Risk management level determinants in Visegrad countries – sectoral analysis

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RISK MANAGEMENT LEVEL DETERMINANTS IN VISEGRAD COUNTRIES – SECTORAL ANALYSIS

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Abstract. Increasing competition has emphasized the need for creating and using more effective strategies at the level of SMEs to achieve competitive advantage. SMEs face higher risks in terms of the globalization due to the limited resources as well as size. The objective of the study was to examine the determinants of risk management with an emphasis on the sector specifics of SMEs in the V4 countries. This enables the quantification of sectoral differences in relation to the socio-economic determinants. The research sample included 1585 SMEs from the V4 countries. The data obtained from SME managers and owners were processed using the descriptive statistics and logistic regression. The results of the analyses confirm the existence of differences across SMEs concerning the risk management, which are determined by the country in which a given company operates, industry, gender and age of its manager or the owner of the company. The results of the study provide a valuable platform for the development of systems to measure and assess business risks in companies and to set up training systems. It will also enhance the development of international and national benchmarking indicators and the creation of international databases for comparative analyses.

Keywords: business risks, experience with the business failure, business environment, small and medium-sized enterprise, entrepreneurship.

JEL Classification: M21, G32, L26.

Introduction

Constant changes in the business environment, their dynamics, and increasing competition cause that SME managers are becoming increasingly aware of the importance of risk management processes. Although views of risk management processes vary among managers

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and company owners, most experts confirm that an effective risk management system is an important competitive tool of a company (Skare & Soriano, 2021). When introducing risk management process, companies encounter many obstacles related to the methodological complexity and the procedural aspects. Companies are aware of the need for streamlining the risk management process, which comprises several dimensions. Besides market and business risks, companies focus on protecting their reputation and trademark (Ismail et al., 2022), reliability of their business partners and financial institutions. While in recent years, European companies saw the most serious threat to their business in the risk of loss of liquidity, exchange rate and reputational risk, nowadays, they focus on examining risks also related to the social responsibility of companies, economic, innovative and environmental performance, export-related risks (Ključnikov et al., 2022a) as well as risks related to the sustainability of business in a given sector (Přívara, 2021, 2022; Přívara & Rievajová, 2021). This justifies the need for a systemic and conceptual perception of risks and a detailed examination of their determinants as well as their impact on the business life cycle, competitiveness, and economic stability (Kunuroglu & Önder, 2022; Sandoz, 2021; Demirkol, 2022; Liu et al., 2021; Valaskova et al., 2021). For SMEs, the process of risk management is much more complicated. Effective risk management is hindered by several factors: worse management access to information necessary for the analyses, risk assessment and risk management on an irregular basis, perception of risks in relation to other aspects of management, etc. In small enterprises, management is made up of experts in a given area of business (owners or partners), who might lack economic and managerial knowledge and experience, insufficient space for creating the position of economic analyst or specialist in risk management in small enterprises, lack of strategic analysis of the business environment, the previous positive development of the enterprise, etc. (Impedovo, 2022). The stable development of a company may in the long run make the management believe that the introduction of risk management processes is not necessary (Stehel & Vochozka, 2016). These reasons also influence different perceptions of risk management processes in various types of companies depending on their size as well as sectors they operate in (Turisová et al., 2021; Szabo et al., 2022).

Many research studies argue that the main sources of market risk include insufficient market research, incorrect selling price strategy, poor advertising, competitors' product prices, language barriers, etc. (Smékalová et al., 2014; Kozubíková et al., 2015; Vochozka et al., 2020). The main sources of personnel risks are considered to be insufficient qualifications of executive employees, lack of practical skills of managers, negative attitude to work, poor interpersonal relationships in the workplace, lower degree of responsibility, etc. (Privara et al., 2018; Vorobeva & Dana, 2021). Financial risks are associated mainly with insufficient equity, limited financial resources, insolvency, company's indebtedness, etc. According to many SMEs, legal and safety risks are priority, including legal liability for damage, risk of accidents, non-compliance with the OHS, risk of natural disasters, etc. Although SMEs are aware of the existence of business risk, they perceive it with different intensity (Bartos et al., 2021). Many companies use mainly informal risk assessment (Antosko et al., 2015; Petruf et al., 2015), although in technological processes, increasingly more sophisticated system and predictive mechanisms are implemented (Főző et al., 2019; Kužma et al., 2016; Džunda et al., 2021). Moreover, some companies do not have the appropriate organisational condi-

tions for the functioning of a department responsible for the analysis and risk management (Machova & Vochozka, 2019). Most sources of risks are closely related to decision-making processes, i.e. key managerial activities. Even if managers and company owners have the necessary experience, they might lack knowledge from the risk management processes and their implementation in the managerial activities and some corporate processes. Therefore, it is essential to analyse the sources of risk and causes of errors in decision-making processes and to enhance the development of optimal systems for the early monitoring and management of risk in companies.

