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THE IMPACT OF POLITICAL FACTORS' PERCEPTION ON SUITABILITY OF INTERNATIONAL BUSINESS ENVIRONMENT: THE CASE OF STARTUPS

Ludmila Kozubikova,
*Tomas Bata University in Zlín,
Zlín, Czech Republic,
E-mail: kozubikova@fame.utb.cz*

Anna Kotaskova,
*Pan-European University Bratislava,
Bratislava, Slovakia,
E-mail:
anna.kotaskova@gmail.com*

Jan Dvorsky,
*Tomas Bata University in Zlín,
Zlín, Czech Republic,
E-mail: jan.dvorsky5@gmail.com*

Aleksandr Kljucnikov
*University of Entrepreneurship and
Law,
Prague, Czech Republic,
E-mail: kljucnikov@gmail.com*

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ABSTRACT. Favorable business environment including political, technological, economic, social and other determinants is one of the crucial factors influencing the decision to start a business. The aim of this paper is to define and quantify significant political factors which determine the perception of the quality of business environment (QBE) of small and medium-sized enterprises for starting a new business in Czech Republic and Slovakia. Data of an extensive research conducted at Tomas Bata University in Zlín in 2018 was processed by means of regression analysis. The results show that QBE in both countries is mostly affected by state regulation and state support of business activities, followed by legal environment. The factor supposed to be the third one differed in each country. While QBE is also determined by the quality of education in Czech Republic, this factor is not statistically significant in Slovakia, and the state bureaucracy is. Therefore, governments of both countries should continue facilitating start-ups' development by reducing and eliminating administrative barriers, improving access to finance, and by adapting educational programs involving entrepreneurial education at different educational levels.

Keywords: Business environment, Educational system, Czech Republic, Legal factors, Slovak Republic, Small and medium-sized enterprises, State regulation and bureaucracy.

Introduction

Country's internal business environment is undoubtedly an important factor influencing both motivation to start a new business and the business itself. It is especially determined by the political (including legislation) and economic factors of each country. This interaction is mutual: while business environment affects entrepreneurs, they are interacting with its specific elements and shape its character.

Small and medium-sized enterprises (SMEs) are especially sensitive to quality and changes of business environment (e. g., Veliu et al., 2018; Cepel et al., 2018; Ivanová & Čepel, 2018; Ključnikov et al., 2017; Adair & Adaskou, 2018). According to Pavelková et al. (2009), SMEs are of a great importance for the world economy because they promote competitive dynamics of economic systems and directly or indirectly affect large companies, especially in the fields of efficiency growth and innovations' development. The statement about the importance of SMEs for the economy and their sensitivity to changing business environment factors is also valid in case of specific conditions in the countries compared in this research (Czech Republic and Slovakia).

While considering the factors that shape QBE, the focus should not be put only on evaluation of the current conditions for the existing firms, but also on the factors and conditions for starting a new business. E.g., Obadić & Aristovnik (2011) argue that the quality of educational system is a factor of economic growth, so entrepreneurial education may also play an important role in QBE's formation and perception.

Creation of the favorable business environment for SMEs was one of the three priority areas targeted by the Ministry of Industry and Trade of Czech Republic (MIT) in 2018. Other two MIT's priorities included direct support for SMEs in their access to finance and labor force. These priorities were included in the 2018 Action Plan for Support of Small and Medium-Sized Enterprises (APS), the key implementation document reflecting the current needs of SMEs in Czech Republic (MIT, 2018).

After the evaluation of the already published academic papers focused on the factors influencing QBE (e.g., Veliu et al., 2018; Cepel et al., 2018; Obadić & Aristovnik, 2011; Antlova & Rydvalova, 2016 etc.) and ASP, and due to the predictable similarity of business environment in Czech Republic and Slovakia our research team decided to compare the perception of importance of the political factors determining QBE for starting a business in both countries in case of university students, a focus group that has a big potential for starting a new business in the future.

This study contributes to the research in the field of national entrepreneurship by presenting the results of the empirical investigation of the factors influencing QBE for starting a new business from the university students' perspective, concurrently evaluating their willingness to start their own business.

This paper presents the theoretical background and describes the current situation with business environment for SMEs in Czech Republic and Slovakia, and also deals with the important factors influencing business environment in general, and the role of the state in shaping the conditions for starting, operating a new business and in entrepreneurial education, in particular. The next section of the paper is devoted to description of the data and methodology used in this study. The results of the performed analyses are described in the following section together with the discussion of the results, implications of the findings, and directions for future research.

1. Literature review

Small firms depend on entrepreneurs – the individuals who have ideas and are willing to take the risks necessary to get a firm off the ground. Europe needs more entrepreneurs and the European Commission is looking for the ways how to encourage potential entrepreneurs to set up new businesses. The Czech Republic is also a part of this trend (Hamplova & Provaznikova, 2015).

Bánciová & Raisová (2012) confirm the importance of SMEs in Slovakia by stating that the economy of Slovakia is based on SMEs.

The role played by SMEs is irreplaceable, especially in the areas of job creation, balancing regional development, and the introduction of innovations into standard business practice (Hitka et al., 2018).

Success and improvement of business competitiveness depend on many factors, inherently including the QBE of the country which significantly influences corporate performance. Regarding this fact, Dobeš et al. (2017) state that the role of the state is undisputable. The state performs at many roles that might be either helpful or harmful in the eyes of a business owner, it determines the entrepreneurial legislative framework, sets conditions for starting a business, and regulates market competition.

Business environment is generally determined by the macroeconomic and microeconomic factors. The macro level covers: the responsibilities for SMEs policy, the national SMEs policy and the policy implementation agency. The micro level covers the network of business support organizations, as well as entrepreneurial networks (Mura et al., 2017) and clear responsibilities in the policy processes (Hlavacek et al., 2015). Priess et al. (2017) examined the impact of stable business environment on sustainable real estate development. The authors used an approach of Xhenetti & Smallbone (2008) who defined the meso level that covers financial infrastructure and regulatory framework.

