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Comparative Study of the Perception of Financial and Credit Risks among Slovak and Czech Entrepreneurs: Impact of Gender, Level of Education and Business Experience on SMEs

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Additional information is available at the end of the chapter

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Abstract

Financial and credit risk has become a widely discussed topic in relation to the recent financial and economic crisis. The aim of this chapter is to bring statistical evidence about the impact of the selected factors (gender, level of education and business experience) on the perception of financial and credit risks by the entrepreneurs in Slovakia and the Czech Republic and to identify whether the entrepreneurship in these regions is influenced by identical or different factors. The research data were obtained through the surveys carried out in 1579 small- and medium-sized enterprises (SMEs) in these countries in 2016. Pearson's chi-square analysis was applied to confirm statistically significant dependencies. Our results show that while the gender and the level of business experience of the entrepreneur could be considered as factors with the substantial impact on the perception of financial risk in both countries, the level of education (university degree) does not have a significant impact in the researched data sample.

Keywords: access to finance, small- and medium-sized enterprises, gender, education, business experience, Slovakia, the Czech Republic, financial risk, credit risk

1. Introduction

Small- and medium-sized enterprises (SMEs) are considered to be a backbone of each market economy [1] and the most important component of all world economies [2]. They are being marked as an engine of the economic growth [3, 4]; they are often more innovative than the larger enterprises; and they play an extremely important role in the employment in the developed countries. Their importance for the development of knowledge economy of each country is undiscussable.

Their smaller size and some specific characteristics are the reasons why they have to face special types of business risks, while financial risk in access to finance and also credit risk belong to the most frequent and important ones [5–13].

Many researchers examine the factors that have a significant impact on SME finances [5–8, 10, 14–27, etc.]. Factors such as the size of the company, the gender and the level of education of the entrepreneur are often marked as the most important.

Financial and credit risks belong to intensively discussed topics in relation to SMEs, especially after the burnout of the financial and economic crisis. This chapter compares the perception of financial and credit risks among Czech and Slovak SMEs. Presented scientific research specifically investigates the impact of the gender, the level of education and the length of doing business on the perception of the specified risks. The aim of this research is to show statistical evidence about the impact of the selected factors on the perception of financial and credit risks, and to identify whether the entrepreneurship in the Czech Republic and Slovakia is influenced by identical or different factors.

2. Literature review

The share of SMEs in the total amount of enterprises usually reaches more than 99% in the developed countries, with more or less equal values in the European Union and the United States [28]. According to the data of Slovak Business Agency [29], their share is 99.9% in Slovakia, where SMEs create 53.3% of state added value and employ 72.7% of the work force. Their share in the Czech Republic is 99.84% [30], with the share on the added value of 53.11% and the share on the total employment of 59.39%. The most important factors of the entrepreneurial success of SMEs and the reasons of their substantial market share in the developed countries are their innovation policy and proactive approach [31].

As presented in the previous paragraph, SMEs are considered an essential part of each developed economy, and Slovakia and the Czech Republic are not the exceptions. The access to external sources of financing is considered to be one of the most important factors, influencing the development of SMEs with growth potential in the developed countries [32]. The fact that the access to finance is necessary for the growth and further development of SMEs is proved by many authors [33, 34]. Financial risks are closely related to the access to finance, and SMEs face many different types of these risks [35]. The lack of finance is one of the types

of financial risk, which is considered to be the main problem for their growth [36]. SMEs face the external financial risks of the dependence on changes on the financial markets on the one hand, and the internal financial risks, where the company itself is their source, on the other hand. External financial risks are based on risk factors such as the exchange and interest rates, as well as on the commodity prices. These kinds of internal financial risks are financing risk, solvency risk and liquidity risk [35].

Small- and medium-sized enterprises have problems with many obstacles in doing business. However, bank lending has an undiscussable positive effect on the growth of the companies [37], and is considered for the dominant form of external form of financing used by German SMEs [38], the problems with the access to the bank financing prevail. In comparison with the large companies, SMEs usually do not have enough real estate or other assets to be used as a bank collateral which is often a main condition for getting a loan [39]. The lack of collateral of guarantees is mentioned in several studies [1, 40]. The fact that SMEs do not have sufficient collateral as compared with the larger enterprises indicates that the size of the company should be an important factor in the assessment of credit risk. The smaller and younger the company is, the more financing constraints it will face. The availability of credit information and the bank concentration ratio have a significant impact on SME financing [14]. SMEs severely suffer in the countries with the less developed financial system or the countries with the unstable currency, where the prices of the loans are basically unaffordable for most of them [41].