1. Theoretical background

In the last decade, several research studies have focused on the determinants affecting risk management in various types of enterprises. However, the changes in external national and international business environment, demographic and globalization processes place higher demands on decision-making processes in company management. The development and availability of analytical methods, models and systems provide support in decision-making processes but what is important is to constantly investigate the approaches in risk management in various companies and sectors, which helps to create effective risk management mechanisms and enhance the development of educational systems, creation of development policies, etc. The results of many studies confirm the need for analysing specifics of sectors, as well as the impact of socio-economic determinants on risk management processes.

In their study, Doś et al. (2022) state that selected legal form of business activity influences business risk perception. The authors focused specifically on households running a business. The results of their analyses confirm that the different legal forms allow for different risk-coping mechanisms. Havierniková and Kordoš (2019) point to the fact that SMEs business risks can be significantly influenced by cluster cooperation. Therefore, it is important to examine the perception of SMEs risks from various perspectives and to carry out comparative analyses that would identify critical points where risks arise within the cluster cooperation of SMEs. The perception of business risks can also depend on the length of business activities, which was studied by Hudakova et al. (2021), who conducted empirical research in the years 2019–2020 in the V4 countries. Their results confirm that SME managers and owners consider market and economic risks to be the most important. The authors declare the need for introducing risk management systems in companies, which would ensure better financial stability and competitiveness. Another important factor for the development of risk management systems and methods is the cooperation between countries and sharing knowledge concerning processes, methods, and tools of risk management. Bogodistov and Wohlgemuth (2017) emphasize the need for improving the existing theory of enterprise risk management (ERM). According to the authors, the concepts of strategic management could be the solution of many shortcomings in the field of risk management, and thus help achieve better resistance of SMEs to risk. What is important is the ability to determine priorities in risk management, reassess the influence of resources on risk management, and to manage unforeseen events. Similarly, the study by Shpak et al. (2022) confirms the importance of strategic planning. Bensaada and Taghezout (2019) propose a system that would help SMEs

to participate in the management of corporate risks with a minimum investment in resources. According to the authors, there are two important principles: adaptability to different SMEs profiles and simplicity of use. In the risk management system, risk interconnectivity and strategic context alignment play an important role. Rehman and Anwar (2019) perceive risk management from the perspective of the need for more effective strategies in SMEs. According to Kan (2022), inter-functional coordination has a moderating effect on customer perceived value and company's strategic adaptation. SMEs face higher risks in terms of globalization resulting from their limited resources and small size.

In the risk management process, business strategies and their linkage to the performance of SMEs can play an important role. Ključnikov et al. (2022b) found that using technology-enabled marketing channels positively affects the innovativeness of enterprises. The results of another study suggest that SMEs with a unique business strategy promote formal risk management practices, which have a positive impact on the market performance of the enterprise. Saeidi et al. (2015) consider risk management to be a high-level management approach, which integrates all other corporate interests. It is a global process, a driver of business processes innovations, which needs a decision support system.

Blanc Alquier and Lagasse Tignol (2006) state that risk management problems are often related to their unambiguous definition, which causes problems especially for SMEs. Kolbari (2019) highlights the importance of risk management in SMEs, stating that risk management in SMEs in developing economies is much more complex. SMEs play an important role in the process of economic stabilization. Although they are much more vulnerable than large enterprises, they are of great importance in creating jobs and are much more flexible in terms of responding to changes in external business environment. The author points to the importance of risk management and its assessment in relation to the performance of SME managers.

