriate weight. Source: Collective of authors (2011)

The normalized values for each examined level of the region are then weighted into indices for individual pillars. The same procedure is applied when aggregating the values of individual pillars into partial sub-indices RCI-CZ BASIC, RCI-CZ EFFICIENCY and RCI-CZ INNOVATION. The ratio of sub-index weights is 20-50-30. The resulting RCI-CZ summarizes the degree of competitiveness of the region. The individual pillars then enter into the formula for RCI-CZ as:

$$RCI-CZ^N = \frac{1}{\sum \alpha^{P_i}} \sum P_i^N \cdot \alpha_i,$$

where RCI-CZN is an index of regional competitiveness i, Pi is a pillar of competitiveness i, N is a standardized indicator, α is an appropriate weight. Source: Collective of authors (2011)

Economic business performance

The calculation of the EVA indicator is based on the methodology used by the Ministry of Industry and Trade (2017), which evaluates the performance of Czech companies. MIT (2017) is based on the relationship between return on equity and the value of capital:

$$EVA = (ROE - r_e) \cdot VK,$$

where ROE is a return on equity, re is an alternative cost of equity, VK is an equity (own capital). Source: MPO (2017)

In addition to the absolute expression of the EVA indicator (in CZK), the methodology also uses a percentage variant, the so-called (spread) EVA. The percentage variant of the indicator is an abstract expression of the value of equity and is therefore more suitable for comparing companies with different sizes and ownership structures. The importance of spreads (EVA) in the use of EVA measurements is pointed out by the Ministry of Industry and Trade (2017) and Chen (1997). The EVA spread is given by the difference between the return on equity and the alternative cost of equity:

$$(spread)EVA = ROE - r_e,$$

where ROE is a return on equity, re is an alternative cost of equity. Source: MPO (2017)

Modeling the dependence of business performance on the determinants of regional competitiveness

The economic value added of EVA is considered as a dependent variable entering into the multiple regression analysis, even in its relative expression (spread) of EVA in all size categories of enterprises (micro, small, medium-sized enterprises and SMEs in total). The average values (spreads) of EVA and EVA at the regional level NUTS 3 and SO ORP enter into the econometric model. Its arithmetic mean is not considered resistant to the so-called local extremes, which can greatly distort it. For this reason, a truncated average is used, the purpose of which is to omit 10% of the extreme values of the selected variable. The survey data analysis was also performed for all independent variables. Due to the scope, these values are not listed in the paper.

The least squares method is usually used to estimate the parameters of a linear regression model. The OSL (Ordinary Least Squares) index is therefore an estimate of the

relevant parameter. The modeling process itself can be divided into several parts. The first part is the specification of the model, which consists in the selection and specification of variables entering the model, including the selection of the mathematical form of the model. The most frequently mentioned functional forms are used in this work, which include, for example, the linear functional form or the semilogarithmic functional form (Gujarati and Porter, 2009). After the model specification phase, the econometric model was quantified and verified. The linear regression model is estimated in the statistical environment of the Gretl software program. Model verification is performed for a standard significance level of 5%. Statistical verification of the model is performed through t-test and F-test. T-test is used to verify the statistical significance of the parameter (non-rejection of the null hypothesis indicates the insignificance of the parameter), F-test is used to verify the statistical significance of the whole model (non-rejection of the null hypothesis indicates the insignificance of the model). The classical assumptions for the linear regression model are verified within the econometric verification. Here, attention is paid to the areas (assumptions) that are most often violated in the modeling process. The Langrange multiplier test (LM test) and the Regression Specification Erros Test (RESET test) are used to test the model specification. If the null hypothesis of these tests is not rejected, it can be assumed that the model is correctly specified. The homoskedasticity of the error term is verified by White and Breusch-Pagan test. The rejection of the null hypothesis of these tests points to the problem of heteroskedasticity of the error term. Any multicollinearity is controlled by the Variance Inflation Factor (VIF). Variables that reach VIF values higher than 10 are removed from the model. The normality of the error term is tested by the Chi-square test of good agreement and the Shapiro-Wilk test. Rejecting the null hypothesis about the normality of the distribution of the error term, then according to the Gauss-Markov theorem, causes that the estimate is no longer the Best Unworthy Estimator (BUE) but only the Best Linear Unilateral Estimator (BLUE). The estimate is no longer the best unbiased, but it is the best unbiased linear estimate. More detailed information about the modeling process can be found in Hindls et al. (2007) and Gujarati & Porter (2009).

The research hypotheses given in the linear regression model are identified in the Tab. 1, 2, 3 a 4 in the part Results and Discussion. These hypotheses verify the relationship between identified variables given in the methodology and theoretical background.

