Equilibrium. Quarterly Journal of Economics and Economic Policy

Volume 15 Issue 1 March 2020

p-ISSN 1689-765X, e-ISSN 2353-3293 www.economic-policy.pl





ORIGINAL ARTICLE

Citation: Kramoliš, J., & Dobeš, K. (2020). Debt as a financial risk factor in SMEs in the Czech Republic. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *15*(1), 87–105. doi: 10.24136/eq.2020.005

Contact to corresponding author: kramolis@utb.cz; Tomas Bata University in Zlín, Faculty of Management and Economics, Department of economics, nám. T. G. Masaryka 5555, 760 01 Zlín, Czech Republic

Received: 07.11.2019; Revised: 25.02.2020; Accepted: 01.03.2020; Published online: 28.03.2020

Jan Kramoliš

Tomas Bata University in Zlín, Czech Republic orcid.org/0000-0002-1687-8067

Kamil Dobeš

Tomas Bata University in Zlín, Czech Republic orcid.org/0000-0003-1448-1936

Debt as a financial risk factor in SMEs in the Czech Republic

JEL Classification: M14; M21; G32; H63

Keywords: risk management; debt awareness; company debt; indebtedness; debt repayment; SMEs

Abstract

Research Background: The approach is based on theoretical sources and completed studies on business debt, debt level and repayment awareness and how this issue relates to SMEs in the Czech Republic.

Purpose of the article: The main purpose of this paper is to examine the attitude of SMEs towards the issue of company debt and its position within the economy. This attitude is an inherent part of the company's risk management.

Methods: Three researched issues (How strongly is company debt perceived as a financial risk factor; Does the company consider debt to be a serious matter in their business; What measures does the company take to reduce risk) supported by hypotheses, which verified the thesis, were statistically tested.

Finding & Value added: Practical implications confirm the thesis that there is a belief that SMEs do not consider debt to be a critical factor of business risk and do not associate it directly with the major risk of business failure. SMEs do not view debt negatively and do not directly link debt to the risk of failure. Consequently, companies consider the risk of indebtedness as relatively insignificant. Their approach to indebtedness is therefore generally passive and they also believe that it will not jeopardize their business, and they will always somehow manage to solve it through insurance, risk avoidance and through creation of financial reserves.

Introduction

Debt is a common concept in business. It should be noted that there are several kinds of debt. From the economic point of view, these are debts of quantified value, expressed in monetary units. The ethical perspective, however, says something completely different. If a company respects their own CSR (Corporate Social Responsibility), one of the pillars of this theory is the ability to repay debts. For every business owner, be they self-employed, a partner, a shareholder or another type of investor, the company's indebtedness is an essential parameter in assessing the condition of the company.

It is the CSR which states that the company must be able to repay its debts on time, in the due amount, including the agreed interest. Yet, it does not debate the level of debt and its ratio to the total assets of the company that is ethically acceptable or what is considered over the limit. The main premise in this research area is that every company is indebted to some extent. In the current Czech economy, we would hardly find a company that is debt-free. Unfortunately, in this market situation, it is seen as a "standard" by many companies to be indebted as it seems a popular trend.

The aim of the article is to determine what attitude Czech companies have to debt. Whether they perceive it as a risk at all or tend to see it as a standard part of the company, and do not worry about debt repayment. The originality of the article lies primarily in the current data on the SMEs awareness of the issue of indebtedness.

The composition of the paper is as follows: Firstly, a related literature review and research questions development are presented. Then, research methodology is described in detail including the data collection method. For statistical purposes, absolute and relative frequencies chi-square, p-value, z-test (Altman, 1991), and contingency were used. The paper continues with the results section, hypotheses testing and evaluating research questions. Finally, in the last section of this paper, the discussion and conclusion are presented.

Literature review

Each market player is constantly faced with the choice of how much of their revenue will be used in particular situations of acquisition of products, i.e., deciding on the revenue consumption over time. The research into the company's decision-making process, as to whether it will assume a position of a debtor or a creditor, is based on the Fisher's model of intertemporal consumption (Fisher, 1930). The cost-benefit trade-off is the focal point of consumers' decision-making process. Malkoc and Zauberman (2019) deal with the psychological aspect of this decision-making process. Aït-Sahalia and Matthys (2019) applied advanced techniques of intertemporal choice when researching consumption-portfolio allocation problem. Dealing with dynamic portfolio choice, Faria and Correia-da-Silva (2014) found out that investors are predominantly interested in the short-term risk returns of a possibly risky asset.

