OECONOMIA
COPERNICANA

VOLUME 11 ISSUE 1 MARCH 2020

p-ISSN 2083-1277, e-ISSN 2353-1827
www.oeconomia.pl

ORIGINAL ARTICLE

Citation: 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 Czech Republic and Slovakia. *Oeconomia Copernicana, 11*(1), 135–159. doi: 10.24136/oc.2020.006

Contact to corresponding author: belas@utb.cz; Tomas Bata Univesity in Zlín, Faculty of Management and Economics, Mostní 5139, 760 01 Zlín, Czech Republic

Received: 3.09.2019; Revised: 14.12.2019; Accepted: 19.01.2020; Published online: 26.03.2020

Jaroslav Belas
Tomas Bata University in Zlín, Czech Republic
orcid.org/0000-0002-5900-997X

Beata Gavurova
Technical university of Košice, Slovakia
orcid.org/0000-0002-0606-879X

Martin Cepel
Pan-European University in Bratislava, Czech Republic
orcid.org/0000-0002-6282-9899

Matus Kubak
Technical University of Košice, Slovakia
orcid.org/0000-0003-1438-479X

Evaluation of economic potential of business environment development by comparing sector differences: perspective of SMEs in the Czech Republic and Slovakia

JEL Classification: *F18; F63; L78; L88; L98*

Keywords: *business environment; business risks; business support; correspondence analysis; sector analysis*

Abstract

Research background: Improving business conditions and SME development are signs of a country's macroeconomic stability. The issue of identifying and removing barriers to the development of firms in the SME segment is a priority in all countries with developed economies and its importance is currently increasing.

Purpose of the article: The main aim of this paper is to explore possible differences in entrepreneurs' perception of the business environment based on the industry in which the company operates. The analysis contains also a national view, where a comparison between the Czech Republic and the Slovak Republic is performed.
Methods: Correspondence analysis was used to achieve the research objectives in order to examine the relations between the categorical variables. Its application is beneficial in cases where the graphic output is clearer than the numerical one.
Findings & Value added: The presented research makes it possible to identify problematic aspects of doing business in each sector and to create support mechanisms for the creation of effective structural policies. Entrepreneurs from the Czech Republic's Production and Transport sectors agree with the statement that the business environment in the country is suitable for starting a business. As for business environment's suitability for doing business, neither Slovak nor Czech entrepreneurs sector-wide agreed with the given statement. Czech entrepreneurs from the Services, Trade and Construction sectors ,respectively, agree, fully agree with the statement that the business environment in the country is reasonably risky and allows for doing business. In the case of entrepreneurs from Slovakia, no significant correspondence is observed. Findings regarding the statement that the business conditions in the country have improved over the past five years are the following: In the Czech Republic, there is a perfect correspondence of the Transport sector and the agreement with the given statement. In the Slovak Republic, agreement was found with the given statement in the Transport sector and neutral position in the Production sector.

Introduction

The global financial and economic crisis has had a negative impact on the development of many countries' economies in all areas and sectors. It also had a continuous impact on the economic behavior of business entities. A significant economic differentiation was not only reflected in the group of large companies, but also negatively affected the SME sector. This has led to a creation and subsequent deepening of regional disparities in the economic, social and economic environment of the regions, with consequences in the form of undesirable elimination of economic activities and reduction of employment in the local environment.

In addition to these factors, the development of SMEs is influenced by a number of factors, many of which are related to the specificities of the sector as well as to the geographical scope of firms. These factors are also linked to the existence of production and economic disparities at a regional and local level, caused by the persistent economic burdens of previous periods and the failure of regulatory systems. This was also secondarily reflected in the source facilities, and an abundance and lower economic performance of business entities in the regions.

In recent decades, many national and international research teams have been intensively involved in supporting the creation and development of SMEs. The reason is the increasing importance and position of SMEs in economies, as well as exploring the potential of their competitiveness. Many national and international surveys reveal the determinants of SMEs'

development in causal links not only to the socio-economic indicators of the location of SMEs' performance, but also to their financial determinants, demographic characteristics, geographical disparities, etc. Territorial subdivisions into the least developed and prosperous sites are known, changing the political and structural view of regions' needs, their attractiveness, resource availability, and competitiveness.

The results of many research studies (part of which are presented in the literature review) were the motivation to carry out a piece of research whose main objective was to examine possible differences in the perception of the business environment by entrepreneurs operating in different sectors and thus carry out a sector analysis. The subsequent comparative analysis had its research platform based on the sector analysis and was defined in two territorial frameworks, namely the Czech and Slovak Republics. The originality of the research lies in the fact that there are still no sectorial analyses in the Czech and the Slovak research environment that would identify differences in the perception of the conditions for starting and developing business and the related risks. This will make it possible to identify problematic aspects of doing business in each sector and to create support mechanisms for the creation of effective structural policies.

The structure of the research study is as follows: the introduction offers a clarification of the importance of addressing the research issue, its timeliness and institutional connectivity. Background research points to the extent and importance of addressing this issue with established results in national and international research teams. The analytical part was conducted via correspondence analysis that captures the relationship between the analyzed units, and is therefore better able to interpret their connection. The discussion and conclusion state the results, offer room for questions, suggestions, recommendations, and topics for further research in this field.

Literature review

The above-mentioned wide availability of research topics also offers a diversified look at the topic of SMEs' development in individual countries, which considerably constrains the comparative aspects. Their benefit lies in the creation of research potential for examining and revealing deeper relationships in evaluating potential barriers of SMEs' development and their quantitative impacts. Many institutional analyses created by monitoring and evaluation mechanisms in the countries offer interesting pictures of the status and the development of the business environment, however, it is also important to examine implicit causal relations and hence reveal other

determinants which could further impact the desired progress in SMEs' development. Knowing their impact, relativity, and synergic interconnection with other determinants can have a positive effect on SMEs' development in respective countries.

Many research studies provide interesting suggestions as to how to examine determinants of SMEs' development, some of which were selected for this study. Their intersection applies in particular to financial and socio-economic determinants, meaning external barriers of SMEs.