RESULTS AND DISCUSSION

Dependence of business performance on the determinants of regional competitiveness at the level of SO ORP

There was no validity problem during modeling (SO ORP = 206). Similarly to the analyzes at the NUTS 3 level and at the SO ORP level, outliers were detected for some variables. To avoid skewing the modeling results, a total of 33 observations (SO ORP) were uniformly removed based on EVA and EVA spread chart analyzes, including individual values for micro, small and medium-sized enterprises. Furthermore, due to multicollinearity, it was necessary to eliminate four variables, namely the share of people with university education in the population aged 25-64, the long-term unemployment rate, the number of IT professionals and the number of households with PCs. After removing these variables, the other variables had a VIF of less than 10. First, a model for the overall (EVA spread) was estimated, see Tab. 1. In addition to the constant, three other variables with statistically significant parameters were identified in the model. Specifically, these are X15 and X25 with a negative effect, and X24 with a positive effect. This model explained three times more variability within the (EVA) spread compared to the previously mentioned models (the coefficient of determination is already almost 17%).

Table 1: OLS model estimate for (spread) EVA SMEs based on RCI-CZ variables at the level of SO ORP

Variable	coef.	p-value t-test
Constant	19.1807	<0.0001
the difference between the unemployment rate of men and women (X15)	-0.0003	0.0456
public sector expenditure on research and development (X24)	0.0720	0.0022
business sector expenditure on research and development (X25)	-0.0135	0.0008
p-value of F-test		**<0.0001**
Coefficient of determination		0.1692

source: own calculation

The analysis between the size categories of enterprises (EVA spread) identified different statistically significant parameters (Table 2). The parameter for variable X24 has a positive effect on EVA spreads in all size categories. Another statistically significant parameter for the EVA spreads of micro-enterprises with a negative impact is X28.

If the constant is not taken into account, three statistically significant parameters were found for the EVA values of small enterprises. Similar to the previous two models, the parameter X24 is a statistically significant parameter. A positive effect on EVA values was also observed for parameter X20. The last statistically significant parameter was for the variable X7, where, however, it was a negative effect on the EVA value. The regression model was also obtained for medium-sized enterprises. Four statistically significant parameters (with a constant of five) were identified here. The variable X24 with a positive effect also appears in this model. The variable X9 also has a

Table 2: OLS model estimate for (spread) EVA of micro, small and medium-sized enterprises based on variables from RCI-CZ at the level of SO ORP

Model	Variable	coef.	p-value t-test
(spread) EVA Micro businesses	Constant	14.9392	<0.0001
	public sector expenditure on research and development (X24)	0.0720	0.0022
	number of large companies in technologically demanding fields (X28)	-0.1762	0.0008
	p-value of F-test		0.0094
	Coefficient of determination		0.0643
(spread) EVA Small businesses	Constant	108.8753	0.0657
	life expectancy of women (X7)	-0.0160	0.0147
	number of households with PC and internet (X20)	0.3503	0.0043
	public sector expenditure on research and development (X24)	0.0836	0.0093
	p-value of F-test		0.0003
	Coefficient of determination		0.1301
(spread) EVA Medium businesses	Constant	8.6392	0.0491
	the share of people with university education in the population aged 30–34 (X9)	0.0482	0.0009
	the difference between the unemployment rate of men and women (X15)	-0.0004	0.0382
	the share of knowledge-intensive services in total employment (X23)	-0.0582	0.0241
	public sector spending on research and development (X24)	0.0882	0.0026
	p-value of F-test		<0.0001
	Coefficient of determination		0.1498

Source: own research

positive parameter. Conversely, a negative parameter was estimated for variable X15 and variable X23.

According to the tests, all estimated models were statistically significant, correctly specified, and the residues met the assumption of homoskedasticity. A problem was found with the normality of the error term distribution, in the model for medium and micro enterprises. However, looking at the histograms, this is not a serious violation of this assumption. P-values were relatively close to the 5% level of significance. Performance in absolute terms of EVA was analyzed in the same way. After removing the variables number of households with PC, the share of people with university education in the population aged 25–64, the long-term unemployment rate and the number of IT professionals due to detected multicollinearity, the model for EVA SMEs was estimated (Table 3). The same procedure was applied for individual size categories of companies. For EVA values of SMEs, if we omit the constant, the influence of three variables was identified. A positive parameter was estimated for variables X4 and X16 and X24.

Table 3: OLS model estimate for EVA SMEs in total based on variables from RCI-CZ at the level of SO ORP

Variable	Coef.	p-value t-test
Constant	2 650 210.00	<0.0001
railway network density (X4)	2 665.13	0.0018
regional GDP per capita (X16)	15 474.33	0.0163
public sector expenditure on research and development (X24)	14 719.02	<0.0001
p-value of F-test		<0.0001
Coefficient of determination		0.1532

Source: own research

The results of the models for the individual size categories of EVA companies are shown in Tab. 4. For micro enterprises, only the parameter X25 was statistically significant. The variable X25 has a positive effect on the EVA values. For small businesses, a model with two statistically significant parameters was compiled. The model evaluated the variable X27 with a positive effect on the

Table 4: OLS model estimate for EVA micro, small and medium-sized enterprises based on variables from RCI-CZ at the level of SO ORP