The process of risk management is largely influenced by the perception of risk from managers and company owners. Asgary et al. (2020) examined how SMEs perceive the main global risks. They aimed to determine the factors that affect the assessment of likelihood and impacts of global risks. The results show that global economic risks and geopolitical risks are the main problems of SMEs, where the smallest attention is paid to the environmental risks. The greatest risks represent financial crises in key economies and high structural unemployment or underemployment. According to the authors, the main geopolitical risks of SMEs include failure of regional or global governance, failure of national governance, and interstate conflict with regional consequences. The perception of geopolitical and global risks is differentiated also by the type of business, international business relationships, and types of sectors (Buganová et al., 2021; Cipovová & Dlasková, 2016). An efficient tool to predict the development and its impacts is the analysis of economic cycles, where the impacts are interlinked with macroeconomic indicators (Khan et al., 2019; Meyer et al., 2017).

SME managers and owners' perception of business risk is strongly influenced also by socio-economic determinants. As confirmed in the study by Sobeková Majková (2016), young entrepreneurs can have a positive relationship to business risk but on the other hand, they have a much more difficult access to loans due to their age. They are also often less experienced and have a worse ability to protect the enterprise against the changes in interest rates.

For young and innovative enterprises, external financing is very complicated, which limits their business performance and competitiveness.

Kolupaieva et al. (2019) argues that the cause of Ukrainian enterprises unprofitability is problematic methodology of financial risk management. A lot of research studies focus on examining and evaluation of internal factors and indicators of financial risk, where systemic risk is very important for SMEs. Therefore, the authors recommend the application of suitable tools of financial management that would enable neutralization of financial risks and balancing of systemic risk. The authors highlight the importance of expert assessment and the application of integrated models to neutralize financial risks. It is also important to identify significant systemic risk factors, where the preventive diagnostics of financial risk turned out to be very effective.

Ključnikov et al. (2016) analysed the factors of business environment and specified the impact of market risks. According to the authors, SME managers and owners considered the limited access to external source of financing and market risks to be the most significant risks. They point out to the fact that different risk perception is influenced by gender characteristics as well as the size of enterprises – micro enterprises, small and medium-sized enterprises. The significance of market risks was confirmed by other authors, e.g. the study by Belás et al. (2015), who analysed the determinants of business risks in SMEs in selected regions of Slovakia. The perception of market risk as the most important one is also due to the fact that according to entrepreneurs, it is associated with the negative impacts on performance and profitability of enterprises.

Different perception of business risks by micro-enterprises and SMEs is also addressed by Rahman et al. (2016). The authors focused on three parameters: proactiveness, competitive aggressiveness, and autonomy, where the biggest differences had been identified in proactiveness and autonomy. These parameters have also impact on different perception of business risks; these parameters would be interesting to analyse also from the perspective of the lifespan of a company, type of business, and sector.

Hoogendoorn et al. (2019) examine the differences in perceiving business risks between sustainable entrepreneurs and regular entrepreneurs. When starting a business, sustainable entrepreneurs have a different attitude towards business risk compared to regular entrepreneurs, as they experience more institutional obstacles in terms of the lack of administrative, financial, and informational support at the beginning of their business activities. No differences have been found in terms of perceiving financial risks. However, sustainable entrepreneurs fear personal failure more often than regular entrepreneurs due to diverse and complex stakeholder relations.

Pereira-Moliner et al. (2021) found that sustainability positively and significantly influences cost and differentiation advantages, perceptual performance. The study by Schaltegger et al. (2016) highlights the great importance of business models for the performance and mainly the sustainability of companies. Although the specifics of business models have been described in previous research, there are only few studies focused on business models for sustainable entrepreneurship, which entails multiple risks. Therefore, it is important to develop ecological and socially beneficial models that would increase the competitiveness of companies and thus eliminate their market risks.

Zhao et al. (2021) points to the importance of innovations in business models, arguing that innovations are also associated with market and financial risks. The authors interlink the processes of active risk perception with the processes of learning.

The intensity of perceiving various types of risks is related to the motivation of entrepreneurs to find tools to their eliminating. Insufficient research in the area of business models' innovations is confirmed also the study by Foss and Saebi (2017). The authors declare this on the basis of analysing 150 studies on innovative business models published in the years 2000–2015. Although innovations influence some business risks, they are essential for the SME competitiveness. What is important is to ensure consistency between SME's approach to innovations and the processes of risk elimination.

The study by Cepel et al. (2020) examine whether the pandemic crisis caused by COVID-19 has influenced the attitude of entrepreneurs towards selected business risks in the SME sector in the conditions of the Czech Republic and Slovakia. They conducted a comparative analysis to identify the differences in risk perception in two specific periods: before the COVID-19 pandemic and during the pandemic. The results show that according to Czech SMEs, the three most important risks were market, financial, and personnel risk, both before and during the pandemic crisis. The biggest changes were recorded in the perception of personnel risks, whose importance decreased in both countries during the pandemic crisis. The research by Kliuchnikava (2022) revealed that despite the overall negative impact of the pandemic on the activities of SMEs, it had a positive effect on the attitude of entrepreneurs towards the introduction of innovations.