From the internal company perspective, it is the indebtedness indicator which includes the total debt of the company in the calculation; its value increase correlates with the risk that the company will not be able to repay these debts. The higher the value of this indicator, the higher the company's indebtedness. Surpringly, there is no direct correlation between the firm's indebtedness and its solvency (Virglerová et al., 2017). Many authors publish articles in the field of business economics determining the calculation of enterprise debt. Most often these are debt ratio, debt repayment period, and total indebtedness (Hovakimian et al., 2001). For example, the research by Hudakova et al. (2018), and Çera et al. (2019), show that in Slovakia financial debt makes almost one fifth of the total risk addressed by risk management. However, the methods of calculating debt and its quantification are not the aim of this paper. For the purpose of this paper, it is important to view this issue in general and from the economic perspective. Pescatoriet et al.(2014) mentioned the short-term correlation between growth and debt. According to the authors (Pescatori et al., 2014), the debt trajectory is as important as the debt level when understanding future growth prospects. They support their claim by stating that countries with high but declining debt appear to grow equally fast as countries with lower debt. There is evidence, though, that higher debt is associated with a higher degree of output volatility.

The recent theory of finance uncovered relevance of some debt ratio determinants in the small business sector. Van der Wijst and Thurik (1993) conclude that while the theoretical determinants are indeed relevant for the small business sector, the influences appear to be far less straightforward than their hypothesized effects. Most variables also appear to be influential in terms of the maturity structure of debt resulting in long-term and short-term debt effects cancelling out and the influence on total debt being rather time and industry specific. They also point out the differences in debt financing in small and big firms and the special features of creditor—shareholder agency conflicts occurring in small firms with concentrated ownership and owner—management. Small business owners must be aware of both the pros and cons of concentrated ownership and owner—

management in successfully raising money through debt financing. Furthermore, this might be of use for policymakers and institutions in terms of small firms and their gaining debt financing.

Regarding the capital structure, Wu et al. (2007) state that the debt in small firms is similar to large firms proportionally. However, the debt financing is different when it comes to the type of debt issued, the contract, the lending technologies, and the roles of intermediaries. While in large firms debt is represented by traded instruments, syndicated bank loans, public bond issues, small firms' debt is all non-traded, mostly nonsyndicated commercial loans. Berger and Udell (2006) claim that the informational non-transparency often associated with small businesses results in typical terms of contracts significantly differ for small firms and large firms. Also, in small firm debt financial intermediaries are involved. These specialize in using various contracting tools and lending technologies helping to monitor small business loans. Cressy (1996) point out that many countries have spent great sums of money to alleviate debt gaps, especially amongst smaller firms. It can be said that financing is influenced by the perceived characteristics of the business. Firms are often eligible for funds on the basis of their proprietor's human capital and are more likely to gain access to funding.

Focusing on the capital structure of small business, Belás *et al.* (2018) findings revealed that small businesses rely heavily on personal equity and short-term debts for their main income. Inadequate equity and long-term debt are considered the root reason for small business under-capitalization (Kotey, 1999). Another aspect inherent to indebtedness is the fact that with the increasing debt the company loses its ability to repay debts. The authors dealing with loan repayment performance determined the reasons for which companies default on their debt payments. Derban et al. (2005) list the following reasons of respondents who maintain that clients are not obligated to pay on time or at all: "business idea does not work out; health physical/mental of the borrower; cash flow problems-trading results not in accordance with the projections contained in the initial business plan; difficulty or failure in the business, occasionally as a result of fraud; lack of liquidity; inadequate sales and under capitalisation". Moreover, there is a "bankruptcy-triggering mechanism" according to Briys and De Varenne (1997). The bankruptcy-triggering mechanism differs in terms of the bondholders pay-off that is received in cases of companies forced into early bankruptcy. Such payments to bondholders never exceed the firm's value. Based on its threshold, the firm can find itself solvent at maturity, but its assets insufficient to the face value of the bond (Longstaff & Schwartz, 1995).

Field et al. (2011) looked into the repayment structure of a debt contract and its influence on entrepreneurship in a field experiment comparing the classic microfinance contract and a contract including a two-month graceperiod. According to their findings early repayment debt contracts discourage risky investments. At the same time, they curb the potential impact of microfinance on microenterprise growth and household poverty. Similar results suggest that debt contract, its design and its economic impact provide precious insights into behavior of entrepreneurs, while seeking alternative ways of reducing liquidity constraints. Ključnikov et al. (2017); Rahman et al. (2018); Hvolkova et al. (2019) in their findings claim that bigger loans may encourage greater entrepreneurship. They also ponder the intriguing issue of the trade-off faced by MFIs when deciding loan size. Most sources mention company debt from the perspective of banks and the risks of providing such loans. Also, numerous theories have been published on how to regulate and evaluate business loans both at the banking level and at the central level of bank and credit regulation.