Model	Variable	Coef.	p-value t-test
EVA Micro businesses	Constant	–1 272 00.00	0.1605
	business sector expenditure on research and development (X25)	2 039.70	0.0366
	p-value of F-test		0.0011
	Coefficient of determination		0.1363
EVA Small businesses	Constant	-73 674.7	0.3696
	the share of technologically demanding fields in total employment (X27)	890.009	0.0036
	number of large companies in technologically demanding fields (X28)	-406.634	0.0109
	p-value of F-test		0.000062
	Coefficient of determination		0.124592
EVA Medium businesses	Constant	6 387 320	0.2117
	railway network density (X4)	2 869.30	0.0076
	life expectancy of women (X7)	-119 434.0	0.0316
	number of households with PC and internet (X20)	54 582.5	<0.0001
	business sector expenditure on research and development (X25)	1 438.56	0.0062
	p-´value of F-test		0.000024
	Coefficient of determination		0.145470

Source: own research

EVA values, and vice versa the variable X28 with a negative effect.

For medium-sized companies, the candidate model with the largest number of significant parameters compared to other models was estimated. Only X7 has a negative effect on EVA values. The other quantities X4, X20 and X25 have positive estimated parameters and thus have a positive effect on the performance values of enterprises in the form of an aggregated EVA indicator. Similar to (spread) EVA models, so in the case of EVA models, the estimated models were statistically significant according to the tests and met all assumptions. In the case of the EVA SME model (Table 3), the assumption of normality of the distribution of residues was very slightly violated. However, if the significance level were changed to 1%, all assumptions would be met in this model as well.

Discussion

Regression analysis at the level of defined NUTS 3 regions using modeling of several econometric types revealed that positively oriented Innovations are important for the EVA values of small enterprises in the region. However, in the case of EVA values of small enterprises, statistically significant parameters Innovation and Infrastructure turned out to have a positive effect on the dependent variable. The infrastructure pillar contains variables on transport infrastructure and is part of the RCI-CZ BASIC sub-index. Medium-sized enterprises do not show any statistically significant parameter when modeling at NUTS 3 level in both performance variants. In the case of the group of SMEs and micro-enterprises, there was always only one statistically significant parameter in both monitored values, the infrastructure pillar. The research of the evaluation of the influence of RCI (NUTS 3) on the performance of MI companies, characterized mainly by ratios, was carried out by Juhász (2017). The author concluded that the existence of regional factors influencing the competitiveness of companies in Hungary cannot be rejected, but RCI is not a completely perfect measure of monitoring the competitiveness of MI companies in Hungary.

Multivariate regression modeling at the SO ORP (municipalities with extended scope) level presented more statistically significant models. The EVA spread has a statistically significant parameter of public sector R&D expenditure in all size categories of enterprises, which has a positive effect on the explained variable. The indicator is part of the Innovation Pillar. In her research, Straková (2017) found that the importance of innovation transformation in SMEs was confirmed. The Czech Republic has its priorities in the area of direct support for research and development, which it finances through the budget chapters of individual agencies and ministries. Support instruments stimulate the business sector to engage in higher research activities. Szarowská & Žůrková (2017) add that most industrial companies are rather dissatisfied with access to public funds, especially micro and small enterprises. Belas et al. (2020) show that many Czech regions do not base their competitiveness on technological innovation, cooperation between

the business and public sectors of science and research, and a highly qualified workforce, as is the case in more developed EU countries. Thus, traditional economic factors of regional development, i.e. capital investments, industrial zones, investment incentives, transport position and infrastructure and the position of municipalities in the settlement system, still play an important role in the Czech Republic (Chmelíková & Redlichová, 2020).

The achieved results confirm the assumptions about the direction of the influence of individual parameters on the resulting values of development. Belas et al. (2019) states that in the case of micro and small enterprises, there is a lower interest in investing in company-specific knowledge and often cannot afford a skilled workforce. Clipa & Ifrim (2016) add that the vacancies offered to SMEs are rather informal, unplanned and focused on training employees only in the short term. Employees in small and medium enterprises are cheaper. Bumber & Rosenberg (2013) add that the availability of skilled labor is important for medium-sized companies in the manufacturing sector. They find their unavailability as a significant limitation of medium-sized companies. Torrés & Thurik (2019) state that the owner's health capital is the most important intangible capital of a small company. The smaller the business, the greater its vulnerability to the owner's health problem, whether physical or mental. The negative direction of the share of knowledge-intensive services in total employment is thus related to the limited supply of skilled labor and rivalry between competing companies. On the contrary, the results show a negative relationship between the achieved performance (spread) of EVA micro enterprises and the number of large companies in technologically demanding fields. This is because these large companies are strong competition in the same field for micro and small entrepreneurs. Medium-sized companies do not show this link. Blažková and Chmelíková (2016) add that micro and small companies have a lower market share and thus cannot compete with large companies. Bumber & Rosenberg (2013) state that one of the most important determinants of performance is domestic competition, especially small and medium-sized enterprises, then micro enterprises. The number of households with PCs and the Internet is positively explained by the EVA spread of small businesses. This is in line with the focus of the industry.