The economic crisis has reduced the profitability of SMEs in Slovakia [20] and the Czech Republic, whereas SMEs perceive the financial risk as one of the major barriers for them [42]. Slovak SMEs mostly use internal sources of financing, and have a primary problem with guarantees [1]. Insufficient financing is often mentioned as one of the barriers for young entrepreneurs in Slovakia [43].

Similar findings were presented in the survey among Czech entrepreneurs where three-fourth of the SMEs in the Czech Republic claimed that they perceive the intense effect of financial risks [44]. The problem with the lack of collateral is interrelated with a weak capital power of SMEs [45]. Weak capital power and the degree of credit worthiness belong to the most substantial problems in SME financing. Additionally, it is proven that small and growing firms in the UK are likely to have higher interest rates for credit than large firms [17, 18, 45].

The size of the company has also an impact on credit risk and interest rate risk [46, 47]. The rejection of the loan or higher interest rates are common problems of small firms. The smaller the company is, the higher the interest rates usually are. While larger companies usually have a relatively easy access to bank or internal financing, smaller companies frequently offering higher rates of return of their business projects and requiring substantially less investments are often forced to attract groups of smaller investors through the specific financing instruments, such as mezzanine financing [48].

The impact of gender on financial and credit risks was researched by many authors. Literature research brings the evidence [49] that there is a significant difference in risk taking between male and female entrepreneurs. Men are usually more aggressive in entering the market (starting doing business) when they identify a competitive business opportunity.

Women are not so interested in the growth of their companies; they are satisfied when the company is in a stable condition. However, women are found to be more innovative than men, which is one of their advantages in the opening of new enterprise. In this context the evidence [50] that women are more risk averse than men, and that higher riskiness does not prevent men from starting the business is not surprising. According to the authors [5] women are more discouraged from bank financing than men due to the reason that they are in fear of rejection due to the lack of education and the lack of personal assets or collateral. Another study informs [44] that women to a lesser extent perceive the fact that financial risk intensively acts on the business environment, but surprisingly to a bigger extent present the opinion that they can properly manage financial risks of their company. According to the other research women more intensively perceive that the intensity of business risks grew during the crisis [44].

All authors do not agree with the statement that gender has a significant impact on SME financing [10, 11, 51]. Some authors present the evidence that gender is not a significant factor in access to credit loans [10, 11, 52].

Several studies present the evidence in relation to the credit risk that the gender has a significant impact on the demand for credit, and its availability [6, 7]. The gender also has an influence on access to finance of venture capital firms [8, 53].

The researches by the different authors state that while men have a better orientation in the credit conditions and more widely agree with the statement that credit conditions in commercial banks are transparent [24], women tend to perceive ethical standards and support philanthropic projects of their banks more than men [54]. The research conducted in 2014 focussing on the factors that influence the financing of young entrepreneurs in Slovakia [55] presented the finding that gender can be considered as the statistically significant factor in the segment of young entrepreneur [55] and has an intensive impact on the access to bank finance of UK SMEs. The study [39] informs that men are more financially constrained than women. Next research [56] confirms this argument stating that SMEs that needs financing and is owned and managed by women are more credit constrained than the men-owned SMEs due to the reason that women entrepreneurs assume that they will be refused by banks and due to that reason they do not even try to apply for a loan.

Contrary to the assumption of the refusal of the loan, presented by female entrepreneurs, some authors provide evidence that female entrepreneurs have a higher probability to get the credit. The empirical research [57] found that male-owned enterprises are less credit rationed than the female-owned enterprises, where the result shows a 2.8% more credit rationing possibility for the female-owned enterprises than the male owned. They also found that women are more risk averse than the male, and hence they are not willing to take more risk and to take the loans.

The level of education of the entrepreneur is the next researched factor with an impact on the financial and credit risks. People with higher level of education are more interested in having their own business [58]. They can attract more educated employees to their businesses, and educated employees can positively affect the output as well as productivity of the business [59].

Higher level of education of the entrepreneur or the employee, including university or college degree, is significantly related with the higher performance of enterprises in relation to sales, profitability and sustainability [60]. People with higher education actively seek for new opportunities, which are positively related with higher growth. The level of education has an impact on the familiarity with the conditions under which the banks provide loans in case of micro-enterprises [61]. Higher level of education of entrepreneurs is in negative relation with their company's business failure. Higher education is an advantage for the entrepreneur to maintain sustainability of the company, which is the opposite case for those without a higher formal educational background [62]. On the other side, the study from the Czech Republic did not identify any significant differences in approaches of the SME entrepreneurs to financial risk management in relation to gender and level of education [52].

Some authors [12] declare that there is a significant positive relationship between favourable commercial banks' lending terms, financial knowledge of the SME owners and credit availability to SMEs. The education seems to be really important in obtaining bank loans [13].