Ryan *et al.* (2014) examined the banking market power through financing constraints for SMEs. Twenty European countries took part in the research between 2005 and 2008, while 118,000 of the enterprises were SMEs. The results strongly support the market power hypothesis, namely, that increased market power results in increased financing constraints for SMEs. Separate study analyses show that the banking sector power needs to be examined based on individual business characteristics such as size, transparency, etc. Authors point to the fact that this adverse impact of banking market power on investment is driven by the adverse effect of market power on financing constraints. In fact, much of the variation in cash-investment sensitivity is captured by the banking market power effect. Li *et al.* (2016) also analyzed the quality of the business environment via examining credit risks for SMEs. The study was aimed at introducing an innovative approach to estimate credit risk for SMEs by applying methods of artificial intelligence besides traditional statistical methods. Finnish SME data from 2004–2012 were used in the analysis. The importance of credit scoring increased especially due to financial crisis and hence the increased capital requirements on banks. The authors argue that the suggested logistic hybrid model is more precise than the original models or the logistic regression. Improving the accuracy of the credit scoring models has, according to the authors, many potentially practical implications. It can lead to an improved process of managing SMEs' credit portfolio and to a decrease of interest rates for enterprises. Based on aggregate evaluation, all these positive impacts will increase banks' competitiveness on the credit market for SMEs.

Fredriksson and Moro (2014) examined the relationship between SMEs and the banking sector, with the aim of analyzing the relationships between SMEs' performance, types of bank credits, as well as the length and scope of the relationships between small banks and SMEs. Out of 4,285 firms observed for one year by Finnish banks, the quality of a SME's performance was found to be the major factor in explaining the risk-adjusted profitability of banks. The length and the scope of these relationships and the dimension of bank loans play a significant role as well. The authors

claim that SMEs' financial results significantly influence their bargaining power in banks. The results offer interesting implications. The authors emphasize that small, local banks are well placed to exploit hard and soft information when evaluating SME's creditworthiness and reduce the risk they face. The results also suggest that the availability of bank loans and services for SMEs allowing the creation of economic capital in banks should be better explored, and banking institutions should offer updated strategies while providing various products to support SMEs' development.

Wang (2016) studies and evaluates in detail the largest barriers in SMEs' development, as well as their determinants. He also examines how managers perceive these barriers. The author used the Enterprise Survey of the World Bank containing data from 119 developing countries. SMEs are very important for economic growth and for the creation of jobs in developing countries. SMEs perceive access to finance as the most significant obstacle that hinders their growth. According to the author, the key determinants among firms' characteristics are size, age, and growth rate, as well as the ownership of the firm. SME managers based on the research results identified five most important barriers: "Access to finance, tax rate, competition, electricity, and political factors ". Access to finance appears to be the biggest barrier, followed by "competition". SMEs co-owned by the state deal with smaller financing issues as opposed to private SMEs. SMEs co-owned by the state have better access to financing from banks due to explicit and implicit government guarantees, including other government interventions. It can be assumed that as an enterprise grows and ages, SMEs will not see access to financing as a great issue. This leads to definite conclusions: there is a current prevalence of asymmetric information between banks and SMEs, financial market fragmentation and a lack of specialized banking or high transaction costs. It allows for consequent research and sector analyses in individual countries. Ključnikov (2016) provides an interesting study from the Slovak SME environment in which he examines specific factors of SMEs' development. The results of the study confirm that there is a significant relation between SME's access to finance in Slovakia and such factors as size, region, and success in business. The study does not offer a deeper sector analysis, while other studies call for a deeper examination of the determinants of SMEs' development within industries and the identification of regional disparities (e.g. Gavurová *et al*., 2016).

Although financial aspects are easier to quantify and monitor, studies dealing with educational programs for managers, financial literacy, and individuals' propensity for entrepreneurship take the leading role in the topic of examining determinants and risks of the quality of business environment in recent years. These findings can be very important when sup-

porting a starting business, be it university graduates or the general population. Many studies also reflect the need to consider psychological characteristics determining individuals' independent money earning activities, or motivating them to establish their own businesses, etc. (Gluchman & Gluchmanová, 2018; Grzybek & Malczyńska-Biały, 2019). Fairlie and Holleran (2012) also examined these influences in their analysis, using the largest-ever randomized control experiment providing entrepreneurship training in the United States. The authors find evidence indicating that individuals who are more risk tolerant benefit more from entrepreneurship training than less risk tolerant individuals. Individuals who prefer independence were more prone to use and prosper from entrepreneurship training in the short run. Many researches confirm that risk tolerance, preference for autonomy, and innovativeness are empirically and theoretically important in determining who becomes an entrepreneur. Eggers *et al*. (2013) examined how entrepreneurial orientation and customer orientation affect SMEs' growth. In this study, the authors used a quantitative empirical approach of structurally modelled formulas, and analyzed the results of questionnaires obtained from 660 SMEs in Austria. Their findings suggest that SMEs' sustainable growth is not possible without entrepreneurial orientation; however, customer orientation is just as valuable. Being non-entrepreneurially oriented does not mean that a firm is automatically customer-oriented. The results show that a significant and positive link between networking and firm growth could not be found. According to the authors, there are indicators showing that in certain situations, networking might have a higher impact on small manufacturing firms than on small service companies.

In their study, Berger and Udell (2006) suggest to create a more complex conceptual frame for the analysis of bank credit availability for SMEs. The authors emphasize a causal chain from policy to financial structures, which affect the feasibility and profitability of different lending technologies. These technologies, in turn, have important effects on SME credit availability. The authors thus provide proof that many research studies simplify this topic. Government policies affect a nation's financial institution structure and lending infrastructure. There is a need for a better examination of macroeconomic mechanisms and causal effects in countries' financial systems. Countries' financial systems also have a direct impact on the process of managing entrepreneurial risk. Hudakova *et al.* (2018) reflect this in a recent research. These authors conducted a research in the SME environment in Slovakia in 2017 and state that the share of identified key risks was as follows: market risks 26% of SMEs, financial risks 21%, economic risks 19%, personnel risks 11%, operational risks 9%, legal risks 7%

security risks 6%, and other risks 1%. According to the authors, there is a relation between market risk, personnel risk, and the size of an enterprise. At the same time, there is no relation between financial risk, economic risk, and the size of an enterprise.