In absolute terms, EVA in all size categories of SMEs is explained by the parameter of business sector expenditure on research and development. EVA SME shows a positive statistically significant dependence on the explanatory parameter railway network density. Geographical location and accessibility have long been considered key factors in territorial development. However, with technological progress, this factor loses its significance. Marada & Květoň (2010) dealt with the influence of transport infrastructure, especially railway infrastructure, on regional development. They concluded that rail transport infrastructure could lead to enhanced development potential and competitiveness, especially for high-speed lines, which could be a more selective advantage than motorways. At the micro-regional level, the exposure of the traffic position is a significant development factor. Viturka (2010) considers infrastructural factors to be a basic prerequisite for the exchange of products and services. Kotaskova & Rozsa (2018) concluded that infrastructure has a stronger impact on SMEs than the availability of quality human capital. Juhász (2017) adds that large, high-performing companies tend to be located side by side, but this is not the case for the best-performing SMEs. The number of economic entities and the positive impact of regional GDP were proved to be parameters with a negative statistically significant effect on the EVA value of the SME group. Cepel et al. (2019) add that growing GDP supports both supply and demand. Buno et al. (2015) identified the dependence of small and medium-sized enterprises on GDP. Novotná et al. (2018) state that the slowdown or acceleration of economic growth or productivity of SMEs can be a significant factor in creating regional disparities. Based on similar research in Italy, Nardis & Pappalardo (2014) point out that not only economic performance but also economic cycles may differ in the regions. According to their results, various company-specific variables (size, demand conditions and liquidity conditions) capture half of the differences in regional business cycles and this phenomenon cannot be explained by structural differences in local industry.

CONCLUSION

The presented paper focused on the performance of companies in the Czech economy in connection with the reflection of national regional policy documents. Purpose of the article was to evaluate the economic performance of small and medium-sized enterprises in the manufacturing industry in connection with the level of development of the regions in the Czech Republic in which they are located. Public sector expenditure on science and research was evaluated as the most important parameter of regional disparities, which explains the economic performance of companies. Based on the achieved results, measures are proposed for the cultivation of the business environment for the next programming period. The contribution is the proposals for the formulation of regional policy with a focus on the segment of small and medium-sized enterprises as follows.

The According to the Ministry of Industry and Trade (2012), the Czech Republic is trying to move SMEs into the top twenty countries under the GCI in the coming years by supporting the increase in efficiency and competitiveness. The RR Strategy, with its own analytical part based on the modified RCI-CZ index, which is based on the European RCI, should also help to achieve this goal. This indicator was inspired by the GCI index. As the explanatory determinants were taken from the evaluation of the RR Strategy, it is possible, based on the results, to supplement the Concept of Support for Small and Medium-sized Entrepreneurs for the next programming period with the following measures: 1) cultivation of the business environment: a) development of transport infrastructure (reduction of costs for transport of raw materials

and goods); b) support for the health of the population (employers / employees);c) housing support; 2) modernization of existing business processes, technologies, computer technology; 3) simplifying the administrative burden of obtaining direct and indirect R&D support for SMEs; 4) support for new technologies to support cleaner production.

The remaining proposed measures, which have been identified for individual areas of support and are set out in the concept, are: 1) cultivation of the business environment (legislation, institutional infrastructure); 2) development of consulting services and support of quality management; 3) entrepreneurship education (vocational training for employers and employees) and awareness raising; 4) access to finance for SMEs (especially innovative SMEs); 5) research, development and innovation activities of SMEs and cooperation with research organizations; 6) innovation and business infrastructure; 7) support for the introduction of technical and non-technical innovations in enterprises and new technologies; 8) support for internationalization (education, advisory services, incubation centers abroad, support for SME participation in specialized fairs and exhibitions, support for SMEs in public procurement abroad, etc.); 9) sustainable energy management and development of innovations in energy (modernization of existing energy production facilities, modernization of measurement and control systems, use of waste energy in industrial processes, etc.).

In analyzes of the performance of SMEs, the difference in performance was identified even between companies of the same size, the same industry and the same region. The limitation of those results lies in the fact that the indicators used are focused purely on regional effects. For a comprehensive evaluation of the business environment, it would be appropriate to apply internal indicators that are individual for each company (age, quality of management, etc.). From a regional point of view, the soft factors of the development of regions are no less important, which have a direct influence on entrepreneurial activity, but are not primarily measurable, as they depend on the subjective evaluation of the entrepreneur.

When analyzing the results of the work, it is necessary to take into account the fact that EVA is based on accounting data and thus there is a certain possibility of modifying the accounting. Furthermore, it is necessary to take into account that the activities of the economic subject are reported in the place of the subject's seat, not in the place of the performed activity, within the framework of statistical investigations of economic indicators. Another factor that must be taken into account when evaluating the results is the evaluation of the entire processing industry. The explanatory power of the model could be refined by specifying the model for a specific section of the manufacturing industry.