Broad evidence on rather negative evaluation of the government's approach and its attempts to develop suitable conditions for doing business is available in scientific literature (Belás et al., 2015, Civelek et al., 2016, Ključnikov et al., 2016).

Regarding the perception of the role of the state and special authorities in linking business with the state administration, the Corruption Perceptions Index (CPI) is worth mentioning. The CPI ranks countries based on how corrupt their public sector is perceived to be. The CPI reflects the views of the observers from around the world, including experts living and working in the evaluated countries. The CPI uses the scale of 0 to 100 where the 0 value means that the state is highly corrupt. Based on the Report of Transparency International (2018), the CPI values for the Czech Republic reached the level of 57 points and 50 points for Slovakia. Both countries are at a similar level in terms of corruption assessment.

The research of 271 active Czech entrepreneurs that were doing business for over 5 years and were older than 24 years carried out by Hamplova & Provaznikova (2015) and aimed at the identification of non-market factors influencing entrepreneurship on the level of SMEs brought several interesting findings. While most of the respondents (59 %) reported a positive former experience with the special authorities linking business entities with the state administration and 33 % of the respondents did not indicate any troublemaking authority for doing business, 27 % of them mentioned the Tax Office as a source of the above-standard administrative load and only 6 % of them declared that all state authorities complicate the operation of their business. The results also showed no signs of the positive effect of the interconnection of state registers for the start-up companies.

Aidis, Estrin & Mickiewicz (2012) explored the country-specific institutional characteristics likely to influence the individual's decision to become an entrepreneur. They

focused on the size of the government, freedom from corruption and “market freedom” defined as a cluster of variables related to protection of property rights and regulation. Their results indicate that entrepreneurial entry is inversely related to the size of the government, and weaker to the extent of corruption. A cluster of institutional indicators representing market freedom is significant only in some specifications. A freedom from corruption is significantly related to entrepreneurial entry, especially when the richest countries are removed from the sample.

The results of the research of SMEs by Virglerová, Homolka, Smrčka, Lazányi & Klieštík (2017) showed four key determinants influencing business environment of SMEs in the Czech Republic. The first determinant is related to the state authorities, and includes both legislative framework and public perception of the entrepreneurs. The second determinant comprises the influence of the banks and attitude to firms, since bank financing is the most important external financial source for SMEs. The third one can be comprehended as knowledge of the rules and principles that determine activities of owners especially on the financial market. The last one is related to the financial risks and changes of these risks after the financial crisis. Torkkeli, Kuivalainen, Saarenketo & Puumalainen (2019) using the quantitative approach in the group of 119 internationally operating SMEs examined how the institutional drivers can influence an international performance. They found that the international performance of SMEs is influenced directly and indirectly by the institutional drivers. Their results showed that the network competence mediates the positive relationship between the institutional drivers and the international performance.

Besides the political factors, including the legislative framework, the social factors also significantly determine the quality of the business environment (societal perception of the entrepreneurs, the quality of the educational system in the context of business activities, cultural aspects, the relationship of family members and close friends with the entrepreneurs) (Ključnikov et al., 2016; Bilan et al., 2017; Mishchuk et al., 2018; Termosa, 2017).

Hunady et al. (2018) consider the effect of university education on the entrepreneurship to be less obvious than the effect the university degree may have on the chances of getting a job. The researches stated that most of the entrepreneurial activities do not require a university degree, and the utilization of knowledge related to the entrepreneurship and gained during the university studies may be doubtful. Their results of a cross-country study based on the data from 40 EU and non-EU countries, retrieved from the Eurobarometer survey, showed that higher education can often be very beneficial for starting up a new business and the respondents who took a course on entrepreneurship during their studies had the highest probability of starting a business.

For the past few decades, higher education institutions have been evolving into full-fledged managerial entities preoccupied with generating profits and creating an economic impact on local, regional and national scales. In addition to their traditional teaching and research functions, universities engage in technology transfer, establish links with the industry and facilitate the creation of innovation infrastructure, i.e. research laboratories, science parks and industry clusters (Budyldina, 2018). The term *entrepreneurial university*, which may be defined in different ways, is worth mentioning in regards to preparing students for doing business. Guerrero et al. (2014) state that “the nature of an entrepreneurial university is such that graduates are perceived not only as future job-seekers but also as future job-creators, and the organization and content of teaching activities reflects this conception.” According to Trippel et al. (2015), “the entrepreneurial model claims that universities promote the development of their regions by engaging in patenting, licensing and academic spin-off activities generated from university subjects such as engineering, information technology and biotechnology, in which the knowledge produced overlaps more readily with products and

processes that industry and market structures can absorb.“ For comparison, Urbano & Guerrero (2013) suggest that „entrepreneurial university needs to become an entrepreneurial organization, its members need to become entrepreneurs, and its interaction with the environment needs to follow an entrepreneurial pattern.“ Summarizing these definitions, it can be stated that entrepreneurial universities are usually characterized by a diversified funding base, high research intensity, international scope of academic activities, and their close relation with regional and national firms in terms of employing, helping with their innovations, etc.

There are several studies about the impact of the entrepreneurial education on entrepreneurial behavior. Wolf (2017) presented the results of a case study that confirmed the benefits of simultaneous learning about start-ups and how to help them to grow for the students. The students appreciated the advantage of getting experience in the roles of inventors, entrepreneurs, and investors.

The study by Egerová et al. (2017) revealed that business education had some influence on the students' ability to gain the necessary knowledge and skills for entrepreneurship, specifically in case of students majoring in business.

Bergmann et al. (2018) in their extensive study partially investigated students' perceptions of the entrepreneurial climate at their universities. Their results suggest that individual and contextual factors do influence the perception of such climate. Students feel more inspired in developing ideas for new businesses and engaging in entrepreneurial activities that are a part of entrepreneurial competitions with the support of the faculty entrepreneurship officers at their university. The authors did not find any evidence of the existence of a significant relationship between the size of the budget for entrepreneurial activities at the university and the climate perception.