Oláh *et al.* (2019) analyzed the business environment in Serbia and V4 countries. They found out that the level of legal and personal risk in Serbia is higher than in the V4 countries. Nikolic *et al.* (2019) also made some interesting findings. They state that individual characteristics of an SME entrepreneur, along with non-individual internal SME characteristics and non-individual external characteristics of the environment in which an SME operates, contribute to SME failure. The risk management processes are interrelated with the issue of bank loan processes for SMEs. Many authors study the availability and probability of obtaining credit in regards to economic and non-economic business parameters. Bruns and Fletcher (2008) conducted an interesting study in which they applied experiments with the aim of determining the probability of lending officers' supporting starting a business or continuing to support the existing ones. On a sample consisting of 114 Swedish lending officers, the authors tested the hypotheses concerning how information of the borrowers' ability to repay the loan, alignment of risk preferences, and risk sharing affect their willingness to grant credit. The results suggest that features reducing the risk to the bank and shifting the risk to the borrower have the largest impact. The research also draws the attention to interactions between factors that influence the decisions behind granting loans. Their research significance and the ensuing potential implications for economic policies are very much discussed nowadays. Corazza and Gusso (2016) observed the creditworthiness evaluation of Italian SMEs at the onset of economic crisis. They used the Multi-Criteria Decision Analysis (MCDA) approach to evaluate the creditworthiness of 40,000 Italian SMEs. The results obtained in terms of classification into homogeneous rating classes, scoring and migration probabilities show that the proposed approach is able to unveil early signals of recession in the Italian SME sector. The authors used a modified version of the MCDA methodology (edited model known as MURAME) which they applied in the credit risk evaluation. This approach takes into consideration various factors influencing a firm's solvency level. The results indicate that the early signals of recession in the Italian SME sector were unveiled. Salimi and Reazei (2018) state that research and development are the most important determinants of the productivity growth and enterprises' competitive advantage. Business managers' attention is being drawn to measuring research and development performance. The available studies use a number of methodologies, but claim that assigning different values to individual

research and development parameters can lead to different results. The authors therefore emphasize the significance of examining methodological aspects in the process of quantifying research and development results, aiming at formulating effective strategies that could increase business performance.

A number of research studies, e.g. Ivanová and Čepel (2018), Čepel *et al.* (2018), Pilar *et al.* (2018), and others highlight the importance of measuring and evaluating SMEs' innovative performance. A lot of attention is paid to the topic of examining the impact of institutional factors in securing SMEs' innovative performance. In his study, Ghulam (2019) examines SME's credit conditions during Europe's financial crisis, and offers interesting implications regarding many types of policies based on the attained results. Universities and research and innovation centers which are often established within university science parks play an important role within institutional factors influencing SMEs' development (Polishchuk *et al*., 2020; Kelemen *et al*., 2020; Blajer-Gołębiewska *et al*., 2018). In his study, Dallago (2014) examined the role of universities in supporting innovation on the local and regional level. The author emphasizes the utmost importance of strengthening the relationships between universities, industry, and governments. Universities play a direct, economically important role. The research results suggest that only a few large and prestigious universities cooperate with SMEs, which can threaten the business environment's integrity and the development of SMEs' competitiveness. The universities' role in the process of SMEs' development is apparent in the process of increasing the financial literacy which has been monitored in recent years by a number of research teams (e.g. Nguyen & Rozsa, 2019; Gavurova *et al*., 2017; Belas *et al*., 2016, 2017; Jayaraman & Jambunathan, 2018; Naushad, 2018; Caplinska & Ohotina, 2019).

Research methodology

The main aim of this paper is to explore possible differences in perception of the business environment by entrepreneurs based on the industry in which the company operates. With regard to the defined research aim, a survey-based research was conducted with enterprises operating in the SME segment in the Czech Republic and Slovakia in the time between September 2018 and February 2019. Enterprises were selected from the "Cribis" database via a random choice method, and were approached via email asking them to fill in an online questionnaire. The questionnaire was intended for business owners or top management. 9,400 SMEs were ap-

proached, yielding 312 usable questionnaires from the Czech business environment and 329 Slovak ones. The individual factors influencing the quality of the business environment were divided into six areas (economic factors, political factors, technological factors, social factors, family environment, and competition). Each of these factors was specified using four statements.

This study examined the rating of the quality of business environment by entrepreneurs. Four statements capturing the quality of business environment construct were chosen. Answers were rated using the five level Likert scale: 1 — totally disagree, 2 — disagree, 3 — neutral, 4 — agree, 5 — totally agree. The statements are:

1. Business environment in the country is suitable for starting a business.
2. Business environment in the country is good and suitable for business.
3. Business environment in the country is reasonably risky and allows doing business.
4. Business conditions in the country have improved over the past five years.

To better understand the differences in the perception of the business environment, depending on the sector in which the company operates, we run correspondence analysis. Correspondence analysis is a quantitative method that allows analyzing the data in a contingency table. Its aim is to reduce dimensionality. Correspondence analysis allows for studying the relationships between categorical variables, and is useful in cases when a graphical output is clearer than a numeric one (Borg & Groenen, 2010; Greenacre, 1984). Correspondence analysis is a visual technique that enables a graphic display of the elements in the contingency table. Outputs of a correspondence analysis are in its nature similar to the results of a factor analysis. The output of a correspondence analysis is a two-dimensional correspondence map.

Results

Out of 641 collected questionnaires, 312 were from the Czech Republic and 329 from Slovakia. The number of companies are equally distributed in the countries in which they operate. The dataset consists of 492 micro companies, 114 small companies, and 35 medium sized companies. In total, 160 companies have been operating for 1–5 years, 126 from 5 to10 years, and 355 have been on the market for 10+ years. Table 1 provides information about sectorial distribution of the companies that participated in the analysis. It is necessary to say that our dataset is a random sample, not a repre-

sentative one, because representative dataset would have to contain at least 385 observations for each country.

The differences revealed by the correspondence analysis of Czech and Slovak entrepreneurs' responses on the quality of the business environment construct of the questionnaire are presented below.

Business environment in the country is suitable for starting a business

Correspondence analysis of the responses of Czech entrepreneurs regarding business environment's suitability for starting a business is shown in Figure 1.