Future research will be expanded to include the remaining pillars of sustainable development, i.e. social and environmental. Subsequent research in this area can be oriented towards a closer specification of the business environment with a suitably expanded data set, i.e. focusing on a specific NUTS 3 region and its corresponding municipalities with extended scope. The presented quantification of the level of development in the municipalities with extended scope structure is more approximate than the evaluation at the NUTS 3 level, due to the inconsistent data base. A suitable follow-up procedure is to extend the analyzes by time series and the possibility of assessing development tendencies. Finalizing the effectiveness of conceptual documents is possible on the basis of a comparison of supported regions and their achieved level of development. Based on the compiled ranking of the regions, the research can also be supplemented with the identification of determinants for the best rated regions and for the worst rated regions. Based on the synthesis of the acquired knowledge, specific and universal determinants influencing the performance of enterprises could be defined. It is possible to extend the research to the analysis of key factors influencing economic added value (e.g. Rivera-Godoy et al., 2019; Ali, 2018; Bluszcz & Kijewska, 2016).

REFERENCES

1. Act No. 47/2002 Coll., On the support of small and medium-sized enterprises and on the amendment of Act No. 2/1969 Coll., On the establishment of ministries and other central state administration bodies of the Czech Republic, as amended.
2. Ali, T. F. (2018). The influence of economic value added and market value added on corporate value. *Russian Journal of Agricultural*. 74 (2), 90-98. https://doi.org/10.18551/rjoas.2018-02.10

3. Annex I to Commission Regulation (EU) No. 70/2001 of 12 January 2001, On the application of Papers 87 and 88 of the EC Treaty to State aid to small and medium-sized enterprises, as amended, i.e. Commission Regulation (EU) No 651 / 2014.
4. Annoni, P., & Dijkstra, L. (2017). Measuring and monitoring regional competitiveness in the European Union. Handbook of Regions and Competitiveness. Edward Elgar Publishing.
5. Annoni, P., & Dijkstra, L. (2019). The European Regional Competitiveness Index 2019: 2014-2020. In: *European Union. Luxembourg: Publications Office of the European Union*, p. 42, Retrieved October 9, 2020 from: https://ec.europa.eu/regional_policy/sources/docgener/work/2019_03_rci2019.pdf.
6. Antoniuk, L., Britchenko, I., Polishchuk, Y., Rudyk, N., Sybirianska, Y., & Machashchik, P. (2018). Code of ethics for SMEs: substantiating the necessity and willingness to implement in Ukraine. *Problems and Perspectives in Management*, 16 (3), 150-162. https://doi.org/10.21511/ppm.16(3).2018.12
7. Arent, A., Bojar, M., Diniz, F., & Duarte, N. (2015). The Role of SMEs in Sustainable Regional Development and Local Business Integration: The Case of Lublin Region (Poland). *Regional Science Inquiry*, 7 (2), 23-34.
8. Belas, J. Gavurova, B., Cepel, M., & Kubak. M. (2020). Evaluation of economic potential of business environment development by comparing sector differences: perspective of SMEs in the Czech Republic and Slovakia. *Oeconomia Copernicana*, 11 (1), 135-159. https://doi.org/10.24136/oc2020.006
9. Belas, J., Dvorsky, J., Strnad, Z., Valaskova, K., & Cera, G, (2019). Improvement of the Quality of Business Environment Model: Case of the SME Segment. *Engineering Economics*, 30 (5), 601-611. https://doi.org/10.5755/j01.ee.30.5.24490