The level of business experience of the entrepreneur represented in the length of doing business was the last observed factor with the impact on the perception of financial and credit risks. SMEs have different capital structures because of their specific characteristics. The study of the role of the owner's characteristics in the performance of agritourist farms [26] declares that the length of doing business have a positive impact on company performance. The major finding of the analysis of the impact of business experience on China's non-governmental businesses [27] was that business experience has a small impact on the elasticity of output with respect to labour, but large impact on the elasticity of output with respect to capital. There is a positive correlation. Other studies on the impact of business experience on the financial risk are missing in the scientific and academic environment. This is the reason why we consider findings of our research to be valuable and rewarding.

3. Research methods

The research, presented in this chapter, is based on the questionnaire surveys that were conducted in Slovakia and the Czech Republic. While our research was focused only on a group of small- and medium-sized enterprises, it was decided to select them in accordance with the recommendation of the European Commission no. 2003/361/EC, which states that micro-enterprises should employ 0–9 employees, small enterprises employ 10–49 employees and medium-sized enterprises employ 50–249 employees. The questionnaires of the presented surveys were set up according to this recommendation.

3.1. Data sample and the process of data collection in Slovakia

According to the newest official Slovak statistical data published by the statistical office of Slovakia, 554.743 of small- and medium-sized enterprises were operating in Slovakia in 2014. Their share on the total number of companies reached the value of 99.8%. Our obtained data

set of Slovak SMEs included data from 438 enterprises of the different size, while the share of SMEs reached the value of 93.8% of the total number of respondents.

The comparison of the different characteristics of the basic data set and our selected sample indicates striking similarities, while the differences between them are insignificant. For instance, the basic data set contains 99.8% of SMEs, while our sample contains 93.8% of them (the difference is only 6%); the data about the regional structure and the area of economic activity of the selected companies are also close to each other.

While comparing the regional structure between the selected sample and the basic data set we have identified the approximate differences to be around 2–4% only, except for Bratislava and Košice regions of Slovakia. The smallest difference between the sample and basic data set was in the Trenčín region (1.7%), and the biggest in the Bratislava region 10.7%.

The research focused on the actual situation in the Slovak business environment was carried out in 2016. The questionnaire called financial risks of SMEs in Slovakia was distributed online and is available online at: <https://docs.google.com/forms/d/1Fhob6avbfQq4DcaYG44mxNYyohzqcqZWDICXkUgFbNq4/viewform?c=0&w=1>.

Research data were collected in three specific ways. First of all a random selection of the appropriate companies was made from the free database of Slovak companies available on www.vsetkyfirmy.sk. Selected companies were contacted by our research team by email. In case the selected company did not reply the email, it was contacted by phone. The questionnaire was also placed on the specialized economic web portals, focused on the SMEs. Finally, the sample of companies selected by the team experts was contacted directly by the researchers. A total of 438 questionnaires were collected during the research. This number of respondents fulfils the requirements for stochastic selection.

3.2. Data sample and the process of data collection in the Czech Republic

The survey of the quality of the business environment was carried out in the first half of 2015 through a questionnaire on a sample of 1141 respondents in the Czech Republic. The method of choosing companies was as follows. We randomly selected a total of 1650 companies from the Albertina database. These companies were contacted via email, where the business owners were asked to complete a questionnaire, which was placed on the website: https://docs.google.com/forms/d/1U9coaC5JRL0N2QOOO6Xb8j3mnaZXdSM47Kugt4EDGFo/viewform?usp=send_form. If these companies had not responded to our mail, we addressed them by telephone.

The structure of the respondents was as follows: 75% men, 25% women; 48% of respondents reported that they have secondary education, 34% had the university degree and 18% reported that they have secondary education without graduation; 65% of the total number of companies are micro-enterprises, 27% are small enterprises and 8% are medium-sized enterprises. Note that 62% of companies' owners stated that the company exists for more than 10 years, 21% of them stated that they have operated for a maximum of 5 years and 17% of them reported that the company belongs to an interval of 5–10 years of existence. Respondents were representing

the following sectors: trade (33%), manufacturing (23%), construction (14%), transport (6%), agriculture (3%) and other services (39%).

In both cases, the research team assumes that the calculated sample and the data are representative, and have the reliability of 95%. The sampling error of $\pm 5\%$ should be considered. In both researches the minimum size of the sample was calculated according to the formula $n = (196)^2 \times \sqrt{p \times (1 - p)} / 0.05^2$, where p is the share of the sample.