Bliss (2001) uses the term "market discipline" in connection with enterprise debt and their attitude to debt repayment. The author argues that the concept of market discipline, if it is to be effective, has two distinct components: 1. investors being able to correctly assess the company's condition; 2. the firm managers being able to respond to the investors' feedback. For the first one, certain circumstances must occur in order to achieve direct discipline of managers. Corporate takeovers and direct control exercised by large external equity holders are forms of market discipline. He further elaborates on the issue of firms losing money, either though bad investments or bad luck. While positive risk-adjusted expected return investments may be accompanied by bad luck, bad outcomes are more likely to occur with bad investments.

Bank portfolio risk has been the center of the discussion on market discipline and subordinated debt proposals. However, bank investment quality has been neglected due to the widespread believe that banks are particularly more prone to suffering severe moral hazard problems because of their too-big-to-fail policies and mispriced deposit insurance. In fact, one of the risks of indebtness is a reason why it might be difficult for a company to gain further loans. Frame, Srinivasan and Woosley (2001) look into this issue. They deal with the role of credit scoring, implemented by large banking organizations, in the process of influencing small-businesses lending. Second, they reveal which particular characteristics of the credit-scoring programmes may help enhance credit availability. According to Belás and Sopková (2016); Rahman *et al.* (2017), small-business credit markets manifest significant information asymmetries between borrowers and lenders.

This may lead to credit rationing. Ključnikov *et al.* (2017) state that small businesses are significantly more opaque than large corporations in terms of available information as they lack certified audited financial statements that would provide credible financial information. Small companies have not publicly traded equity or debt, which would provide market prices or public ratings and thus suggest their quality. Banking institutions have been using various lending technologies in order to tackle opacity issue (Berger & Frame, 2007; Belás *et al.*, 2012).

Izzo and Magnanelli (2012) state that there is a link between corporate social performance and debt financing cost, a negative association between measures of the risk of the firm and its cost of debt. On the other hand, in terms of Corporate Social Responsibility, risk reduction is seen as one of the potential benefits of such investments. Under these findings, an efficient market must acknowledge an 'ethical financial premium' to socially responsible firms which corresponds to a smaller cost of debt financing.

Corporate responsibility issues have been increasingly noticed by multinational corporates, increasing the amount of resources allocated to CSR investments activities. Risk management has been considered a key aspect contributing to superior economic performance with companies developing sustainability strategies in order to prevent various types of risk (mainly reputational risks).

Burianová and Paulík (2014) maintain that similar investments enhance company's economic performance, and affect their corporate reputation, risk profile, cost of debt, etc. A positive link between measures of the risk of the firm and its cost of debt has been documented.

According to Deyoung *et al.* (2015), small businesses rely predominantly on bank finance. However, during recessions, such credit provided by bank lenders to small firms becomes less accessible. Their model predicts that banks' decisions will be constrained by the risk-adjusted returns in case of small business lending. Other factors will be overhanging loans, pre-existing loans' covariance with small business lending opportunities, as well as the bank's own tolerance for risk taking. An excessive moral debt has been currently detected on the capital market according to the CSR behaviour as stated by Roush *et al.* (2012).

Research methodology

The main purpose of the article is to examine the attitude of SMEs towards the issue of company debt and its position within the economy. The attitude is an inherent part of the company's risk management.

The approach is based on business debt, debt level and repayment awareness and how this issue relates to SMEs in the Czech Republic. Three researched issues supported by hypotheses, were statistically tested. Taking into account the character and objectives of the article, the following research questions have been formed:

 RQ_1 : How strongly is company debt perceived as a financial risk for your company?

H₁₀: Companies do not perceive their own debt as a strong risk to their business

H1_A: Companies perceive their own debt as a strong risk to their business

RQ₂: Do you find company debt a serious matter in your business?

H2₀: Companies do not consider general indebtedness to pose a high risk to their business.

H2_A: Companies consider general indebtedness to pose a high risk to their business.

RQ₃: What measures does your company take to reduce risk?

H3₀: Companies do not use financial reserves to reduce the risk caused by debt.

H3_a: Companies use financial reserves to reduce the risk caused by debt.