10. Beugelsdijk, M., & Eijffinger, S. C. W. (2005). The Effectiveness of Structural Policy in the European Union: An Empirical Analysis for the EU-15 in 1995-2001. *Journal of Common Market Studies*. 43 (1), 37-51. https://doi.org/10.1111/j.0021-9886.2005.00545.x
11. Blažková, I., & Chmelíková, G. (2016). The Influence of Market Concentration on the Development of Newly Born Businesses in the Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 64 (3), 929-938. https://doi.org/10.11118/actaun201664030929
12. Bluszcz, A., & Kijewska, A. (2016). Factors creating economic value added of mining company. *Archives of Mining Sciences*. 61 (1), 109-123. https://doi.org/10.1515/amsc-2016-0009
13. Brigham, E. F., Ehrhardt, M. C., & Fox, R. (2019). *Financial management: theory & practice*. Second EMEA edition. Hampshire: Cengage.
14. Buno, M., Nadanyiová, M., & Hraskova, D. (2015). The Comparison of the Quality of Business Environment in the Countries of Visegrad Group. *Procedia Economics and Finance*, 26, 423-430. https://doi.org/10.1016/S2212-5671(15)00826-6
15. Burja, V., & Marginean, R. (2014). The Study of Factors that may Influence the Performance by the Dupont Analysis in the Furniture Industry. *Procedia Economics and Finance*, 16, 213-223. https://doi.org/ 10.1016/S2212-5671(14)00794-1
16. Čapková, S., & Kluchová, A. (2018). Kvalitatívne charakteristiky malého a stredného podnikania a regionálny rozvoj. *Acta Academica Karviniensia*, (3), 5-14. https://doi.org/ 10.25142/aak.2018.016
17. Cepel, M. Belas, J., Rozsa, Z. & Strnad, Z. (2019). Selected Economic Factors of the Quality of Business Environment. *Journal of International Studies,* 12 (2), 228-240. https://doi.org/10.14254/2071-8330.2019/12-2/1
18. Chen, S. (1997). Economic Value Added (EVA!22): An Empirical Examination Of A New Corporate Performance Measure. *Journal of Managerial Issues*, 9 (3), 318. https://doi.org/ 10.5539/ijbm.v4n3p169
19. Chládková, H. (2015). Selected Approaches to the Business Environment Evalua-tion. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. 63 (2), 515-523. https://doi.org/10.11118/actaun201563020515
20. Chmelíková, G., & Redlichová, R. (2020). Is there a link between financial exclusion and over-indebtedness? Evidence from Czech peripheral municipalities. *Journal of Rural Studies*, 78, 457-466. https://doi.org/ 10.1016/j.jrurstud.2020.07.010
21. Clipa, R. I., & Ifrim, M. (2016). Measuring regional competitiveness. The case of Romania. Annals of the University of Oradea. *Economic Science Series*, 25 (1), 103-111.
22. Collective of authors (Regiopartner and Garep), (2011). Hodnocení regionální konkurenceschopnosti krajů a správních oblastí obcí s rozšířenou působností: Metodika. 3. *MMR*. Retrieved October 9, 2020, from: http://www.regiopartner.cz/cz/download/1404041849/?at=
23. Czarniewski, S. (2016). Small and medium-sized enterprises in the context of innovation and entrepreneurship in the economy. *Polish Journal of Management Studies*, 13 (1), 30-39. https://doi.org/10.17512/pjms.2016.13.1.03
24. Demartini, P., & Del Baldo, M. (2015). Knowledge and social capital: drivers for sustainable local growth. Chinese Business Review. David Publishing, 14 (2), 106-117. https://doi.org/ 10.17265/1537-1506/2015.02.005
25. 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), 35-47. https://doi.org/10.1080/00343404.2018.1498073