The assessment of the quality of the business environment is addressed by many international institutions, i.e. the World Economic Forum (Global Competitiveness Index), the World Bank (report Doing Business or Knowledge Assessment Matrix), the European Commission (Innovation Union Scoreboard), Global Entrepreneurship Research Association (Global Entrepreneurship Monitor), or the World Bank Institute (Worldwide Governance Indicators) (Jeck, 2016).

The report by the World Bank published under the title „Doing Business“ provides an objective measurement of the business regulations and their enforcement across 190 economies and the selected cities at the subnational and regional level. The Doing Business report captures several important dimensions of the regulatory environment applied on the local enterprises. It provides quantitative indicators of regulation for starting a business (see Table 1). This report also measures the features of the labor market regulation (the World Bank, 2017a, 2017b). The comparison of the evaluation results of the specific characteristics between the Czech Republic and Slovakia is presented in Table 1. This data serves to provide a comprehensive overview of the business environment in the monitored countries, and will not be further analyzed in this paper.

While the comparison of the values of Doing Business report dimensions obviously confirms that the Czech Republic reached a better score in five of ten dimensions, the difference is quite small in case of *Starting a Business* (the Czech Republic - 81st position, Slovakia - 83rd). Based on these results, it can be stated that the conditions for starting a business in these countries are comparable.

Business environment of the Czech Republic and Slovakia was influenced by the processes of transformation, liberalization, globalization, and other factors. The positive influence of their membership in the European Union can be considered as unquestionable (Bruothová & Hurný, 2015).

Table 1. The comparison of the selected dimensions of doing business between the Czech Republic and Slovakia

Dimension	the Czech Republic		Slovakia	
	Ranking ¹	DTF ²	Ranking ¹	DTF ²
Starting a Business	81	87.44	83	86.95
Dealing with Construction Permits	127	62.77	91	67.82
Getting Electricity	15	90.33	57	80.31
Registering Property	32	79.68	7	91.00
Getting Credit	42	70.00	55	65.00
Protecting Minority Investors	62	58.33	89	53.33
Paying Taxes	53	79.26	49	79.88
Trading across Borders	1	100.00	1	100.00
Enforcing Contracts	91	58.21	84	58.63
Resolving Insolvency	25	76.69	42	66.08

¹⁾ The ease of doing business ranking ranges from 1 to 190.

²⁾ The distance to frontier (DTF) measure shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005. An economy’s distance to frontier is reflected on a scale from 0 to 100, where 0 represents the lowest performance and 100 represents the frontier

Source: *Doing business 2018 report (World Bank 2017a, 2017b)*, own processing

The current state of the business environment of Slovakia is the result of a relatively short but more complex genesis related to the fundamental changes in the political and economic system accompanying the transformation process (Prezi & Bulavová, 2018).

The specifics of Slovakia are discussed e. g. by Fil’a & Kučera (2015) who enhance the substantial disparities and imbalances between the regions. Most regions of Slovakia are economically and socially interconnected; therefore, they should strengthen these interconnections, increase the investments in lagging regions, and decrease the differences in the standard of living, the level and quality of the transport and energy infrastructure.

According to the statistical data about the education published by the Organization for Economic Co-operation and Development (OECD), the Czech Republic (1,4 % of GDP), Slovakia (1,0 % of GDP), Poland, Hungary, Slovenia, and Serbia all significantly underspend on tertiary education both as a proportion of Gross Domestic Product (GDP) and as an annual expenditure per student in comparison to the EU average (1,4 % of GDP) and OECD average (1,5 % of GDP). (Dlouhá et al., 2017).

2. Methodological approach

The research of the QBE was a part of an extensive research of the business environment and their important factors conducted at Tomas Bata University in Zlín. The data was collected during 2018. The survey was carried out on a sample of 9400 enterprises from Slovakia (SK) and 7800 enterprises from the Czech Republic (CZ). An enterprise was a statistical unit, selected for this research. The entrepreneurs were selected from the database called Bisnode Albertina in case of the Czech Republic and Cribis (Universal Register of SMEs) in case of Slovakia. The following procedure was applied for the random selection of the companies from the database:

- the basic dataset for each country was created by the selection of the business entities, fulfilling the criterion of the number of employees in the range from 1 to 250, from all records in the specified Czech and Slovak company databases;

- the next step was to assign a serial number to each business entity in the region;
- using the “Randbetween” mathematical function, we randomly selected the serial numbers (function range: smallest value - 1, highest value - total number of business entities in the region with the selected criterion);
- subsequently, we assigned the selected business entities to the randomly selected numbers (separately for each region);
- we have found a telephone or email contact to a business entity.

Individual enterprises were directly addressed by the email, by phone, and in some cases in person. The attitudes of the entrepreneurs in relation to the topic of the research were obtained using an electronic questionnaire which included 82 statements. The order of questions in the questionnaire was chosen in order to obtain truthful attitudes from the respondents. The respondents had the possibility to choose only one option to express their opinion. The questionnaire was created in two versions based on the country of operation of the business unit. The Slovak version is available at: https://docs.google.com/forms/d/1_H7WSPiVJZkEXdQx3VIGV0iJ_4ppDKRIQMXL6F8Vn-4/edit, and the Czech version is available at: https://docs.google.com/forms/u/0/d/1Cym-yAP-MeaYGSsp-vlMWTy5Egkn9nG4I78Ei31H7sGA/edit?usp=forms_home.

The questionnaire covered: *a) socio-demographic characteristics* (6 statements) – the legal address of the enterprise, the sector of the economy and the size of the enterprise; the gender, the age and the level of education of an entrepreneur; *b) factors of business environment* (72 statements) – macroeconomic environment, political factors, technological factors, social and competitive environment; *c) statements on the quality of the business environment* (4 statements). For this paper the research team used the data from 17 statements from the online questionnaire (17/82 statement: 20.7 % of all). The total of 641 (100 %) filled-out questionnaires were collected, 312 of them were from the Czech enterprises (48.7%) and 329 were from their Slovak colleagues (51.3%). The percentage of the completed questionnaires that included positive feedback reactions reached the level of 3.7 % (positive feedback reaction from the enterprises in the Czech Republic – 4.0% and in Slovakia – 3.32%).