Two dimensions explain 92.5% of total of inertia, thus 92.5% of information included in the contingency table. First dimension contributes on total inertia by 66.6% and second dimension contributes by 25.9%. One of the conditions of using the correspondence analysis is the assumption of the existence of dependence between the observed variables. To verify the existence of significant relationship between two nominal variables we run Pearson's chi-square test of independence. P value of Pearson's chi-square test of independence is 0.810, thus we cannot reject the null hypothesis of non-dependence of data. Even so, we present the results of correspondence analysis although we are aware of ambiguity of the results. The correspondence map indicates that Czech entrepreneurs who operate in Services and Trade disagree and entrepreneurs from other sectors totally disagree with this statement. Czech entrepreneurs from Production and Transport agree with the statement that business environment in the country is suitable for starting a business. Entrepreneurs from the Construction sector are rather neutral and agriculturists do no correspond to any answer. Responses of Slovak entrepreneurs regarding business environment's suitability for starting a business are captured in the correspondence analysis presented in Figure 2.

Two dimensions explain 77.3% of total of inertia. The first dimension contributes on total inertia by 56.5% and the second dimension contributes by 20.7%. P value of Pearson's chi-square test of independence is 0.014, thus we reject the null hypothesis of non-dependence of data and the assumption of the existence of dependence between the observed variables is met. Even if this correspondence analysis does not capture as much information as the analysis of Czech entrepreneurs' answers, results are more explicit. The correspondence map indicates that Slovak agriculturists totally disagree with the statement that the business environment in the country is suitable for starting a business. Entrepreneurs from the Trade and Construction sectors are neutral. In case of entrepreneurs from Transport, Services,

and Production, a conclusion cannot be made, as their answers are equally distant from agreement and disagreement.

Business environment in the county is good and suitable for business

The correspondence analysis of Czech entrepreneurs' responses concerning business environment' suitability for doing business is shown in Figure 3. Two dimensions explain 93.8% of total of inertia. The first dimension contributes on total inertia by 58.9% and the second dimension contributes by 34.9%. P value of Pearson's chi-square test of independence is 0.703, thus we cannot reject the null hypothesis of non-dependence of data. We present the results of correspondence analysis although we are aware of ambiguity of the results.

It is clear from the correspondence map that entrepreneurs from the Trade sector totally disagree with the given statement. On the other hand, Czech agriculturists agree with it. Entrepreneurs from Construction and Production rather disagree with the statement that the business environment in the Czech Republic is good and suitable for business. Entrepreneurs from other sectors and Transport express their neutrality toward this statement.

Results of the correspondence analysis of Slovak entrepreneurs' answers are shown in Figure 4. P value of Pearson's chi-square test of independence is 0.001, thus we reject the null hypothesis of non-dependence of data and the assumption of the existence of dependence between the observed variables is met. Two dimensions explain 70.9% of total of inertia. First dimension contributes on total inertia by 43.8% and second dimension contributes by 27.2%. As in the previous question, results of Slovak entrepreneurs' answers are brighter. Again, Slovak agriculturist totally disagree with the statement that the business environment in the Slovak Republic is good and suitable for doing business. Entrepreneurs from the Transport, Construction, and Services sectors disagree with the statement. Entrepreneurs from Production and Trade are neutral or agree with the statement.

Business environment in the country is reasonably risky and allows doing business

The third correspondence analysis concerns entrepreneurs' perceptions of the risks linked to business activities. The correspondence analysis for Czech entrepreneurs' answers is shown in Figure 5 and its two dimensions explain 85.9% of total inertia. The first dimension contributes on total inertia by 65.8% and the second dimension contributes by 20.1%. P value of

Pearson's chi-square test of independence is 0.133, thus we assume the dependence between the observed variables. The correspondence map indicates that Czech entrepreneurs from the Transport sector totally disagree with the statement that the business environment in the Czech Republic is reasonably risky and allows doing business. Entrepreneurs from the Services, Trade, and Construction sectors, respectively, agree or totally agree with this statement. In case of the Production sector and Agriculture, there is a weak co-occurrence with disagreement.

Results of the correspondence analysis of Slovak entrepreneurs concerning reasonable risky environment for doing business are shown in Figure 6.

Two dimensions explain 74.9% of total of inertia. The first dimension contributes on total inertia by 39.3% and the second dimension contributes by 35.7%. P value of Pearson's chi-square test of independence is 0.024, thus we reject the null hypothesis of non-dependence of data and the assumption of the existence of dependence between the observed variables is met There are two outlying sectors, Transport and Agriculture. Further, there is co-occurrence between disagreement with the statement and the Construction sector and neutrality of other sectors. Other co-occurrences are not clear; thus no interpretation is provided here.

Business conditions in the country have improved over the past five years

The last correspondence analysis concerns the improvement of business conditions in the last five years. Results of the correspondence analysis for the Czech Republic are shown in Figure 7. Two dimensions explain 85.2% of total of inertia. The first dimension contributes on total inertia by 58.8% and the second dimension contributes by 26.4%. P value of Pearson's chi-square test of independence is 0.698, thus we cannot reject the null hypothesis of non-dependence of data. Even so, we present the results of correspondence analysis although we are aware of the ambiguity of the results.

The correspondence analysis indicates a perfect co-occurrence of the Transport sector and agreement with the statement that business conditions in the country have improved over the past five years. Further, there is a perfect correspondence between Production and disagreement with the statement that the business environment has improved over time. Co-occurrence between disagreement and the Trade and Services sectors is also notable. Entrepreneurs from the Construction sector revealed neutrality towards the statement that the business environment has improved in the last five years. Other sectors are in between neutrality and total disagreement.

The correspondence analysis results concerning improvement of the business environment of Slovak entrepreneurs are shown in Figure 8. Two dimensions explain 86.6% of total of inertia. The first dimension contributes on total inertia by 61.5% and the second dimension contributes by 25.1%. P value of Pearson's chi-square test of independence is 0.002, thus we assume the dependence between the observed variables.

There is a total disagreement of Slovak agriculturists and entrepreneurs from other sectors with the statement that business conditions in the country have improved over the past five years. Further, there is co-occurrence between agreement and the Transport sector. Entrepreneurs from Production are rather neutral and entrepreneurs from the Services Trade sectors expressed disagreement with the statement that business conditions have improved in the last five years.

Discussion

In a complex evaluation, the results of sector and correspondence analyses are quite heterogeneous, therefore, a unification and generalization of conclusions related to various forms of perceiving the researched constructs by entrepreneurs in a specific sector would be problematic. Emphasis was, therefore, put on summarizing the results in a qualitative form for each country separately, so the disproportions in perceiving the conditions of the business environment and its risks are distinct for each country.