26. Didonet, S. R., Fearne, A., & Simmons, G. (2020). Determining the presence of a long-term/short-term dilemma for SMEs when adopting strategic orientation to improve performance. *International Small Business Journal: Researching Entrepreneurship*, 38 (2), 90-110. https://doi.org/10.1177/0266242619879369
27. Dluhošová, D. (2010). Finanční řízení a rozhodování podniku: analýza, investování, oceňování, riziko, flexibilita. 3rd ed. Praha: Ekopress.
28. Domańska, A., & Zajkowski, R. (2018). Influence of state participation on business conditions and entrepreneurship in the EU countries of the former eastern bloc. *Financial Internet Quarterly 'e-Finanse'*, 14(2), 9-17. https://doi.org/10.2478/fiqf-2018-0008
29. EK: European Commission. (2015). *Uživatelská příručka k definici malých a středních podniků*. Luxembourg: Publications Office of the European Union. https://doi.org/10.2873/244305
30. EK: European Commission. (2019). *Annual Report on European SMEs 2018/2019: Research & Development and Innovation by SMEs*. Luxembourg: Evropská unie. Retrieved October 14, 2020, from: https://doi.org/10.2826/500457
31. Felixová, K. (2012). *Podpora podnikání v regionech se soustředěnou podporou státu*. Ústí nad Labem: Univerzita Jana Evangelisty Purkyně v Ústí nad Labem.
32. Fothergill, S. (2005). A New Regional Policy for Britain. *Regional Studies*. 39(5), 659-667. https://doi.org/10.1080/00343400500151939
33. Fratesi, U., & Perucca. (2019). EU Regional Development Policy and Territorial Capital: A Systemic Approach. *Papers in Regional Science*, 98 (1), 265-281. http://dx.doi.org/10.1111/pirs.12360
34. Gaganis, Ch., Pasiouras, F., & Voulgari, F. (2019). Culture, business environment and SMEs' profitability: Evidence from European Countries. *Economic Modelling*, 78, 275-292. http://dx.doi.org/10.1016/j.econmod.2018.09.023
35. Gómez, I., Ganzarain, J., & Soto, M. (2019). Building clean advanced manufacturing technology ecosystem for SMEs. Proceedings of ISPIM Conferences. *International Society for Professional Innovation Management*, 1-15.
36. Guermat, Ch., Misirlioglu, I. U., & Al-Omush, A. M. (2019). The long-term effect of economic value added adoption on the firm's business decision. *Accounting Research Journal*, 32 (3), 496-513. http://dx.doi.org/10.1108/ARJ-01-2018-0018
37. Gujarati, D., & Porter, D. C. (2009). *Basic econometrics*. 5th ed. Boston: McGraw-Hill Irwin.
38. Hindls, R., Hronová, S., Seger, J., & Fischer, J., 2007. *Statistika pro ekonomy*. 8th ed. Praha: Professional Publishing.
39. Ionescu, R. (2016). European Union of the Regional Disparities. *Acta Universitatis Danubius: Oeconomica*, 12 (6),168-178.
40. Juhász, P. (2017). Subnational Regional Competitiveness: Analysis of Hungarian Manufacturing Firms. *Journal of Contemporary Economic and Business Issues*, 4 (2), 63-83.
41. Kasabov, E. (2021). So, what is (of) value? *Journal of Rural Studies*, 85, 22-31.
42. Kasza, A. (2009). Two Ends of a Stick? Regional Strategic Planning and Operational Programming in Poland in the Context of EU Membership. *Regional Studies*. 43 (4), 625-636. http://dx.doi.org/10.1080/00343400701654269
43. Kiryluk-Dryjska, E., Beba, P., & Poczta, W. (2020). Local determinants of the Common Agricultural Policy rural development funds' distribution in Poland and their spatial implications. *Journal of Rural Studies*, 74, 201-209. http://dx.doi.org/10.1016/j.jrurstud.2020.01.018
44. Korcsmáros, E. & Šimová, M. (2018). Factors affecting the business environment of SMEs in Nitra region in Slovakia. *Oeconomia Copernicana*. 9(2), 309-331. https://doi.org/10.24136/oc.2018.016
45. Kotaskova, A. & Rozsa, Z. (2018). The impact of selected factors on the quality of business environment assessment in the Czech republic and the Slovak republic. *International Journal of Entrepreneurial Knowledge*, 6 (2), 71-80. http://dx.doi.org/10.2478/ijek-2018-0015
46. Kutscherauer, A. (2010). Regionální disparity: disparity v regionálním rozvoji země, jejich pojetí, identifikace a hodnocení. Ostrava: VŠB-TU. Series on Advanced Economic Issues.
47. Laurin, F., Pronovost, S., & Carrier, M. (2020). The end of the urban-rural dichotomy? Towards a new regional typology for SME performance. *Journal of Rural Studies*, 80, 53-75. http://dx.doi.org/10.1016/j.jrurstud.2020.07.009
48. Lee, S., & Kim, W. G. (2009). EVA, refined EVA, MVA, or traditional performance measures for the hospitality industry? *International Journal of Hospitality Management*, 28 (3), 439-445. http://dx.doi.org/10.1016/j.ijhm.2009.01.004
49. Limarev, P. V., Limareva, Y. A., Zinovyeva, E. G., & Usmanova, E. G. (2015). Methodical Motivation of the Using EVA (Economic Value Added) as Instrument of Cost-Performance Management in Organizations. *Mediterranean Journal of Social Sciences,* 6 (5), 489. https://doi.org/10.5901/mjss.2015.v6n5s2p489
50. Mackinnon, D. (2017). Regional inequality, regional policy and progressive regionalism. *Soundings* (13626620). (65), 141-158.
51. Marada, M., & Květoň, V. (2010). Diferenciace nabídky dopravních příležitostí v českých obcích a sociogeografických mikroregionech. Geografie: *Sborník ČGS*, 115 (1), 21-43.
52. McCann, P. (2013). Modern urban and regional economics / Philip McCann. Oxford: Oxford University Press.
53. Melecky, L., & Stanicková, M., (2011). Hodnoceni konkurenceschopnosti regionu Ceske republiky v kontextu Lisabonske strategie. (Evaluation of the Czech Republic Regions' Competitiveness in the Context of the Lisbon Strate-