The following hypotheses were formulated to meet the main aim of this research paper:

H: Such factors as the legislative environment, the state regulation, the business support, the state bureaucracy and the quality of education determine the quality of the business environment in the Czech Republic and Slovakia at the statistically significant level.

All questions were always related only to the country of residence and operation of the business unit. The political factors ($PF_i = PF1, PF2, PF3, PF4$) and their indicators are:

- *PF1: Legislative environment* - PF11: I consider the level of business legislation to be decent. PF12: The judicial system in the field of commercial law works well. PF13: The law enforcement is good. PF14: The legislative environment is stable.
- *PF2: State regulation and business support* - PF21: The State supports the entrepreneurship through the tax and levy policy. PF22: The state policy encourages the export of our products and services. PF23: The State provides financial support for entrepreneurship. PF24: The State has a positive impact on the quality of the business environment.
- *PF3: State bureaucracy* - PF31: The administrative burden on companies is reasonable. PF32: The administrative burden on entrepreneurs has declined over the last five years. PF33: State bureaucracy does not adversely affect the business environment. PF34: The state bureaucracy does not affect business.
- *PF4: Quality of education* - PF41: I consider the system of higher education in our country to be of a good quality. PF42: I consider the system of secondary education in

our country to be of a good quality. PF43: The State is able to prepare quality employees for the enterprises. PF44: The school graduates have good knowledge and skills.

- *Quality of business environment (QBE)*: The business environment in our country is suitable for starting a business.

The entrepreneurs could comment on the political factors (PF1, PF2, PF3, PF4) and their indicators that can affect the QBE using one of the following answers (Likert scale): I completely agree (Quantitative number - 5), I agree (4), I take no position (3), I disagree (2) and I completely disagree (1).

The regression analysis was used to quantify the relationship between the variables and to verify the hypothesis H without aiming to forecast the values of the variables in this research. Since the dependent variable (QBE), the independent variables (PF1, PF2, PF3, PF4), and the indicators are metrics, the regression analysis is one of the appropriate statistical methods for their evaluation. The independent variables must satisfy the assumptions of linearity and normal distribution of data to be statistically sound regression model coefficients. The assumption of linearity was verified by the graphical analysis of data using the scatter plot (de Waal, 1977). The assumption of a normal distribution of the number of respondents' evaluations of statements was verified by: the graphical analysis (comparing the histogram with the normal distribution curve), testing, and descriptive characteristics (skewness and kurtosis) using the z-score. If the value of the skewness or kurtosis of the z-scores was greater than $\langle -2; 2 \rangle$, the premise was rejected. The assumption of a homoscedasticity (constant variance) of the errors was verified by Bartlett's test. This assumption was accepted when the Bartlett's statistics was lower than the critical value (CV). A correlation matrix was used to verify the relationship between the dependent and independent variables. The Student's t-test was used to verify the significance of the coefficients in the regression model (Zheng & Yu, 2015). The Durbin-Watson test (D-W test) was used to verify the violations of independence (Test of autocorrelation). The autocorrelation is rejected that the D-W statistics is in interval $\langle d_U; 4-d_U \rangle$. Upper critical values (d_U) of D-W test were 1.628 (the Czech Republic) and 1.608 (Slovakia). *The Shapiro-Wilk test (S-W test) was used to verify normality distribution of errors. The normality distribution of errors is accepted when the p-value of S-W statistics is greater than the level of significance. The coefficient in the regression model is significance when the student's statistics is greater than critical value of the Student's test.*

The basic linear multiple regression model that defines the relationship between the dependent and independent variables has the following general and partial forms for the Czech Republic and Slovakia (independently):

General model:

$$QBE = \beta_0 + \beta_1 * PF_1 + \beta_2 * PF_2 + \beta_3 * PF_3 + \beta_4 * PF_4 + \varepsilon_t, \quad (1)$$

variables and constants explanation: QBE – the dependent variable (Quality of business environment); β_0 – constant, $\beta_1, \beta_2, \beta_3, \beta_4$ – coefficients of independent variables PF_i ; PF_1 – legislative environment, PF_2 – state regulation and business support, PF_3 – state bureaucracy, PF_4 – quality of education); ε_t – error term.

Partial models:

$$PF_i = \beta_0 + \beta_{i,1} * PF_{i,1} + \beta_2 * PF_{i,2} + \beta_3 * PF_{i,3} + \beta_4 * PF_{i,4} + \varepsilon_t, \quad (2)$$

variables and constants explanation: PF_i – the selected factor; β_0 – constant, $\beta_{i,1}, \beta_{i,2}, \beta_{i,3}, \beta_{i,4}$ – coefficients of independent variables $PF_i; F_{i,j}$ – independent indicators; ε_t – error term.

The coefficient of determination indicates the percentage of variability of the selected factor that is explained by the chosen regression model (Lancaster & Hamdan, 1964; Belás et al., 2018). The coefficient of determination was compared with an adjusted coefficient of determination. The F – test was used to verify the significance of the entire regression model (Lancaster & Hamdan, 1964). The presumption of multicollinearity was verified by using a variance inflation factor (VIF – test) (Liao et al., 2012). If the value of the VIF test for the independent variable is less than 5, then the coefficient is not affected by the multicollinearity (Hair et al., 2010). The desired p-value of the F – test must be lower than the level of significance. The level of significance is 0.05. The calculations were made using SPSS Statistics software. Figure 1 represents the predictive model of the relationships between the quality of the business environment and the political factors.