Each research question has been assigned a specific hypothesis, which has been statistically tested. The following set of descriptive statistics was used: Mean, Median, Mode, Standard Deviation, Variance, Mid-Range, Interquartile Range, Sum of Squares, Mean Absolute Deviation, Root Mean Square, Std Error of Mean, Skewness, Kurtosis, Coefficient of Variation, Relative Standard Deviation.

The research was completed in 2018 and was carried out as follows. We obtained 408 responses of SMEs from the Czech Republic (the total of 855 companies were addressed randomly). There were no specific features monitored during the study. The research sample contained companies vary-

ing in size and business sector. Micro-enterprises (63.9%) comprised the majority of the sample pool. Small enterprises make up 23.5%, and medium-sized enterprises represented 12.5%. It is clear from the research sample that the respondents were primarily micro-enterprises with up to 10 employees.

Another parameter that determined the character of the data collected is the specialization of the participating companies. Clusters were formed due to high sample fragmentation. The top, most frequent areas of business were: Trade (23.8%); Industry (22.3%); Other services (15.4%); Construction (15.4%); Hospitality (6.1%); Transport and logistics (4.9%); Agriculture (3.7%); IT (1.2%). Most companies (almost one quarter) operate in trade, another quarter operate in industry. Unspecified services and construction both make up 15%. Another segment of less than 10% consists of hospitality and transport. Less than 5% of companies belong to IT, healthcare and electronics. Sector values of less than 0.5% are not listed.

For statistical purposes, absolute and relative frequencies chi-square, p-value, z-test (Altman, 1991), and contingency will be used. Hypotheses will be measured at the confidence level (Clopper & Pearson, 1934; Fleis *et al.*, 2003) alpha = 0.05. The mosaic chart, bar chart and spider charts will be used for graphical data analysis. We also visualized a polynomial trend line curved line because of data fluctuation (Hargreaves & McWilliams, 2010). It analyzes gains and losses over a large data set. Data will be tested in MS Excel XL statistics software. The overall statistical view of the data will be expressed using mean, standard deviation, variance, median, modus, kurtosis, and skewness.

For quantitative data evaluation, variables that quantify verbal responses were created from the measured values. Where "Very low" describes "Very low risk with no effect on the company" and has been assigned a value of 1. "Low" describes "Low risk might have a minor effect on the company" and has been assigned a value of 2. "Medium" describes "Medium risk might affect the company, but not critically" and has been assigned a value of 3. "High" describes "High risk defined as significant, impacting the business significantly" and has been assigned a value of 4, and ultimately "Very high" logically describes "Extremely high risk with substantial impact on business" and has been assigned a value of 5.

Results

RQ1: How strongly is debt perceived as a financial risk for your company

This research question examines a reported degree of risk that the company's debt poses for the company's business. In the questionnaire survey, companies were to cross out one out of five possible levels. Most often the companies reported a very low risk (40.0%). Followed by order from highest to lowest (Low n=119, 29.4%); (Medium n=70, 17.3%); (High n=42,10.4%); (Very high n=15, 3.0%). The above listed data show that most companies do not perceive indebtedness as a risk. The results are almost linear, and it can be argued that the higher risk a manager feels, the lower the number of such companies is. A line chart Fig. 1 shows a certain linear trend that indicates a very low reported risk. A polynomial trend line is a curved line that was used to demonstrate how much the data fluctuated. The decline is very precisely interpreted by the polynomial trend line, which is shown in dashed lines with the reliability R² = 0.997.

The following values were assigned to the variables: The High risk variable comprised of the value 4, with the value 5 for Very high risk. Statistical testing was conducted at the significance level alpha = 0.05 with statistical indicators: Proportion Yes = 0.14; No = 0.86. ME = 0.03; Lo = 0.11; Up = 0.17; Z = 14.56. The p-value was calculated at the defined significance level P (χ 2) = 0.00 (2.71E-48). 95% CI of observed proportion ranges from 82.25% to 89.22%. Therefore, the value is less than 0.05 so the data are independent of each other. Finally, the result of this part is that, dependency has not been reliably refuted. The null hypothesis is then valid, stating that companies do not report their company's debt to be a strong risk to their business.

Using descriptive statistics (Tab. 1) a number of statistical indicators from the sample count 408were calculated. From these calculated values it is evident that variable 2 (Median) and 2.09 (Mean) confirm the low importance of debt risk for companies.

Statistical testing of the hypothesis also confirmed that business owners generally perceive the risk of indebtedness in their company at a low level and debt does not pose a significant threat to them.