gy. With English summary.). *Ekonomicka Revue: Central European Review of Economic Issues*. 14 (3), 183-199. http://dx.doi.org/10.7327/cerei.2011.09.04
54. Michalek, A. (2012). Vybrané metódy merania regionálnych disparít. *Geografický časopis SAV*, 64 (01-02), 219-235.
55. MPO: Ministry of Industry and Trade (2017). *Finanční analýza podnikové sféry za rok 2016*. Retrieved October 20, 2020, from: https://www.mpo.cz/assets/cz/rozcestnik/analyticke-materialy-a-statistiky/analyticke-materialy/2017/5/FA4Q16.pdf
56. Nardis, B., & Pappalardo, C. (2014). Firm heterogeneity and regional business cycles differentials. *Journal of Economic Geography*, 14 (6), 1087. http://dx.doi.org/10.1093/jeg/lbt037
57. Nevima, J. (2014). Konkurenceschopnost regionů Visegrádské čtyřky: (teoretické a empirické přístupy k vymezení, měření a hodnocení). Praha: Professional Publishing
58. Novotná, M., Volke, T., & Vrchota, J. (2018). Regional disparities in labour productivity of small and medium-sized enterprises in manufacturing. *XXI. mezinárodní kolokvium o regionálních vědách. Sborník příspěvků*. Brno: Masarykova univerzita, 215-222.
59. Olimpia, N. (2019). Disparities regarding competitiveness, human capital and inclusive development in the EU: a cluster analysis. Annals of 'Constantin Brancusi' University of Targu-Jiu. *Economy Series*, (1), 61-71.
60. Onuferová, E., Čabinová, V., & Vargová, T.D. (2020). Analysis of modern methods for increasing and managing the financial prosperity of businesses in the context of performance: a case study of the tourism sector in Slovakia. *Oeconomia Copernicana*, 11 (1), 95-116. https://doi.org/10.24136/oc.2020.004
61. Parisa, S., & Jerry, C. (2015). A Conceptual Framework for Assessing Sustainable Development in Regional SMEs. *Journal of Environmental Assessment Policy and Management*, 17 (4), 1. http://dx.doi.org/10.1142/S1464333215500398
62. Park, S., Lee, I. H., Kim, J. E., & Park, S. (2020). Government support and small- and medium-sized enterprise (SME) performance: the moderating effects of diagnostic and support services. *Asian Business and Management*, 19 (2), 213-238. http://dx.doi.org/10.1057/s41291-019-00061-7
63. Pavláková-Dočekalová, M., Kocmanová, A., & Hřebíček, J. (2013) *Měření podnikové výkonnosti.* Brno: Littera.
64. Petrů, N. Havlíček, K., & Tomášková, A. (2018). Comparison of marketing vitality of family and non-family companies doing business in the Czech republic. *Economics & Sociology*, 11 (2), 138-156. https://doi.org/10.14254/2071-789X.2018/11-2/10
65. Phillipson, J., Tiwasing, P., Gorton, M., Maioli, S., Newbery, R., & Turner, R. (2019). Shining a spotlight on small rural businesses: How does their performance compare with urban? *Journal of Rural Studies*, 68, 230-239. http://dx.doi.org/10.1016/j.jrurstud.2018.09.017
66. Poledníková, E. (2014). Regional Classification: The Case of the Visegrad Four. *Ekonomicka Revue: Central European Review of Economic Issues*, 17 (1), 25-37. http://dx.doi.org/10.7327/cerei.2014.03.03
67. Rivera-Godoy, A. J., Li Mamián-Cerón, L. C., & Rojas-Zapata, C.A. (2019). Factors that influence economic value in the Colombian apparel industry. *Revista CEA. Instituto Tecnológico Metropolitano*, 5 (9), 131-146. https://doi.org/10.22430/24223182.1311
68. Russu, C. (2019). Regional Policy of the European Union. *Economic Insights – Trends*, (4), 1-8.
69. Šebestová, J., Čemerková, Š., & Palová, Z. (2016). Regionální podnikatelské prostředí a jeho zhodnocení: Příklad Moravskoslezského kraje. *XIX. mezinárodní kolokvium o regionálních vědách. Sborník příspěvků*. Brno: Masarykova univerzita, 218-225.
70. Sloboda, D. (2006). Slovensko a regionálne rozdiely: teórie, regióny,indikátory, metody. Konzervatívny inštitút M. R. Štefánika (Bratislava).
71. SME Finance Forum. (2019). *MSME Economic Indicator*. The International Finance Corporation (IFC). Retrieved October 20, 2020, from: https://www.smefinanceforum.org/data-sites/msme-country-indicators
72. Spencer, J. W., & Gómez, C. (2004). The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: A multicountry study. *Journal of Business Research*, 57 (10), 1098-1107. https://doi.org/10.1016/S0148-2963(03)00040-7
73. Straková, J. (2017). Analýza vybraných faktorů vnějšího prostředí na stabilitu malých a středních podniků v ČR. *Mladá veda. Prešov: Universum-EU*, 5 (9), 124-133.
74. Strnadová, M., & Karas, M. (2013). Identifikace faktorů ovlivňujících výkonnost podniku na bázi ROE v období 2003-2012. *Trends: Economics*, 7 (17), pp. 169-178.
75. Szarowská, I., & Žůrková, D. (2017). Veřejné výdaje na výzkum a vývoj a jejich vztah s ekonomickým růstem v Česku, Dánsku a Slovensku. *Scientific papers of the University of Pardubice. Series D, Faculty of Economics and Administration*, 39 (D), 211-222.
76. Torrés, O., & Thurik, R. (2019). Small business owners and health. *Small Business Economics*, 53 (2), 311-321. https://link.springer.com/article/10.1007/s11187-018-0064-y
77. Viassone, M. (2009). The Regional Competitive Index as a Tool to Improve Region-al Forecasting: Theory and Evidence from Two Western European Regions. *Oxford Journal*. 8 (1), 49-64. http://dx.doi.org/10.13140/2.1.3438.9442
78. Viturka, M. (2010). Regional disparities and their evaluation in the context of regional policy. *Geografie-Sbornik CGS*, 115 (2), 133-143.

79. Zheng, L., Shepherd, D., Batuo, M. E., & Zheng, L. (2021). Variations in the determinants of regional development disparities in rural China. *Journal of Rural Studies*, 82, 29-36. http://dx.doi.org/10.1016/j.jrurstud.2020.08.011
80. Žitek, V., & Klímová, V. (2015). The Competitiveness Index of Czech Regions. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. 63 (2), 693-701. https://doi.org/10.11118/actaun201563020693