The first part of the research examined entrepreneurs' notions towards the following statement: "Business environment in the country is suitable for starting a business". Czech entrepreneurs form the Services and Trade sectors did not agree with this statement, entrepreneurs from other industries expressed total disagreement. Entrepreneurs from the Production and Transport sectors expressed agreement, while entrepreneurs from the Construction sector were of a neutral opinion. The Slovak business environment yielded less information. Slovak entrepreneurs from the Agriculture sector totally disagreed with the claim that the business environment in the country is suitable for starting a business, while those from the Trade and Construction had a neutral opinion. The Transport, Services, and Production sectors were problematic in evaluating this statement, as their answers were equally distant from agreement and disagreement. The second part of the research dealt with notions towards the statement "Business environment in the country is good and suitable for business ". Czech entrepreneurs from the Trade sector totally disagreed with the statement, whereas Czech Agriculture entrepreneurs expressed agreement. A rather negative

opinion was obtained from Czech entrepreneurs from the Construction and Production sectors, while they were neutral in Transport and other industries. Slovak attitudes were again different from the Czech ones. Slovak entrepreneurs from the Agriculture sector were in a total disagreement with the statement that the business environment in Slovakia is good and suitable for business. Slovak entrepreneurs in the Transport, Construction and Services sectors expressed their disagreement, while a neutral notion or agreement was recorded in Production and Trade, respectively. Besides notions about the suitability of the business environment for starting and conducting business, the study, in its third part, also examined the attitudes towards business risk. Czech entrepreneurs from the Transport industry expressed total disagreement with the statement "Business environment in the country is reasonably risky and allows doing business", while those from Services, Trade, and Construction expressed agreement or total agreement. A weak correspondence with disagreement was observed in the Production sector. The situation in Slovakia is different. The correspondence map shows two obvious outlying sectors, Transport and Agriculture. Correspondence was also found between disagreement with the statement in the Construction sector and neutrality of other sectors. Business conditions also closely relate to progress in entrepreneurship, therefore, the fourth part of the study dealt with the statement "business conditions in the country have improved over the past five years". Czech entrepreneurs' notions indicate perfect correspondence of the Transport sector and agreement with the statement that business conditions in the country have improved over the past five years. There was also perfect correspondence between Production and disagreement with the opinion that the business environment has improved over time. Correspondence was also observed between disagreement and the Trade and Services sectors. A neutral opinion was observed in the Czech Construction sector. Slovak entrepreneurs from Agriculture and other sectors expressed total disagreement with the statement, while those from Transport agreed with the statement. The Production sector expressed a neutral opinion, while disagreement was observed in Services and Trade sectors.

The above findings lead to definite conclusions: There is a need to better examine how different attitudes towards business conditions impact the decision to start a business and its development in respective sectors, as well as conduct more detailed, structured researches related to basic macroeconomic parameters of SMEs' development in respective regions. It is also crucial to support innovation development on the local and regional level (Dallago, 2014; Blajer-Gołębiewska *et al*., 2018) and create institutional support and systems of cooperation (e.g. Ivanová & Čepel, 2018;

Čepel *et al*., 2018; Pilar *et al.*, 2018; Mura *et al*., 2018; Ghulam, 2019; Hanafi *et al*., 2018; Mura, 2019).

The creation of strategic documents aimed at regional development, including the development of SMEs, which are the basic determinants of economic growth and the development of regions in both countries will not be possible without high quality sector and regional economic analyses in the future. This will require access to detailed, structured data from a number of resorts, their cooperation, and the creation of specific databases based on research platforms from scientific and research teams in both countries, which has long been reflected in the results of a number of national and international studies (e.g. Rahman *et al*., 2017; Ključnikov, 2016; Ghulam, 2019).

Conclusions

The topic of identifying and removing barriers that hinder the development of enterprises in the SMEs segment is number one priority in all countries having a developed market economy. In many studies, external barriers of SMEs' development are identified as standard, as they also stem from the essence of small- and medium-sized entrepreneurship. Nowadays, many enterprises feel the impact of the economic and financial crisis, which is reflected in the values of the country's macroeconomic development indicators. Despite the fact that the number of SMEs is rapidly growing (Remeikiene *et al*., 2018), there is an apparent need to identify broader aspects of business development with regard to available regional and national potential and resources. This requires performing multidimensional sector analyses within regional analytical frameworks that would remove the generalization effect of macroeconomic and microeconomic research studies and will draw attention to revealing causal relations in examining the determinants of business environment's development.

The results of this study conducted in the Czech Republic and Slovakia point to a substantial heterogeneity in perceiving the quality of the business environment. Its aim was to examine in detail the sector aspects of differences in perceiving the quality of the business environment by SME entrepreneurs. The number of enterprises in the research sample was evenly distributed in both countries in which they operate. The average answers in individual regions of both countries were quite similar, so no intrastate aspect affected the results. The research sample consisted mostly of microenterprises, a lower number of small enterprises, and a few medium-sized enterprises.

The results of the correspondence and comparative analysis show a considerable sector heterogeneity in perceiving and evaluating the quality of the business environment, even though the capacity/inertia of correspondence analyses is quite high. In correspondence analyses, the total inertia in Czech entrepreneurs' answers was 92.5%, 93.8%, 74.9%, and 85.2%. In the case of Slovak entrepreneurs, the total inertia was 77.3%, 70.9%, 74.5%, and 85.9%. Globally, there is a higher skepticism among Slovak entrepreneurs compared to Czech ones. Entrepreneurs' negative notions evoke the need to perform detailed, structured analyses and a consequent examination of the reasons why there are such differences in the perception of the conditions for starting a business, conducting business, entrepreneurial risks, etc. Many international research studies point to the merit of other factors that should be linked and examined for their causal influence and interdependence. This ensures a sufficient analytical platform necessary for the creation of strategic documents, as well as concepts of regional strategic innovation plans and comparative analyses of national and international benchmarks. From the macroeconomic point of view, this is a continuous dynamic process, for countries must continue their active support of small and medium-sized enterprises and hence continuously stimulate economic growth, the growth of innovation potential, and the creation of active network of international cooperation. Current regional disparities and discrepancies reflect inadequate policies in respective regions and can significantly deepen in the future without active support policies for SMEs. Improving business conditions and development of SMEs is a sign of a country's macroeconomic stability, which means that the future will bring more pressure to change macroeconomic management tools aimed at a more active support of the SMEs' development, the development of family businesses, local employment growth, etc. This requires a more intense cooperation between entrepreneurial subjects, local municipalities, universities, etc., who could prompt the activation of joint development projects and increase the influx of international investments.