RQ2: Do you find general debt to be a serious matter for your business?

This question was asked in the research questionnaire so that the company owners and managers could specify in % how strongly they feel the mentioned risk. The values were to be selected in tens of percent, from 0 to

100%. These values were converted into proportions for further statistical calculation. Therefore, the data were in the proportion of 0-1. The results are graphically visualized in a combo bar chart with a polynomial trend line. While the x-axis observes frequency (n), the y-axis provides different degrees of debt impact on the company (the highest degree is Very high, and the lowest degree is Very low).

Fig. 2 shows the values measured including the polynomial trend line at the confidence interval R2 = 0.985. The chart shows that companies rate indebtedness in business with mild to moderate significance. The fact that debt can be critical for a company (Very high) has been reported by the fewest companies. Generally, it can be stated that it is the mean value, which equals 0.2 = low (where 0.2 is the proportion assigned to value 2).

Statistical testing was performed at a significance level of alpha = 0.05 using the following data: Proportion Yes = 0.14; No = 0.86. ME = 0.03; Lo = 0.11; Up = 0.17; Z = 14.56. The calculated p-value at the defined significance level $P(\chi 2) = 0.00$ (2.71E-48). 95% CI of observed proportion ranges from 82.25% to 89.22%. Therefore, the value is less than 0.05 so the data are independent of each other. Finally, the result of this part is that, dependency has not been reliably refuted. Therefore, the null hypothesis, that companies do not consider debt to be high risk to their business, is valid.

Descriptive statistics (Tab. 2) examines a number of statistical indicators from the set of 408 count. From these calculated values, it is evident that proportion 0.2 (median) and 0.18 (Mean) confirm the perceived low importance of the debt risk. The data set studied has a mean variance of 0.037, indicating good data consistency. The standard deviation from the set of all surveyed records in companies shows how the typical cases in the set of surveyed numbers differ among them. A value of 0.192 indicates that the data of the file are usually very similar to each other. It also indicates relatively small differences among them.

Statistical testing of the hypothesis has also confirmed that companies generally perceive the role of debt risk in the economy at a low level and perceive that this risk is not a significant threat.

RQ3: What measures do companies take to minimize the risk?

This part examined what measures are most often applied by companies to reduce risks (arising from debt). It was an open question and the most common answers were identified. The most frequent responses were recorded in the table below and sorted by the observed frequency, listing only five most significant findings.

The most common measures that firms take to reduce the risk of debt are primarily insurance, risk avoidance (no further details provided), and the creation of financial reserves. Other measured values were very individual and did not reach 5% of incidence. Therefore, these data are not shown in the table.

Statistical testing was carried out at the significance level alpha = 0.05, with the following research set indicators: Proportion Yes = 0.18; No = 0.82. ME = 0.04; L0 = 0.15; Up = 0.22; Z = 12.87. The calculated p-value at the defined significance level P (χ 2) = 0.00 (3.24E-38). 95% CI of observed proportion ranges from 77.92% to 85.61%. Therefore, the value is less than 0.05 so the data are independent of each other. Finally, the result of this part is that dependency has not been reliably refuted. Therefore, the null hypothesis is valid, and it states that companies do not use financial reserves to reduce risk due to debt.

Discussion

The main purpose was to examine the attitude of SMEs towards the issue of company debt and its position within an economy. The attitude is an inherent part of the company's risk management. In this area of the presented research (random sample data), the null hypotheses have not been rebutted and, therefore, companies feel that the risk of debt is relatively insignificant. More specifically:

- Companies do not perceive their own debt as a strong risk to their business
- Companies do not consider general indebtedness to pose a high risk to their business.
- Companies do not use financial reserves to reduce risks caused by debt

The business owners and managers have a generally passive attitude to debt and believe that debt will not threaten their business and they will always manage to solve it. Most often, they rely on insurance, and they actively avoid risk before creating financial reserves.

The matrix figure (Fig. 3) compares RQ1 (enterprise debt as a risk to their business) and RQ2 (general debt as a business risk). This graph shows a clear finding in the lower left quadrant. This quadrant indicates a very low level of perception of debt risk for the companies businesses. It can be marked as a lax or passive attitude of firms to indebtedness, both at the corporate level and at the macroeconomic level of the whole market. All the companies surveyed are located in this quadrant. Small firms proved to

have the most responsible attitude to debt (although the differences are very subtle).