3.3. Definition of alternative hypotheses and research methods

Our research involved instruments such as the tools of descriptive statistics (averages and percentage), Microsoft Excel (Office 2007) software as an important tool for data analysis due to its possibilities in data processing using pivot tables, the methods of comparison and deduction in data analysis. The statistical method of Pearson's chi-square at the significance level of 5% was applied by using the statistical software available at www.socscistatistics.com for the verification of the existence of the statistically significant dependences and differences between the selected factors. If the calculated p -value was lower than 5%, the null hypothesis was rejected, and the alternative hypothesis was adopted. Due to the length limitations the chapter presents the results of some selected problems. The arguments were constructed according to the experience and estimations of the research team.

We defined two basic alternative working hypotheses H1 and H2 the accuracy of which was verified by statistical methods. H1 is related to the observance of the intensity of financial risk and H2 is related to the observance of the intensity of credit risk. The impacts of three basic factors (gender, level of education and business experience) were researched in each of the alternative working hypothesis. Null hypotheses assuming there are no statistically verifiable differences between the observed groups were supplementing the alternative hypotheses. Null hypotheses state that there is no statistically significant dependence among the chosen factors and the intensity of the perception of financial risk/credit risk.

Null hypothesis: $\pi_1 = \pi_2$

so, $\pi_1 = \pi_2 = 0$

Alternative hypothesis

$$\pi_1 = \pi_2 \neq 0 \quad (1)$$

Two basic alternative working hypotheses related to the chosen factors and defined by the method of expert estimation were established in the research:

H1: There is statistically significant impact of a chosen factor — (a) gender, (b) education or (c) business experience — on the perception of the importance of financial risk and the opinion that the importance of financial risk has increased during the crisis. We assumed that there are statistically differences between Slovak and Czech SMEs.

H2: There is statistically significant impact of a chosen factor—(a) gender, (b) education or (c) business experience—on the credit risk, resp. on the opinion that the importance of credit risk has increased during the last 3 years. We assume there are statistically differences between Slovak and Czech SMEs.

4. Research results and discussion

4.1. Observing the impact of gender, level of education and business experience in relation to the opinion that the importance of financial risk has increased during the crisis

H1 focused its attention on the relation between the selected factors and the financial risk. In observing the impact of gender on the perception of financial risk we found that this factor has a significant impact on the perception of the financial risk in Slovakia (**Table 1**). Slovak male entrepreneurs perceived the increasing intensity of the financial risk during the crisis more intensively than female counterparts. The value of chi-square statistic is $\chi^2 = 7.8996 = \chi^2_{0.05}$ with 2 dgf.¹ The p -value of 0.019258 indicates that the result is significant at $p < 0.05$. This fact allows us to confirm working alternative hypothesis H1a for Slovakia with the level of probability of 95%.

Factors/answers	Slovakia (SK) in %		The Czech Republic (CZ) in %		SK vs. CZ	
	ME	FE	ME	FE	ME	FE
Agree	78.03 (238*)	65.41 (87)	67.13 (578)	65.36 (183)	—/—	—/—
Neutral att.	16.07 (49)	24.06 (32)	27.29 (235)	29.64 (83)	—/—	—/—
Disagree	5.90 (18)	10.53 (14)	5.57 (48)	5.00 (14)	—/—	—/—
Total	100.00 (305)	100.00 (133)	100.00 (861)	100.00 (280)	—/—	—/—
Pearson's χ^2 statistics	7.8996		0.6465		15.5247	5.0711
P -value	0.019258		0.723776		0.000425	0.079216
Level of significance (LoS)	$p < 0.05$		$p > 0.05$		$p < 0.01$	$p > 0.05$

Notes. * n = absolute value.

—/— = data were in previous columns.

ME = male entrepreneurs, FE = female entrepreneurs.

Table 1. Comparison of chi-square calculation in relation to the gender in the Czech Republic and Slovakia.

The situation in Czech Republic was quite different. At the base of chi-square statistic value $\chi^2 = 0.6465 = \chi^2_{0.05}$ with 2 dgf. and p -value of 0.723776 we have to reject the alternative working hypothesis H1a for the Czech Republic with the level of probability of 95%. Male and female entrepreneurs present no statistically significant differences in the perception of financial risk among the Czech entrepreneurs.

¹ Degrees of freedom.

Table 1 concurrently presents the results of the comparison of the opinions of the Czech and Slovak entrepreneurs between each other according to gender. We found statistically significant differences between the Slovak and Czech male entrepreneurs. Slovak male entrepreneurs statistically significantly more often agree with the opinion that the financial risk increased during the crisis than male entrepreneurs in the Czech Republic. Value of chi-square statistic is $\chi^2 = 15.5247 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$. The p -value of 0.000425 indicates that the result is significant at $p < 0.01$. It is quite interesting to know that the differences between Slovak and Czech female entrepreneurs were not identified ($\chi^2 = 5.0711 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$, p -value = 0.079216).