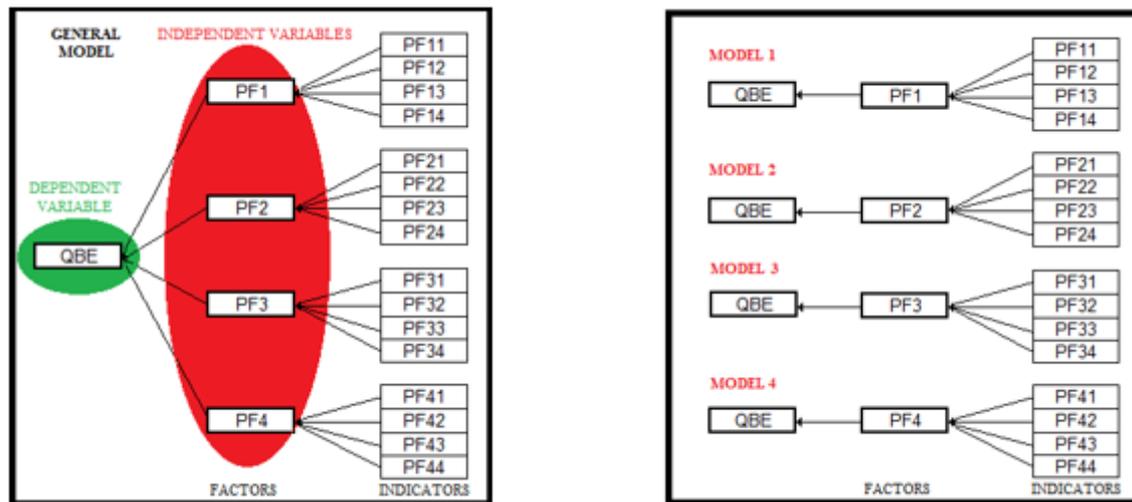


Figure 1. General predictive model and partial models

Source: own processing

The structure of the sample according to the size of an enterprise was as follows (the Czech Republic/Slovakia): 258/234 micro, 43/71 small and 11/24 medium companies. The questionnaires were filled out by 236/251 men and 76/78 women. The structure of the respondents according to the length of company's doing business was as follows: most of the respondents' businesses were in operation for more than 10 years (208/147), 48/78 of the entrepreneurs were in business from 5 to 10 years, and the rest of the respondents (56/104) had operated their business for less than 5 years. The structure regarding the level of education was as follows: university education 127/224, secondary education 135/95 and secondary education without graduation 50/10. The questionnaires were filled out by the entrepreneurs from the different sectors of the economy, including the service (109/122), commercial (73/69), manufacturing (53/51), construction (29/39), transportation (19/11), agriculture companies (9/20), and other (industry sector not mentioned in the questionnaire) companies.

3. Conducting research and results

The regression analysis of data was used to test and verify hypothesis H . The linear trends between the dependent variable (QBE) and the independent variables can be found in the results of the graphical analysis (the scatter plot). The results of the assumption of linearity and of the normal data distribution are presented in Table 2.

These results confirm that all indicators (F_{11}, \dots, F_{44}) meet the assumption of linearity. The indicators F_{33}, F_{43} (the Czech Republic) and F_{21}, F_{41}, F_{44} (Slovakia) do not meet the assumption of normal data distribution. Due to the size of the selected samples of entrepreneurs in the Czech Republic (312) and in Slovakia (329), the indicators cannot be considered as statistically insignificant (the size of the sample is larger than 100). The results also confirm that the assumption of homoscedasticity can be accepted for all factors (see table 2).

Table 2. Verification of the assumptions of the regression models

Type of model	The regression analysis' assumption	Verification tool	Independent variables							
			The Czech Republic				Slovakia			
Model 1	Indicators of factor F1		F11	F12	F13	F14	F11	F12	F13	F14
	Homoscedasticity	Bartlett's test	2.156	3.548	4.241	2.358	2.685	3.545	2.745	2.141
	NDDS	Z- score	1.844	1.571	1.896	1.958	1.042	1.118	0.877	0.174
Model 2	Indicators of factor F2		F21	F22	F23	F24	F21	F22	F23	F24
	Homoscedasticity	Bartlett's test	2.188	2.588	2.874	2.474	2.133	2.312	2.441	2.189
	NDDS	Z- score	0.143	0.266	0.625	0.525	2.846	0.287	0.586	0.602
Model 3	Indicators of factor F3		F31	F32	F33	F34	F31	F32	F33	F34
	Homoscedasticity	Bartlett's test	2.010	2.895	3.458	6.224	7.018	4.382	1.235	1.355
	NDDS	Z- score	0.855	1.166	4.366	0.582	1.209	1.490	1.525	1.326
Model 4	Indicators of factor F4		F41	F42	F43	F44	F41	F42	F43	F44
	Homoscedasticity	Bartlett's test	2.355	3.797	3.613	3.322	3.87	4.05	4.588	2.984
	NDDS	Z- score	1.879	1.857	2.841	1.874	2.655	1.468	1.277	3.511

Notes: NDDS – Normal distribution of data set; Critical value of Bartlett's test is 7.8 (Level of significance is 0.05).

Source: own processing

Table 3 summarizes the results of the verification of an existence of the dependence between the variables and of the statistical significance of the estimated regression model coefficients.

Table 3. Verification of the significance of the estimated coefficients and correlation

Type of model	Regression equation	Independent variables							
		The Czech Republic				Slovakia			
Model 1	Indicators of factor F1	F11	F12	F13	F14	F11	F12	F13	F14
	Significance of the EC	2.158	0.967	2.017	2.574	3.147	1.588	1.687	4.471
	Coefficient of Correlation	.64	.48	.59	.47	.89	.74	.64	.82
Model 2	Indicators of factor F2	F21	F22	F23	F24	F21	F22	F23	F24
	Significance of the EC	1.322	3.299	2.944	2.656	1.511	2.733	2.274	2.143
	Coefficient of Correlation	.35	.52	.57	.72	.48	.74	.85	.84
Model 3	Indicators of factor F3	F31	F32	F33	F34	F31	F32	F33	F34
	Significance of the EC	1.985	1.725	1.608	1.969	2.074	2.106	2.133	1.244
	Coefficient of Correlation	.49	.78	.49	.51	.57	.83	.53	.61
Model 4	Indicators of factor F4	F41	F42	F43	F44	F41	F42	F43	F44
	Significance of the EC	1.715	1.810	2.173	1.658	1.411	1.149	2.588	1.203
	Coefficient of Correlation	.58	.64	.67	.52	.58	.71	.87	.59

Notes: EC – Estimate coefficient; SC – strong correlation ($R > 0.8$), LC – low correlation ($R < 0.8$); Critical value of Student's t-test is 1.845 (Level of significance is 0.05).