The flexibility of a company makes it possible to eliminate the occurrence of certain risks — risk avoidance (for example, related to product demand, availability of production components, etc.) during the production process or when providing services. It is a method that is typical for successful small and medium-sized businesses.

Avoiding any risk is one of the methods of dealing with risk, but it is a negative method, rather than a positive one. It is often an approach that is completely unsuitable as a solution for many risks (Virglerová *et al.*, 2016). Risk is linked to business activities, so this approach cannot be generally recommended. Long-term risk avoidance cannot be an approach that would ensure the firm's growth (Smejkal & Rais, 2003). Similarly, Taraba *et al.* (2016), who deal with theory of risk maps, came to the same results.

In this context, it is necessary to mention the close connection between indebtedness and CSR, in terms of the CSR theory. Brown and Forster (2013) aim to answer the question as to how companies should morally prioritize corporate social responsibility (CSR), when one of the components is the economic pillar, i.e., the ability to pay on time and the proper amount of its debts. Obviously, excessive indebtedness can lead to the company not being able to reach and sustain this pillar. At the same time, it cannot be denied that both economic and ethical elements are considered in business decisions.

Similarly, the research results indicate that companies do not see the matter of indebtedness as important, and they mostly even consider it irrelevant or insignificant. Perhaps this is due to the fact that, according to Czech authors Virglerová *et al.* (2016), there is no direct correlation between the company's debt ratio and its solvency. This is a well-known assumption among companies in the Czech Republic. Along with the threshold effect, causality needs to be considered. High debt may cause slow growth. There may also be a third factor, an omitted variable — an increase in debt and reduction in growth. Pescatori *et al.*, (2014) provide examples of wars or financial crises.

Conclusions

The purpose of this research was to analyze the attitudes of SMEs to the issue of their indebtedness, perception of the relationship of indebtedness as a source of financial risk, and what measures they take to minimize such risks.

The results show that SMEs in the Czech Republic do not perceive their own indebtedness as a strong risk to their business and do not consider indebtedness to be a high risk in doing business. Furthermore, SMEs perceive insurance as the most useful tool of risk mitigation when compared to other available instruments, such as creating financial reserves, etc. Interestingly, the identified laxity of firms towards debt increases with the size of the company. This paper does not aim to identify the underlying cause of this finding, yet the cause can be found with the increasing risk of moral hazard to which the managers of larger businesses are exposed more often than those in small firms.

In view of the results above, it needs to be emphasized that accumulating a bigger debt also increases the financial risk of the company, since the interest burden is a part of fixed costs that have to be paid regardless of production capacity utilization or sales revenues. Higher financial risk of an indebted company reflects in the fact that the costs of both, own and foreign capital will increase. Thus, a highly indebted company may face significant difficulties in the event of adverse market developments.

In the end, it must be stressed that this paper has its limitations. Firstly, only Czech SMEs were analyzed. Secondly, survey questions can be understood differently by participating entrepreneurs (due to different experiences, knowledge or even one's current mood). Results may also be affected by the sample size. Finally, respondents could have provided false or misleading answers. Therefore, the results cannot be generalized.

References

- Aït-Sahalia, Y., & Matthys, F. (2019). Robust consumption and portfolio policies when asset prices can jump. *Journal of Economic Theory*, *179*. doi: 10.1016/j.jet.2018.09.006.
- Altman, D. G. (1991). *Practical statistics for medical research*. London: Chapman and Hall.
- Belás, J., Cipovová, E., Novák, P. & Polách, J. (2012). Impacts of the foundation internal ratings based approach usage on financial performance of commercial bank. *E+M Ekonomie a Management*, *15*(3).
- Belás, J., & Sopková, G. (2016). A model of entrepreneurial orientation. *Transformation in Business & Economics*, 15(2B).
- Berger, A. N., & Frame, W. S. (2007). Small business credit scoring and credit availability. *Journal of Small Business Management*, 45(1). doi: 10.1111/j.1540 -627x.2007.00195.x.