The observed results correspond with the theoretical studies and relevant researches [5–8, 44, 49, 50, 52, 53, 55] that declare that gender has a significant impact on the financial risk, but it should be taken into consideration as several authors present the opposite results, presenting gender to have no significant impact on SME finance [10, 11, 51].

The relation between the level of education and the perception of the financial risk was the second researched factor in H1. **Table 2** presents the related results of the research. Application of the research methodology showed that there are no statistically significant relations between the presented combinations. In researching the level of education in Slovakia and the Czech Republic the p -values were always above the level of $p > 0.05$. The value of chi-square statistic was $\chi^2 = 1.5566 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$ in Slovakia, and p -value of 0.459185 indicates that we have to reject the alternative working hypothesis H1b. The analysis of the data of the Czech SMEs provided the same results ($\chi^2 = 1.5114 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$, p -value = 0.469688), so hypothesis H1b was rejected in case of Slovakia and the Czech Republic. These scientific findings are contrary to the findings of many theoretical studies declaring education to be a relevant factor in relation to the business and financial risks [12, 13, 58–60, 62].

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK - CZ	
	UE	OE	UE	OE	UE	OE
Agree	72.98 (*208)	76.47 (117)	64.80 (254)	67.69 (507)	–/–	–/–
Neutral att.	18.60 (53)	18.30 (28)	30.10 (118)	26.70 (200)	–/–	–/–
Disagree	8.42 (24)	5.23 (8)	5.10 (20)	5.61 (42)	–/–	–/–
Total	100.00 (285)	100.00 (153)	100.00 (392)	100.00 (749)	–/–	–/–
Pearson's χ^2 statistics	1.5566		1.5114		13.0663	4.9965
P -value	0.459185		0.469688		0.001454	0.082227
LoS	$p > 0.05$		$p > 0.05$		$p < 0.01$	$p > 0.05$

UE = university education, OE = other types of education.

Table 2. Comparison of chi-square calculation in relation to the level of education in the Czech Republic and Slovakia.

A surprising finding was made while comparing the responses of the Slovak and Czech respondents with the university degree. Slovak respondents with university education more statistically significant often agreed with the opinion that the intensity of the financial risk

increased during the crisis than their Czech counterparts. Slovak entrepreneurs from a category of SMEs are more sensitive on the intensity of financial risk than Czech SMEs ($\chi^2 = 13.0663 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$ $p\text{-value} = 0.001454$). The result is statistically significant with the level of probability of 99%. The interpretation of this result might evoke the theory that either Slovak respondents are better educated and more informed about the financial risk, or they are only more sensitive, resp. more intensively perceive constraints of financial risk in Slovakia.

Statistically significant differences between the Slovak and Czech respondents with the different types or levels of educations ($\chi^2 = 4.9965 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$ $p\text{-value} = 0.082227$) were not identified.

The level of business experience was the third observed factor in relation to the financial risk. Research team assumed that entrepreneurs with longer business experience more intensively realize (perceive) the fact that financial risk increased during the crisis than the representatives of the younger companies. This assumption was confirmed. In both countries it was found that there are statistically significant differences in relation to the length of doing business and the business experience (**Table 3**). The value of chi-square was $\chi^2 = 20.9644 = \chi^2_{0.01 \text{ with } 2 \text{ d.f.}}$ $p\text{-value} = 0.000028$ in Slovakia, calculation in Czech was quite similar with the value of $\chi^2 = 27.4573 = \chi^2_{0.01 \text{ with } 2 \text{ d.f.}}$ $p\text{-value} = < 0.00001$. In both cases, we confirm the alternative working hypothesis H1c with the level of probability of 99%.

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK-CZ	SK-CZ
	10+	10–	10+	10–	10+	10–
Agree	83.41 (*176)	65.64 (149)	71.91 (507)	58.26 (254)	–/–	–/–
Neutral att.	9.95 (21)	26.43 (60)	22.41 (158)	36.70 (160)	–/–	–/–
Disagree	6.64 (14)	7.93 (18)	5.67 (40)	5.05 (22)	–/–	–/–
	100.00 (211)	100.00 (227)	100.00 (705)	100.00 (436)	–/–	–/–
Pearson's χ^2 statistics	20.9644		27.4573		16.033	8.1366
P-value	0.000028		<0.00001		0.00033	0.017107
LoS	$p < 0.01$		$p < 0.01$		$p < 0.01$	$p < 0.05$

Table 3. Comparison of chi-square calculation in relation to the length of business experience in the Czech Republic and Slovakia.

These data correspond with the studies focused on the impact of business experience. It was confirmed fact that the length of doing business has a positive impact on company's performance [26, 27].