Source: own processing

Based on the results of the z-scores, the linearity (see Table 2), the t-tests, and the correlations (see Table 3), all independent variables were accepted as the statistically significant coefficients of the selected linear regression models.

The results of testing of the significance of the designed regression models (Model 1, Model 2, Model 3, and Model 4) with the independent variables (F_{11}, \dots, F_{44}) are shown in Table 4.

Table 4. Characteristics of business environment quality regression models

Partial models	Country	The regression models (Multiple linear regression function)	Characteristics of the regression models				
			Coefficient of Determination (R^2)	Multiple correlation coefficient	ANOVA (F-test)	Multicollinearity (VIF)	Autocorrelation (DWtest)
Model 1	CZ	$PF_1 = 0.22*PF_{11}+0.24*PF_{13}+0.14*PF_{14}$	0.2119	0.4603	4.4E-15	3.428	1.745
	SK	$PF_1 = 0.21*PF_{11}+0.26*PF_{14}$	0.2364	0.4862	4.1E-18	N	1.668
Model 2	CZ	$PF_2 = 0.12*PF_{22} + 0.25*PF_{23}+0.45*PF_{24}$	0.3437	0.5863	4.4E-27	4.005	1.845
	SK	$PF_2 = 0.21*PF_{21} + 0.22*PF_{23}+0.29*PF_{24}$	0.2863	0.5351	8.6E-23	3.354	1.876
Model 3	CZ	$PF_3 = 0.23*PF_{31} + 0.14*PF_{34}$	0.1415	0.3762	1.5E-9	N	1.804
	SK	$PF_3 = 0.13*PF_{31} + 0.21*PF_{32}+0.14*PF_{33}$	0.2009	0.4483	5.4E-15	2.812	1.825
Model 4	CZ	$PF_4 = 0.24*PF_{43}$	0.1115	0.3340	2.3E-7	N	2.207
	SK	$PF_4 = 0.37*PF_{43}$	0.1409	0.3750	5.1E-10	N	1.847
Model 1	CZ	$QBE = 0.165*PF_1$	0.2044	0.4521	4.0E-17	N	2.314
	SK	$QBE = 0.152*PF_1$	0.2247	0.4741	7.7E-20	N	1.994
Model 2	CZ	$QBE = 0.233*PF_2$	0.3101	0.5568	8.2E-27	N	2.354
	SK	$QBE = 0.199*PF_2$	0.2764	0.5257	8.7E-25	N	2.129
Model 3	CZ	$QBE = 0.134*PF_3$	0.1194	0.3456	3.5E-10	N	2.166
	SK	$QBE = 0.145*PF_3$	0.1978	0.4449	2.1E-17	N	2.349
Model 4	CZ	$QBE = 0.122*PF_4$	0.1012	0.3181	9.2E-9	N	2.297
	SK	$QBE = 0.118*PF_4$	0.0953	0.3087	1.1E-8	N	2.238

Note: CZ – the Czech Republic, SK – Slovakia, N – Multicollinearity is not present in the regression model (less than three statistically significant factors)

Source: own processing

Based on the results presented in Table 4, it cannot be confirmed that all linear regression models are statistically significant (P-value of F test is less than the level of significance). The multicollinearity does not negatively influence the results of the estimated regression model coefficients (VIF is less than 5). The autocorrelation was rejected for each model because D-W statistics is between the upper critical value and four minus upper critical value (see the methodology). The results of the Shapiro-Wilk tests showed that the assumption of the normality of the errors distribution can be accepted for each model (the Czech Republic: model 1: p-value = 0.08; model 2: p-value = 0.07; model 3: p-value = 0.09; model 4: p-value = 0.06; Slovakia: model 1: p-value = 0.11; model 2: p-value = 0.09; model 3: p-value = 0.10; model 4: p-value = 0.08).

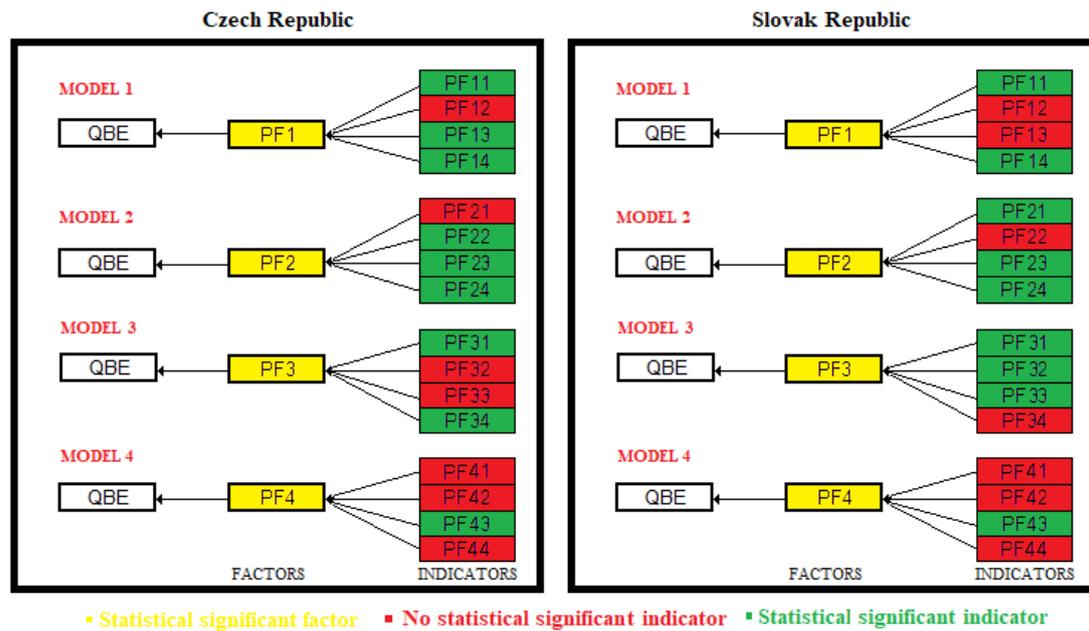


Figure 2. Results of partial regression models
Source: *own processing*

Figure 2 shows the statistical significance of the selected indicators (F_{11}, \dots, F_{44}) and factors (F_1, \dots, F_4) and their relationships to the QBE in the selected country.