Limitations of the research consist in the fact that our sample was not representative. Moreover, the sectors in which firms operate were not equally represented. In some cases of correspondence analysis, the condition of existence of significant relationship between two nominal variables were not fulfilled, thus the results are ambiguous.

Areas of future studies consists of data sample expansion what would lead to more robust conclusion. Moreover, an extension of the research on Poland and Hungary would bring more complex view on business environment in Central Europe.

References

Berger, A. N., & Udell, G. F. (2006). A more complete conceptual framework for SME finance. *Journal of Banking & Finance, 30*(11). doi: 10.1016/j.jbankfin .2006.05.008.

Belás, J., Dvorský, J., Tyll, L., & Zvaríková, K. (2017). Entrepreneurship of university students: important factors and the propensity for entrepreneurship. *Administratie si Management Public, 28.*

Belás, J., Nguyen, A., Smrčka, L., Kolembus, J., & Cipovová, E. (2016). Financial literacy of secondary school students. Case study from the Czech Republic and Slovakia. *Economics and Sociology, 9*(4). doi: 10.14254/2071- 789X.2016/9-4/12.

Blajer-Gołębiewska, A., Wach, D., & Kos, M. (2018). Financial risk information avoidance. *Economic Research-Ekonomska Istraživanja, 31*(1). doi: 10.1080/ 1331677X.2018.1439396.

Borg, I., & Groenen, P. J. F. (2010). *Modern multidimensional scaling: theory and applications*. New York, NY: Springer Science + Business Media.

Greenacre, M. J. (1984). *Theory and applications of correspondence analysis*. London: Academic Press.

Bruns, V., & Fletcher, M. (2008). Banks' risk assessment of Swedish SMEs. *Venture Capital, 10*(2). doi:10.1080/13691060801946089.

Caplinska, A., & Ohotina, A. (2019). Analysis of financial literacy tendencies with young people. *Entrepreneurship and Sustainability Issues, 6*(4). doi: 10.9770/ jesi.2019.6.4(13).

Corazza, M., Funari, S., & Gusso, R. (2016). Creditworthiness evaluation of Italian SMEs at the beginning of the 2007–2008 crisis: an MCDA approach. *North American Journal of Economics and Finance, 38*. doi: 10.1016/j.najef. 2016.05.008.

Cepel, M., Stasiukynas, A., Kotaskova, A., & Dvorsky, J. (2018). Business environment quality index in the SME segment. *Journal of Competitiveness, 10*(1). doi: 10.7441/joc.2018.02.02.

Dallago, B. (2014). The role of universities in local development. *Corvinus Journal of Sociology and Social Policy, 5*. doi: 10.14267/cjssp.2014.01.02.

Eggers, F., Kraus, S., Hughes, M., Laraway, S., & Snycerski, S. (2013). Implications of customer and entrepreneurial orientations for SME growth. *Management Decision, 5*. doi: 10.1108/00251741311309643.

Fairlie, R. W., & Holleran, W. (2012). Entrepreneurship training, risk aversion and other personality traits: evidence from a random experiment. *Journal of Economic Psychology, 33*(2). doi: 10.1016/j.joep.2011.02.001.

Fredriksson, A., & Moro, A. (2014). Bank–SMEs relationships and banks' risk-adjusted profitability. *Journal of Banking & Finance, 41*. doi: 10.1016/j. jbankfin.2013.12.026.

Gavurova, B., Vagasova, T., & Kovac, V. (2016). Competitiveness assessment of Slovak Republic regions. In J. Krajicek, J. Nesleha & K. Urbanovsky. In *European financial system 2016: proceedings of the 13th international scientific conference*. Brno: Masaryk University.

Gavurova, B., Huculova, E., Kubak, M., & Cepel, M. (2017). The state of student's financial literacy in selected Slovak universities and its relationship with active pension savings. Economics & Sociology, *10*(3). doi: 10.14254/2071-789x. 2017/10-3/15.

Gluchman, V., & Gluchmanová, M. (2018). Students' views on ethical issues in Slovak education. *Journal of Educational Sciences and Psychology*, *8*(1).

Ghulam, Y. (2019). SME's credit conditions during the financial crisis in Europe. *Prague Economic Papers*, *28*(1). doi: 10.18267/j.pep.672.

Grzybek, G., & Malczyńska-Biały, M. (2019). The ethical dimension of consumption in a relationship. *Ethics & Bioethics (in Central Europe), 9.* doi: 10.2478/ebce-2019-0004.

Hanafi, N., Yunus J. M., Azmi R., & Othman F. M. (2018). Learning orientation entrepreneurial orientation and legal issues on women-owned SMSs' performance. *European Proceedings of Social & Behavioural Sciences, 52.* doi: 10.15405/epsbs.2018.12.03.87.

Hudakova, M., Masar, M., Luskova, M., & Patak, M. R. (2018). The dependence of perceived business risks on the size of SMEs. *Journal of Competitiveness*, *10*(4). doi: 10. 10.7441/joc.2018.04.04.

Ivanová, E., & Čepel, M. (2018). The impact of innovation performance on the competitiveness of the Visegrad 4 Countries. *Journal of Competitiveness, 10.* doi: 10.7441/joc.2018.01.04.

Jayaraman, J. D., & Jambunathan, S. (2018). Financial literacy among high school students: evidence from India. Citizenship. *Social and Economics Education, 17*. doi: 10.1177/2047173418809712.

Polishchuk, V., Kelemen, M., Gavurova, B., Varotsos, C., Andoga, R., Gera, M., Christodoulakis, J., Soušek, R., Kozuba, J., Blišťan, P., & Szabo, S. (2020). A fuzzy model of risk assessment for environmental start-up projects in the air transport sector. *International Journal of Environmental Research and Public Health, 16*(23). doi: 10.3390/ijerph16193573.