The surprising findings were made while comparing the Czech and Slovak entrepreneurs. There are statistically significant differences between the Czech and Slovak entrepreneurs with the length of business experience over 10 year ($\chi^2 = 16.033 = \chi^2_{0.01 \text{ with } 2 \text{ d.f.}}$ $p\text{-value} = 0.00033$). Slovak entrepreneurs are more sensitive on the financial risk in comparison with the Czech colleagues, which is similar with the results of H1a. While 83% of Slovak entrepreneurs agree

with opinion that the importance of the financial risk increased during the crisis, only 72% of their Czech colleagues agreed with this statement.

The research team also identified statistically significant differences in the responses of the group of the respondents with the length of doing business under 10 years ($\chi^2 = 8.1366 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ $p\text{-value} = 0.017107$). Note that 66% of the Slovak companies agreed with the presented opinion in comparison with only 58% of the Czech counterparts.

The percentage analysis presented in **Figure 1** shows obvious significant differences between the countries in the groups of better and less experienced entrepreneurs. In the group of the entrepreneurs with 10+ years of experience the difference with the value of 11.5% was identified, while the second group presented the difference of 7.38%. These significant different values indicate that the attitude of the respondents in chosen countries is different. Data presented in **Table 3** confirm this statement.

Figure 1. Percentage analysis of the comparison of the answers of the respondents in 10 + and 10- groups in the question of the financial risk.

4.2. Observing the impact of gender, level of education and business experience in relation to the opinion that the importance of credit risk increased during the past 3 years

This part of the chapter focuses its attention on the comparison of the credit risk perception between the Slovak and Czech entrepreneurs and observes the impact and power of gender, the level of education and business experience on it.

In relation to the gender the research team supposed that male entrepreneurs are less sensitive on credit risk in both researched countries. But the findings of the research team were different (**Table 4**). No statistically significant differences were identified and proved in both the countries. The value of Pearson's chi-square statistic was $\chi^2 = 0.373 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ and $p\text{-value} = 0.829865$ in Slovakia. The data from the Czech Republic were quite similar: $\chi^2 = 0.0309 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ and $p\text{-value} = 0.984686$. These findings allow us to reject H2a on the 95% of probability and provide the evidence that gender has no significant impact on the opinion of the Czech and Slovak entrepreneurs that the importance of credit risk increased

during the last 3 years. The gender presented to statistically significant impact also in comparing results of the group of male ($\chi^2 = 3.2999 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$ and p -value 0.192062) and female ($\chi^2 = 2.4265 = \chi^2_{0.05 \text{ with } 2 \text{ d.f.}}$ and p -value 0.297232) Slovak and Czech entrepreneurs together even assuming the fact that the gender was a factor with strong significant impact on the perception of the financial risk for Slovak entrepreneurs.

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK-CZ	
	ME	FE	ME	FE	ME	FE
Agree	58.03 (*177)	56.39 (75)	63.53 (547)	63.21 (177)	–/–	–/–
Neutral att.	30.49 (93)	30.08 (40)	27.53 (237)	27.50 (77)	–/–	–/–
Disagree	11.48 (35)	13.53 (18)	8.94 (77)	9.29 (26)	–/–	–/–
Total	100.00(305)	100.00 (133)	100.00 (861)	100.00 (280)	–/–	–/–
Pearson's χ^2 statistics	0.373		0.0309		3.2999	2.4265
P -value	0.829865		0.984686		0.192062	0.297232
LoS	$p > 0.05$		$p > 0.05$		$p > 0.05$	$p > 0.05$

Table 4. Comparison of chi-square calculation in relation to the gender in Czech and Slovak Republic.

These findings are contrary to many theoretical studies [5–8, 44, 49, 50, 52, 53, 55] which declare that gender has a significant impact on the financial risk, but they agree with opposite results of several authors [10, 11, 51].

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK-CZ	
	UE	OE	UE	OE	UE	OE
Agree	54.04 (*154)	64.05 (98)	60.20 (236)	65.15 (488)	–/–	–/–
Neutral att.	31.58 (90)	28.10 (43)	29.59 (116)	26.44 (198)	–/–	–/–
Disagree	14.39 (41)	7.84 (12)	10.20 (40)	8.41 (63)	–/–	–/–
Total	100.00(285)	100.00(153)	100.00 (392)	100.00 (749)	–/–	–/–
Pearson's χ^2 statistics	5.6541		2.8414		3.7164	0.2055
P -value	0.059187		0.241543		0.155954	0.902338
LoS	$p > 0.05$		$p > 0.05$		$p > 0.05$	$p > 0.05$

Table 5. Comparison of chi-square calculation in relation to the level of education in the Czech Republic and Slovakia.