The comparison of the regression models in the Czech Republic and Slovakia results in several common and different conclusions. The legislative environment is determined by a good legal enforceability only in case of the Czech Republic. The quality of the judicial system in commercial law does not determine the legislative environment in both countries. The state financial support and the state's positive influence on the business environment determine the state of regulation and business support in both countries.

Such indicators as the quality of university education, quality of secondary education, and knowledge or skills of school graduates do not determine the quality of education in the Czech Republic and Slovakia. The adequacy of the administrative burden on companies determines the state bureaucracy in both countries. All calculated models are statistically significant. It is also assumed that the general models in each country are statistically significant.

The results of testing of the significance of the designed general model with the independent variables (F_1, \dots, F_4) are shown in Table 5.

The data presented in Table 5 bring some interesting results. The assumptions of linear regression models were accepted, because the results of Bartlett's test demonstrated homoscedasticity of data and the results of Z-scores demonstrated the normal distribution of the data set. The factors (F_1, \dots, F_4) meet the assumptions for performing the regression analysis (linearity, normal distribution). There is a strong correlation between the dependent variable (QBE) and independent variables, except for F3 in the Czech Republic and F4 in Slovakia. The results of the t-tests indicate a statistical insignificance of F3 in the Czech Republic and F4 in Slovakia. The above-mentioned regression models are statistically significant (the Czech Republic: P-value = $2.7E-27$; Slovakia: P-value = $4.7E-24$). The multicollinearity does not negatively influence the results of the estimated regression model's coefficients (the Czech Republic: VIF = 3.158; Slovakia: VIF = 1.964). The autocorrelation was rejected in both Czech (D-W test = 2.111) and Slovak (D-W test = 2.301) models. The normality of distributed errors

was accepted for each model (the Czech Republic: p-value of S-W test = 0.09; Slovakia: p-value of S-W test = 0.12). Selected factors explain 34.57 % of the variability of entrepreneurs' answers in relation to the QBE in the Czech Republic and 29.92 % in Slovakia.

Table 5. Characteristics of business environment quality regression models

Verification of the assumptions of general models									
Factors of QBE		F1	F2	F3	F4	F1	F2	F3	F4
Homoscedasticity	Bartlett's test	3.187	2.447	1.141	2.382	1.557	1.320	2.018	2.121
NDDS	Z- score	1.848	0.167	0.187	0.584	1.788	1.802	0.761	0.984
Verification of the significance of the estimated coefficient and correlation									
Factors of QBE		F1	F2	F3	F4	F1	F2	F3	F4
Significance of the EC		2.710	2.827	1.108	2.187	2.266	2.433	2.144	1.251
Coefficient of Correlation		.84	.85	.48	.86	.81	.89	.81	.52
Characteristics of business environment quality of regression model									
Country	The regression models (Multiple linear regression function)	Coefficient of Determination (R ²)		Multiple correlation coefficient		ANOVA (F-test)		Multicollinearity (VIF)	
CZ	$QBE = 0.05*PF_1 + 0.18*PF_2 + 0.05*PF_4$	0.3457		0.5880		2.7E-27		3.158	
SK	$QBE = 0.04*PF_1 + 0.13*PF_2 + 0.03*PF_3$	0.2992		0.5470		4.7E-24		1.964	

Notes: NDDS – Normal distribution of data set; SC – strong correlation ($R > 0.8$), LC – low correlation ($R < 0.8$). CZ – the Czech Republic, SK – Slovakia, N – Multicollinearity is not in the regression model (less than three statistical significant factors)

Source: own processing

Figure 3 shows the statistical significance of the factors (F₁, ..., F₄) and their relation to the QBE in the selected country (the Czech Republic a Slovakia).

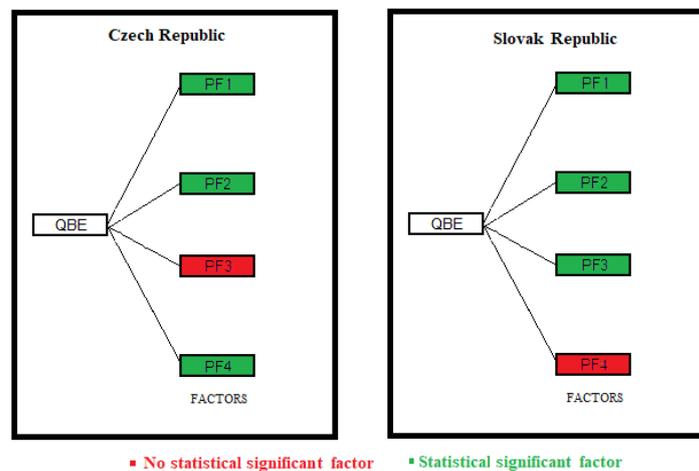


Figure 3. Results of general regression models.

Source: own processing

The QBE in the Czech Republic is mostly influenced by the state regulation and business support (estimation coefficient EC = 0.18), followed by the legislative environment and the quality of education (EC = 0.05). The findings on the importance of the quality of education for the perception of the QBE in the Czech Republic confirm the opinions of e. g. Egerová et al. (2017), Ključnikov et al. (2016), and Papadaki et al. (2017). The state bureaucracy does not determine the quality of the business environment for starting a business in the Czech Republic. In case of Slovakia the factors with the most substantial influence on the QBE are ranked

according to their intensity of influence as follows: the state regulation and business support (EC = 0.13), the legislative environment (EC= 0.04) and the state bureaucracy (EC= 0.03). The quality of education does not determine the quality of the business environment for starting a business in Slovakia. This conclusion corresponds with the opinion of e. g. Hunady et al. (2018) on an ambiguous role of business education for starting a business.