Kelemen, M., Polishchuk, V., Gavurova, B., Szabo, S., Rozenberg, R., Gera, M., Kozuba, J., Andoga, R., Divokova, A., & Blišťan, P. (2020). Fuzzy model for quantitative assessment of environmental start-up projects in air transport. *International Journal of Environmental Research and Public Health, 16*(24). doi: 10.3390/ijerph16193585.

Ključnikov, A., Kozubíková, L., & Sopková, G. (2017). The payment discipline of small and medium-sized enterprises. *Journal of Competitiveness*, *9*(2). doi: 10.7441/joc.2017.02.04.

Ključnikov, A. (2016). Uncover SMEs finance through the impact of the specific factors. Evidence from Slovakia. *Transformations in Business & Economics, 15(2B).*

Li, K., Niskanen, J., Kolehmainen, M., & Niskanen, M. (2016). Financial innovation: credit default hybrid model for SME lending. *Expert Systems with Applications, 61*(C). doi: 61. 10.1016/j.eswa.2016.05.029.

Mura, L., Marchevska, M., & Dubravska, M. (2018). Slovak retail business across panel regression model. *Marketing and Management of Innovations, 4*. doi: 4. 10.21272/mmi.2018.4-18.

Mura, L. (2019). Entrepreneurship internationalization – case of Slovak family businesses. *AD ALTA-Journal of Interdisciplinary Research, 9.*

Naushad, M. (2018). A study on the antecedents of entrepreneurial intentions among Saudi students. *Entrepreneurship and Sustainability Issues, 5*(3). doi: 10.9770/jesi.2018.5.3(14).

Nguyen, T. A. N., & Rozsa, Z. (2019). Financial literacy and financial advice seeking for retirement investment choice. *Journal of Competitiveness, 11*. doi: 10.7441/joc.2019.01.05.

Nikolic, N., Jovanovic, I., Nikolic, D., Mihajlovic, I., Schulte, P. (2019). Investigation of the factors influencing SME failure as a function of its prevention and fast recovery after failure. *Entrepreneurship Research Journal, 9*. doi: 10.1515/erj-2017-0030.

Oláh, J., Virglerova, Z., Popp, J., Kliestikova, J., & Kovács, S. (2019). The assessment of non-financial risk sources of SMES in the V4 countries and Serbia. *Sustainability, 11*. doi: 10.3390/su11174806.

Pérez-Gómez, P., Arbelo-Pérez, M., & Arbelo, A. (2018). Profit efficiency and its determinants in small and medium-sized enterprises in Spain. *BRQ Business Research Quarterly, 21*. doi: 10.1016/j.brq.2018.08.003.

Rahman, A., Belas, J., Kliestik, T., & Tyll, L. (2017). Collateral requirements for SME loans: empirical evidence from the Visegrad countries. *Journal of Business Economics and Management, 17*(4). doi: 10.3846/16111699.2017. 1357050.

Remeikiene, R., Rozsa, Z., Ligita, G., & Penčik, J. (2018). Assessment of the impact of the international trade in agricultural products on the EU economic growth. *E&M Economics and Management, 21*. doi: 10.15240/tul/001/2018-4-003.

Ryan, R. M., O'Toole, C. M., & McCann, F. (2014). Does bank market power affect SME financing constraints? *Journal of Banking & Finance, 49.* doi: 10.1016/j.jbankfin.2013.12.024.

Salimi, N., & Rezaei, J. (2018). Evaluating firms' R&D performance using best worst method. *Evaluation and Program Planning, 66*. doi: 10.1016/j. evalprogplan.2017.10.002.

Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? – an empirical evidence from an enterprise survey. *Borsa Istanbul Review, 16*. doi: 16. 10.1016/j.bir.2016.06.001.

Acknowledgements

This work is supported by the Scientific Grant Agency of the Ministry of Education, Science, Research, and Sport of the Slovak Republic and the Slovak Academy Sciences as part of the research project VEGA 1/0797/20: "*Quantification of Environmental Burden Impacts of the Slovak Regions on Health, Social and Economic System of the Slovak Republic*".

Annex

Table 1. Sectorial distribution of companies

	Sector							Total
	Transport	Trade	Construction	Production	Agriculture	Services	Other	
The Czech Republic	16	73	29	53	9	109	23	312
The Slovak Republic	11	69	39	51	20	122	17	329
Total	27	142	68	104	29	231	40	641