The impact of the level of education level on the perception of the intensity of the credit risk was the last researched factor. At the base of the data presented in **Table 5**, the alternative working hypothesis H2b was rejected. Pearson's chi-square calculation brings the evidence that there is no statistically significant difference between the Slovak and Czech entrepreneurs

in relation to the level of education. This finding is similar with the evidence in case of the impact of the level of education on the perception of financial risk but they are contrary to the findings of many theoretical studies declaring education to be a relevant factor in relation to risks [12, 13, 58–60, 62].

The value of Pearson's chi-square statistic was $\chi^2 = 5.6541 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ and $p\text{-value} = 0.059187$ in Slovakia and $\chi^2 = 2.8414 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ and $p\text{-value} = 0.241543$ in the Czech Republic. The results in the group of the respondents with the university degree between the Slovak and Czech entrepreneurs do not indicate any significant differences. Findings in the group of the respondents with other types of education are similar.

The last observed factor of the hypothesis H2 was the level of business experience. In the previous part focused on the financial risk the strong impact of business experience on the perception of the financial risk in Slovakia and also in the Czech Republic was confirmed. We expect it was confirmed in the Czech Republic because of the greater sample size. In comparison with theoretical studies it was found that the results in Slovakia are contrary to theoretical studies that declare the impact of length of doing business on company's risk perception [26, 27] but the data from the Czech Republic present affirmative results.

While researching the impact of the length of the business experience on the credit risk the result is not as obvious as in the previous case. No statistically significant differences were found between the groups of Slovak respondents with the business experience below and above 10 years. The value of Pearson's chi-square statistic was $\chi^2 = 4.3233 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ and $p\text{-value} = 0.115137$. This result leads to the rejection of the hypothesis H2c. The findings in the Czech Republic are the opposite. Chi-square calculation returned the value of $\chi^2 = 8.4245 = \chi^2_{0.05 \text{ with } 2 \text{ dgfr}}$ and $p\text{-value} = 0.014813$. H2c was confirmed with the probability of 95% (Table 6).

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK-CZ	
	10+	10–	10+	10–	10+	10–
Agree	59.72 (126)	55.51 (126)	66.67 (470)	58.26 (254)	–/–	–/–
Neutral att.	26.07 (55)	34.36 (78)	24.82 (175)	31.88 (139)	–/–	–/–
Disagree	14.22 (30)	10.13 (23)	8.51 (60)	9.86 (43)	–/–	–/–
Total	100.00(211)	100.00(227)	100.00 (705)	100.00 (436)	–/–	–/–
Pearson's χ^2 statistics	4.3233		8.4245		6.6899	
P-value	0.115137		0.014813		0.035262	
LoS	$p > 0.05$		$p < 0.05$		$p < 0.05$	

Table 6. Comparison of chi-square calculations in relation to the length of business experience in the Czech Republic and Slovakia.

4.3. Discussion and contribution of the study

The results of the final comparison of the impact of all selected factors on the perception of the financial and credit risks are presented in Table 7. These scientific findings are considered for

the main theoretical contributions of the study. From the theoretical point of view special characteristics of SMEs in relation to the financial and credit risks in the Czech Republic and Slovakia that allow to identify vulnerable groups of SMEs (for example, groups that are not able to effectively manage financial risk, groups that are more sensitive to credit or financial risk, etc.) were identified. At the base of the research results female and young entrepreneurs in Slovakia and young entrepreneurs in the Czech Republic are considered to be the most vulnerable groups of SMEs in relation to the financial and credit risks. This empirical contribution indicates substantial managerial implications of the findings due to the fact that better knowledge of the characteristics of the businesses allows companies offering products related to these groups to manage them more effectively from the owner level, and also allows the state authorities to identify the main focus of the state support for the mentioned groups in order to better develop entrepreneurship in the specified region. Better knowledge of the SMEs characteristics and their perception of financial and credit risks in both countries allows the governments to set financial instruments and means of support more effectively because this type of studies makes it possible to identify vulnerable groups of SMEs.

Risk Factor/country	Financial risk		Credit risk	
	SK	CZ	SK	CZ
Gender	$\chi^2 = 7.8996$	$\chi^2 = 0.6465$	$\chi^2 = 0.373$	$\chi^2 = 0.0309$
	<i>p</i> -value 0.019258	<i>p</i> -value 0.723776	<i>p</i> -value 0.829865	<i>p</i> -value 0.984686
Education	$\chi^2 = 1.5566$	$\chi^2 = 1.5114$	$\chi^2 = 5.6541$	$\chi^2 = 2.8414$
	<i>p</i> -value 0.459185	<i>p</i> -value 0.469688	<i>p</i> -value 0.059187	<i>p</i> -value 0.241543
Business experience	$\chi^2 = 20.9644$	$\chi^2 = 27.4573$	$\chi^2 = 4.3233$	$\chi^2 = 8.4245$
	<i>p</i> -value 0.000028	<i>p</i> -value < 0.00001	<i>p</i> -value 0.115137	<i>p</i> -value 0.014813

Table 7. Final comparison of the results.