Based on the presented results, and the fact that at least one factor in case of each country does not statistically affect the QBE, the hypothesis *H* is rejected for both the Czech Republic and Slovakia. Since this research revealed that in both countries the state regulation, business support and legislative environment are the most important factors influencing the perception of the QBE for starting a business, the opinions of e. g. Dobeš et al. (2017), Hlavacek et al. (2015) can be confirmed.

It is necessary to be well motivated for starting a business. According to OECD (2014), there are especially two economic motivational factors for the Czech Republic and Slovakia: implementing an appropriate business idea and obtaining the necessary financial resources. The research results confirmed this finding, since the state financial support, along with the positive influence of the state on business environment, showed to be the most important indicators of PF2 – state regulation and business support.

Due to the QBE and the fact that the Czech Republic and Slovakia are the members of the EU, the Small Business Act for Europe (SBA) is also valid for them. The main goal of SBA was to encourage the creation of favorable business environment for starting up and doing business and focus on tackling the following problematic areas of SMEs in the EU: *the recovery of a business after bankruptcy* (restarting business of honest entrepreneurs), *adapting the public administration to the needs of SMEs* and *removing administrative barriers, family business, facilitating business financing*, etc. (Jeck, 2014). The results also support the such main ideas included in SBA as the adequacy of the administrative burden (a significant indicator of PF3), state bureaucracy both in the Czech Republic and Slovakia, state and other financial support etc.

As it was mentioned above, the entrepreneurial education is a very current and frequently discussed topic (Budyldina, 2018; Guerrero et al., 2014; Tripl et al., 2015; Wolf 2017). It is currently widely accepted that the entrepreneurs could be either born, or also can be also created. With the ‘are entrepreneurs born or made’ debate closed, the study of entrepreneurial behaviors is a key to advancing the understanding of entrepreneurship. Intentions, learning, and orientation are among the three most widely studied behaviors within entrepreneurship research (Shankar, 2018).

Our results showed that the quality of university and secondary education and knowledge and skills of graduates are not the important indicators of the quality of education in both searched countries, but at the same time, the factors of the quality of education influence the QBE and decision-making in starting a business in the Czech Republic. Therefore, it is important to continue to pay attention to this issue which also supports the inclusion of the Business Education Pillar in the EU 2020 Action Plan.

Based on the mentioned assessments of various institutions (World Bank, OECD, World Economic Forum etc.) and even though both the Czech and Slovak business environments are specific due to the process of transformation and liberalization, both countries are trying to improve the QBE by reducing administrative burden, fighting corruption, reducing tax burden on entrepreneurs, etc. E.g. according to the World Economic Forum (WEF) and its Global Competitiveness Report (GCR, published since 1979), the Czech Republic is still the 13th most competitive economy of the EU. GCR compares macroeconomic competitiveness of the countries on the basis of multi-criteria index based on their own methodology. In 2017, the Czech Republic ranked 31st between 137 countries (Slovakia ranked 59th). The Czech

Republic has achieved the best international ranking in the following pillars: *macroeconomic environment* (8th in the world/Slovakia 35th), primary education (23rd place/Slovakia 47th), and financial markets development (23rd place/Slovakia 32nd). The Czech Republic is included among the innovation-driven economies - a group of imaginatively most advanced economies.

A weaker placement in the institutional category once again points to the problem of the business environment, coupled with administrative barriers and bureaucratic burdens. The performance of the Czech Republic is lagging the (arithmetic) average of the EU 15 not only in the infrastructure and the quality of the public institutions, but also in the key pillars of innovation and the maturity of the business environment. Unfortunately, the current development trends in the Czech Republic do not indicate that these weaknesses could be eliminated in the foreseeable future. The institutional quality among other things includes the views on the efficiency of the state administration, the level of corruption, or the ethics of companies. Slovakia ranked in a relatively much worse position compared to the Czech Republic in all twelve evaluated pillars (the highest rank was achieved in the criterion of the development of financial markets - 32nd place).

Conclusion

As opportunities and threats change in time and space, they can be perceived in the different ways – as threats in a particular location and time that can become opportunities at different times and/or places. Additionally, the situation that is an opportunity within a particular region can be a threat in another and vice versa. Therefore, opportunities and threats must be assessed in relation to a particular company, product, or service (Frank, Güttel, & Kessler, 2017; Girod & Whittington, 2017; Chládková, 2015).

The aim of this paper was to define and quantify the significant political factors that determine the perception of the quality of business environment of small and medium-sized enterprises for starting a new business in the Czech Republic and Slovakia.

It was assumed that such factors as the legislative environment, the state regulation and business support, the state bureaucracy, and the quality of education are statistically significant and determine the quality of the business environment in the Czech Republic and Slovakia. At the same time, it was assumed that there are important indicators that determine and influence each factor.

The results have brought several interesting findings about the factors that are equally important for the QBE in both countries, as well as findings about QBE related factors that are perceived differently in each country. The state regulation, business support, and the legislative environment are the most important factors influencing the perception of the QBE in both countries. The third most significant factor in these two countries proved to be different. While the quality of education proved to be the third most important factor in the Czech Republic, the state bureaucracy was the third most important factor in Slovakia.

Regarding the indicators of individual factors in terms of the legislative environment, the law enforcement was the most important factor, but only in the Czech Republic. The financial support of the state and the positive influence of the state on the business environment was the most important factor for the state regulation and business support in the Czech Republic and Slovakia. The adequacy of the administrative burden appeared as an important indicator of the state bureaucracy in both countries.

The research showed that the QBE is currently a frequently researched and discussed topic, and it should be of interest for both state and non-state institutions, as its perception also affects the motives and willingness to enter the business sphere. At the same time, it is important to note that the QBE is also affected by the businesses themselves. Their behavior influences

the perception of the QBE by the public, and the perception of the position of entrepreneurs in society significantly shapes the character and nature of the business environment.

Despite certain limits of this research (e. g. regional character of the study, using linear regression models), it is believed that it brought several interesting findings and new incentives for further research and discussion regarding the quality of the business environment, its factors, and possibilities for improvement.

It is worth to concentrate future research on the examination of other factors influencing the quality of the business environment and their indicators in the segment of SMEs with the use of Structural Equation Modeling (SEM) to improve business environment and its perception.

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