- Berger, A. N., & Udell, G. F. (2006). Small business and debt finance. In *International handbook series on entrepreneurship*. Boston: Springer. doi: 10.1007/0-387-24519-7 13.
- Bliss, R. R. (2001). Market discipline and subordinated debt: a review of some salient issues. *Economic Perspectives-Federal Reserve Bank of Chicago*, 25(1).
- Briys, E., & De Varenne, F. (1997). Valuing risky fixed rate debt: an extension. *Journal of Financial and Quantitative Analysis*, 32(2).
- Brown, J. A., & Forster, W. R. (2013). CSR and stakeholder theory: a tale of Adam Smith. *Journal of Business Ethics*, 112(2).
- Burianová, L., & Paulík, J. (2014). Corporate social responsibility in commercial banking a case study from the Czech Republic. *Journal of Competitiveness*, 6(1). doi: 10.7441/joc.2014.01.04.
- Çera, G., Belás, J., & Strnad, Z. (2019). Important factors which predict entrepreneur's perception in business risk. *Problems and Perspectives in Management*, 17(2). doi: 10.21511/ppm.17(2).2019.32.
- Clopper, C, & Pearson, E. S. (1934). The use of confidence or fiducial limits illustrated in the case of the binomial. *Biometrika*. 26.
- Cressy, R. (1996). Are business startups debt-rationed? *Economic Journal*, 106(438).
- Derban, W. K., Binner, J. M., & Mullineux, A. (2005). Loan repayment performance in community development finance institutions in the UK. *Small Business Economics*, 25(4).
- Deyoung, R., Gron, A., Torna, G., & Winton, A. (2015). Risk overhang and loan portfolio decisions: small business loan supply before and during the financial crisis. *Journal of Finance*, 70(6). doi: 10.1111/jofi.12356.
- Faria, G., & Correia-da-Silva, J. (2014). Is stochastic volatility relevant for dynamic portfolio choice under ambiguity? *European Journal of Finance*, 22(7). doi: 10.1080/1351847x.2014.958511.
- Field, E., Pande, R., Papp, J., & Rigol, N. (2011). Debt structure, entrepreneurship, and risk: evidence from microfinance. Retrieved from: https://pdfs.semanticscholar.org/10fc/f159009fe849e917fe87a7f3e2bfa28c980f.pdf.
- Fisher, I. (1930). Theory of interest: as determined by impatience to spend income and opportunity to invest it. Clifton: Augustusm Kelly Publishers.
- Fleiss, J. L., Levin, B., & Paik, M. C. (2003). *Statistical methods for rates and proportions*. Hoboken: John Wiley & Sons.
- Frame, W. S., Srinivasan, A., & Woosley, L. (2001). The effect of credit scoring on small-business lending. *Journal of Money, Credit and Banking*, 33(3). doi: 10.2307/2673896.
- Hargreaves, B. R., & McWilliams, T. P. (2010). Polynomial trend line function flaws in Microsoft Excel. *Computational Statistics & Data Analysis*, 54(4). doi: 10.1016/j.csda.2009.10.020.
- Hovakimian, A., Opler, T., & Titman, S. (2001). The debt-equity choice. *Journal of Financial and Quantitative analysis*, 36(1).

- Hudakova, M., Masar, M., Luskova, M., Patak, M. R. (2018). The dependence of perceived business risks on the size of SMEs. *Journal of Competitiveness*, 10(4). doi: 10.7441/joc.2018.04.04.
- Hvolkova, L., Klement, L., Klementova, V., & Kovalova, M. (2019). Barriers hindering innovations in small and medium-sized enterprises. *Journal of Competitiveness*, 11(2). doi: 10.7441/joc.2019.02.04.
- Izzo, M. F., & Magnanelli, B. S. (2012). Does it pay or does firm pay? The relation between CSR performance and the cost of debt. SSRN Electronic Journal. doi: 10.2139/ssrn.1986131.
- Ključnikov, A., Kozubíková, L., & Sopková, G. (2017). The payment discipline of small and medium-sized enterprises. *Journal of Competitiveness*, 9(2). doi: 10.7441/joc.2017.02.04.
- Kotey, B. (1999). Debt financing and factors internal to the business. *International Small Business Journal: Researching Entrepreneurship*, 17(3). doi: 10.1177/0266242699173001.
- Longstaff, F. A., & Schwartz, E. S. (1995). A simple approach to valuing risky fixed and floating rate debt. *Journal of Finance*, 50(3). doi: 10.1111/j.1540-6261.1995.tb04037.x.
- Malkoc, S. A., & Zauberman, G. (2018). Psychological analysis of consumer intertemporal decisions. *Consumer Psychology Review*. doi: 10.1002/arcp.1048.
- Pescatori, A., Sandri, D., & Simon, J. (2014). Debt and growth: is there a magic threshold? International Monetary Fund.
- Rahman, A., Belas, J., Kliestik, T., & Tyll, L. (2017). Collateral requirements for SME loans: empirical evidence from the Visegradcountries. *Journal of Business Economics and Management*, 18(4). doi: 10.3846/16111699.2017.135 7050.
- Rahman, A., Rozsa, Z., & Cepel, M. (2018). Trade credit and bank finance evidence from the Visegrad Group. *Journal of Competitiveness*, 10(3). doi: 10.7441/joc.2018.03.09.
- Roush, P. B., Mahoney, L. S., & Thorne, L. (2012). The effects of public pressure on CSR behavior in a capital market experiencing excessive moral debt. *Accounting and the Public Interest*, *12*(1). doi: 10.2308/apin-10233.
- Smejkal, V., & Rais, K. (2003). *Řízenírizik*. Prague: Grada Publishing.
- Taraba, P., Hart, M., & Pitrova, K. (2016). Risk management of projects in the Czech Republic. *Polish Journal of Management Studies*, *13*(1). doi: 10.17512/pjms.2016.13.1.17.
- Van der Wijst, N., & Thurik, R. (1993). Determinants of small firm debt ratios: an analysis of retail panel data. *Small Business Economics*, 5(1). doi: 10.1007/bf01539318.
- Virglerová, Z., Homolka, L., Smrčka, L., Lazányi, K., & Klieštik, T. (2017). Key determinants of the quality of business environment of SMEs in the Czech republic. *E a M: Ekonomie a Management*, 20(2). doi: 10.15240/tul/001/2017-2-007.