In relation to the perception of the intensity of financial risk it was identified, that factors such as the *length of the business experience and gender* have the significant impact on the Slovak entrepreneurs. Slovak male entrepreneurs more intensively perceive the increasing intensity of the financial risk during the crisis than female. This is one of the empirical contributions of the study that indicates that young and female entrepreneurs perceive the financial risk less intensively than 10+ and male entrepreneurs. This fact could indicate that state should not focus its attention on young and female entrepreneurs because their perception of financial risk is probably insufficient and they can be considered as the least vulnerable groups of SMEs in both countries. For comparison, in the Czech Republic the length of the business experience was the only significant factor. In the field of theoretical studies these results correspond with the relevant studies [5–8, 44, 49, 50, 52, 53, 55] that declare that gender has a significant impact on the financial risk, but it should be taken into consideration that several authors present the opposite results, presenting gender to have no significant impact on SME finance [10, 11, 51].

While researching the impact of gender we found statistically significant differences between the Slovak and Czech male entrepreneurs. Slovak male entrepreneurs statistically significantly

more often agree with the opinion that the financial risk increased during the crisis than male entrepreneurs in the Czech Republic. In each country length of the business experience was identified as a factor with significant impact on the financial risk. Research team correctly assumed that entrepreneurs with longer business experience more intensively perceive the fact that financial risk increased during the crisis than the representatives of the younger companies. This fact could indicate that older entrepreneurs realize financial risk more intensively and they are more cautious and prepared to manage it as young entrepreneurs without experience. It suggests to governments of both countries that young entrepreneurs are vulnerable group of businesses that should be more supported.

There are statistically significant differences in the perception of the financial risk between the Czech and Slovak entrepreneurs with the length of the business experience over 10 years. Slovak entrepreneurs are more sensitive on the financial risk in comparison with the Czech entrepreneurs. In the group of the respondents with the length of the business experience below 10 the research team identified the same state. This fact is the partial contribution in theoretical area. These data correspond with the studies focused on the impact of business experience. It was a confirmed fact that the length of doing business has a positive impact on company's performance [26]. The next study [27] informs us that business experience has a small impact on the elasticity of output with respect to labour, but large impact on the elasticity of output with respect to capital. There is a positive correlation.

Even taking into consideration the levels of education did not show any significant impact on the perception of the financial risk a surprising finding was identified while comparing the Slovak and Czech respondents with university degree. These findings are contrary to the findings of many studies declaring education to be a relevant factor in relation to the business and financial risks [12, 13, 58–60, 62]. Slovak respondents with university education statistically significantly more often agreed with the opinion that the intensity of the financial risk increased during the crisis than Czech. It seems that they are more informed.

The perception of the credit risk was similar in both researched countries. Only the length of the business experience could be considered as a factor with the relevant impact on credit risk perception by SMEs. This fact indicates that in both countries are groups of young entrepreneurs vulnerable to businesses.

5. Conclusion

Despite the common history of both countries the research data indicate considerable differences between their SMEs. These finding have the significant potential managerial implications for the companies that offer financial products oriented on these groups of costumers on because better knowledge of SMEs characteristics and factors that influence them helps to manage them more effectively on the owner and management level. Better knowledge of the perception of financial and credit risks by SMEs in both countries also might help governmental institutions to tune up the system of the state support for these businesses more effectively. In the group of the Czech entrepreneurs only the length of doing business had a

significant impact on the monitored questions. Slovak entrepreneurs are more sensitive to the financial risk in relation to the gender and level of business experience. Slovak male entrepreneurs statistically significantly more often agree with the opinion that the financial risk increased during the crisis than male entrepreneurs in the Czech Republic. An interesting finding is that in the field of the credit risk the differences were only minimal.

The strength of the presented research is in the homogeneity of the sample with basic data set and the size of the sample. The research also has some limitations. The most important limitation is the fact that respondents filled the questionnaire online, and the research team was unable to organize a more detailed face-to-face interview. The next limitation was territorial focus of the research and the size of the sample. The analysis of several questions required a greater number of the respondents for a trustful statistical verification of the results. The future direction of the presented research will be focused on a comparative analysis of the entrepreneurial perception of financial and credit risks in a wider geographical area of the countries of V4—the Czech Republic, Slovakia, Hungary and Poland.

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