Figure 1. Correspondence analysis (starting a business) — Czech Republic

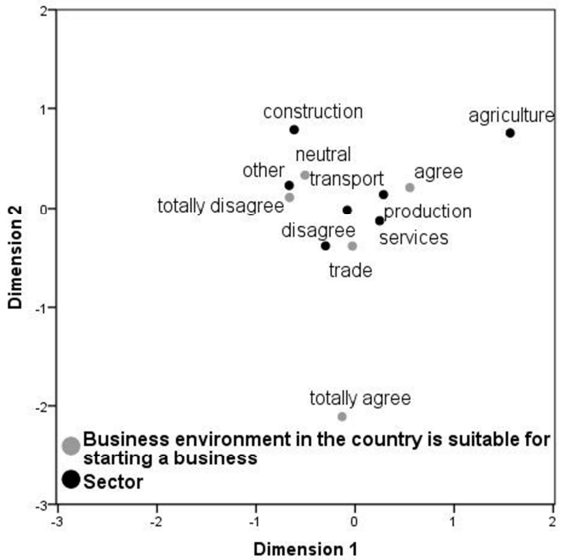

Figure 2. Correspondence analysis (starting a business) — Slovak Republic

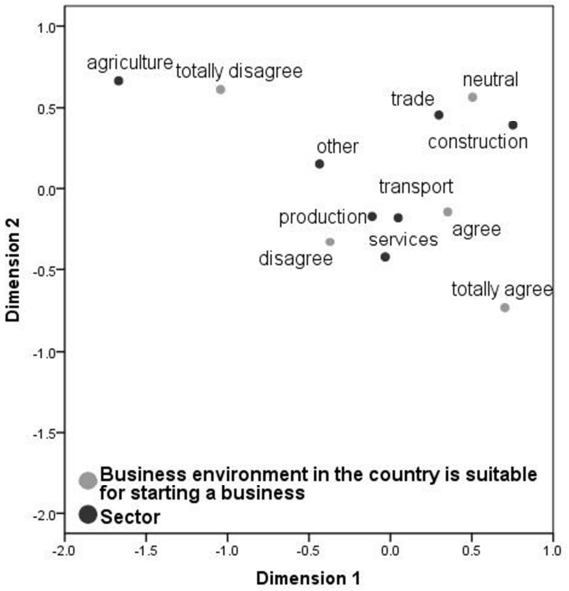

Figure 3. Correspondence analysis (good business environment) — Czech Republic

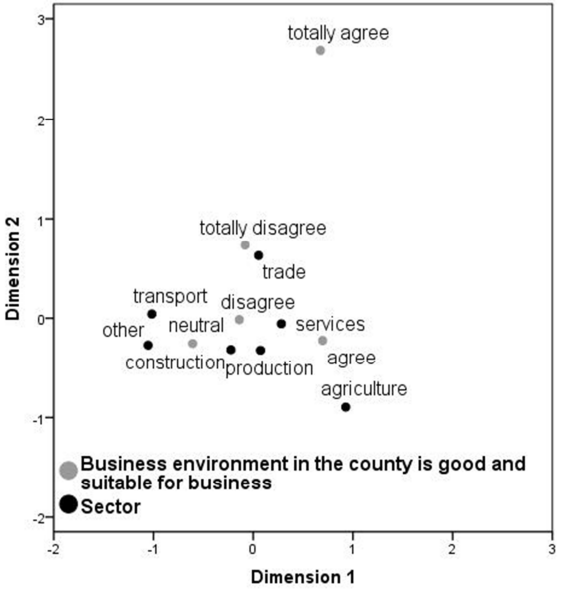

Figure 4. Correspondence analysis (good business environment) — Slovak Republic

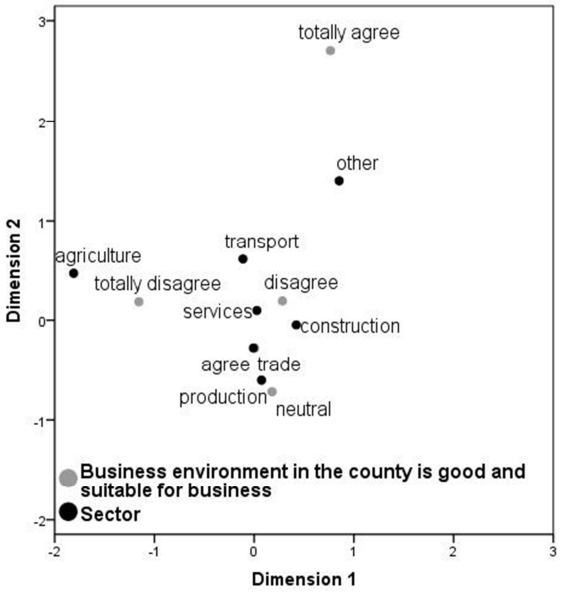

Figure 5. Correspondence analysis (reasonably risky environment) — Czech Republic

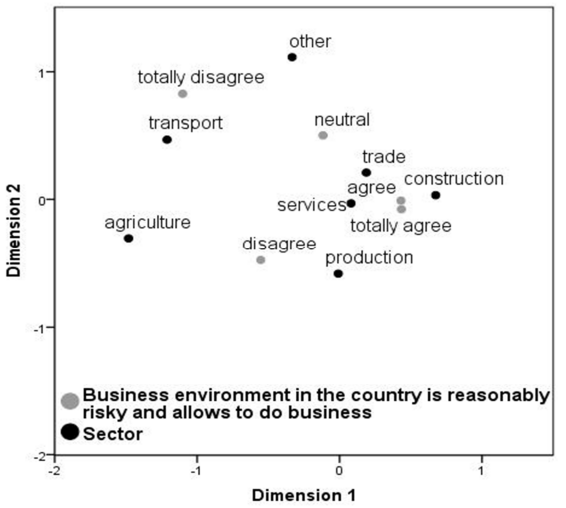

Figure 6. Correspondence analysis (reasonably risky environment) — Slovak Republic

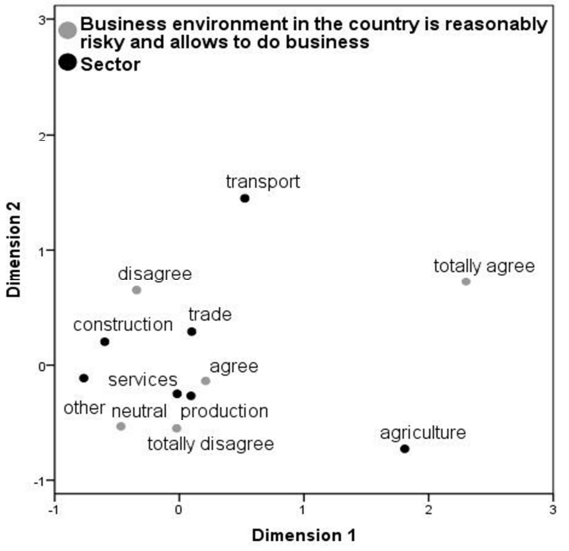

Figure 7. Correspondence analysis (improvement of business environment) — Czech Republic

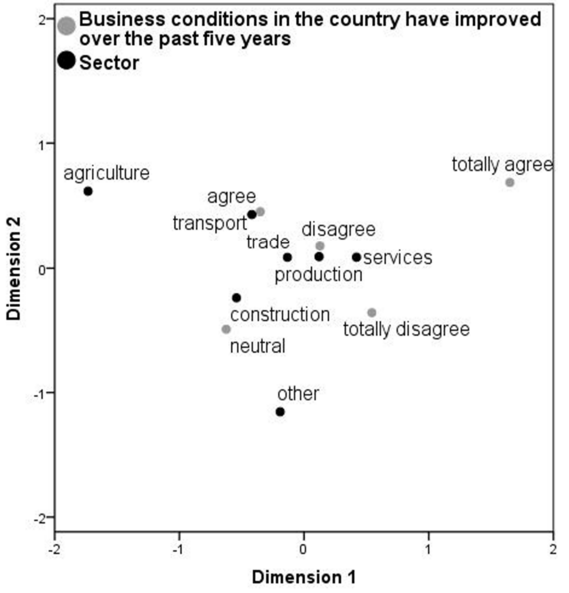

Figure 8. Correspondence analysis (improvement of business environment) — Slovak Republic