- Virglerová, Z., Kozubíková, L., & Vojtovič, S. (2016). Influence of selected factors on financial risk management in SMEs in the Czech Republic. *Montenegrin Journal of Economics*, 12(1). doi: 10.14254/1800-5845/2016.12-1.1.
- Wu, Z., Hedges, P. L., & Zhang, S. (2007). Effects of concentrated ownership and owner management on small business debt financing. *Journal of Small Business Management*, 45(4). doi: 10.1111/j.1540-627x.2007.00221.x.

Annex

Table 1. Descriptive statistics RQ1

Minimum:	1	Mid-Range:	3
Maximum:	5	Interquartile Range (IQR):	2
Range:	4	Sum of Squares:	531.64
Count:	408	Mean Absolute Deviation:	0.92
Sum:	853	Root Mean Square (RMS):	2.38
Mean:	2.09	Std Error of Mean:	0.06
Median:	2	Skewness:	0.83
Mode:	1	Kurtosis:	2.75
Standard Deviation:	1.14	Coefficient of Variation:	0.55
Variance:	1.31	Relative Standard Deviation:	54.67%

Table 2. Descriptive statistics RQ2

Minimum:	0.00	Mid-Range:	0.4
Maximum:	0.80	Interquartile Range (IQR):	0.3
Range:	0.8	Sum of Squares:	15.06
Count:	408	Mean Absolute Deviation:	0.17
Sum:	74.6	Root Mean Square (RMS):	0.27
Mean:	0.18	Std Error of Mean:	0.01
Median:	0.2	Skewness:	0.65
Mode:	0.00	Kurtosis:	2.49
Standard Deviation:	0.19	Coefficient of Variation:	1.05
Variance:	0.04	Relative Standard Deviation:	105.20%

Table 3. Measures taken to minimize risks

Order	Measure	Observed n, (%)
1.	Insurance	183 (44.86%)
2.	Avoiding risks	109 (26.72%)
3.	Financial reserves	74 (18.14%)
4.	Expansion of the product portfolio (risk distribution)	18 (4.41%)
5.	Risk transferred to business partners (invoice payment delay)	13 (3.19%)

Figure 1. Line chart for RQ1 with polynomial trend line

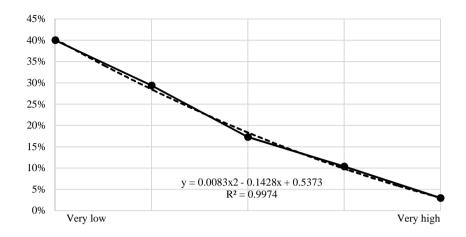


Figure 2. Combo Bar chart for RQ2 with polynomial trend line

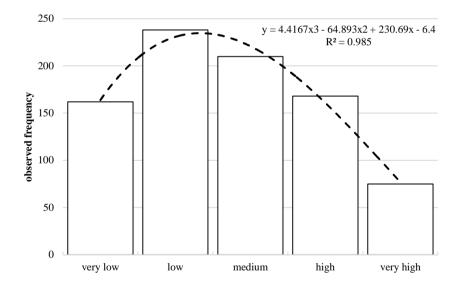


Figure 3. Matrix for RQ1 and RQ2 according to business size