Cicea et al. (2019) examined which economic and social factors influence short-term and long-term performance of SMEs. Knowledge of these factors enables the identification of types of risks and examine their intensity and importance. Therefore, business risks shall be examined in relation to the expected performance of SMEs.

Chang (2022) states that risk management is not a new topic and has been addressed intensively by expert and scientific community since 2008, from the period of the financial crisis. The benefit of this study is the analysis and evaluation of the impact of various types of risks on forced CEO turnover. The systematic risk has no effect on forced CEO turnover. Risks can be an important indicator of the CEO's ability and competence.

The importance of models for predicting financial risks is addressed in the study by Peng and Yan (2021), where the authors justify the application of classical deep learning models as the model basis of financial risk prediction. These models have been verified in practice and need to be further developed despite their limitations and data requirements.

The results of the aforementioned research studies have created space for setting research trajectories in the research submitted as well as for the confrontation of research findings and identification of sector specificities necessary for the development of risk management systems.

2. Methodology

2.1. Sample presentation

The presented analysis includes 1,585 observations comprising the answers of business owners and managers in the Visegrad countries. Data for the analysis were collected via questionnaire, which was distributed to SMEs between September 2019 and April 2020. Data about SMEs and SMEs database were obtained from the CRIBIS database for Slovakia and the Czech Republic, the database of the Chamber of Commerce and Industry in Budapest for Hungary, and the database of the Central Statistical Office of Poland for Poland. To ensure random sampling, the procedure was as follows: First, a decisive criterion of less than 249 employees was set for the companies within database. Then, each company was assigned a serial number. Subsequently, companies were chosen by randomly generated number using the Randbetween function in Excel. Afterwards, the selected SMEs were addressed first via email in the first phase and via telephone in the second phase of the data collection process. The above-mentioned process of data collection was used in all countries. The data were well balanced, which means that approximately the same number of observations are available for each country. More precisely, the questionnaire was answered by 454 subjects in the Czech Republic, 399 subjects in Hungary, 364 subjects in Poland and 368 subjects in the Slovak Republic.

2.2. Structure of the questionnaire

The presented analysis focuses on the sectoral differences in perception of business risks by entrepreneurs and managers in the Visegrad countries. For the purposes of the analysis, eight following statements from the questionnaire were selected, which represent risk component of the questionnaire and concerned risk assessment and risk managing activities:
- We can identify, evaluate, and manage export risks correctly.
- Our company regularly monitors, evaluates, and manages strategic risks.
- I consider market risk (lack of sales for my company) adequate.
- I consider financial risk to be part of everyday business.
- I understand the crucial aspect of financial risk.
- I can adequately manage the financial risk in my (our) company.
- Personnel risk in the company is considered adequate and not harmful to my business.
- I consider the legal risk appropriate and not harmful to our (my) business.

The subjects addressed expressed the degree of their agreement with the above statements using the five-point Likert scale with the following response scale: 1: Strongly agree, 2: Agree, 3: Neither agree nor disagree, 4: Disagree, 5: Strongly disagree. For the purpose of the analysis, an Overall Risk Rating variable, which is the sum of above-mentioned eight statements.

2.3. Analysis methodology

The first part of the analysis provides results on the risk assessment of companies depending on the legal form of the companies and the sector they operate in. In the second part of the analysis, binary logistic regression is used as an analytical tool. In binary logistic regression, a

dependent variable takes a nominal form and achieves two values, usually coded as 0 – non-occurrence of the phenomenon, or 1 – occurrence of the phenomenon. The mathematical expression of the relationship between the variables is logistic regression in the following form:

$$\ln\left(\frac{\text{Pr}}{1-\text{Pr}}\right) = \beta_0 + \sum_{i=1}^{n}\beta_i \times x_i, \tag{1}$$

where Pr expresses the probability that the observed/studied phenomenon occurs, 1-Pr is the probability of non-occurrence of the observed/studied phenomenon, β_0 is an intercept of the model, β_i are estimated regression coefficients and x_i is the set of explanatory variables.

3. Results

First, the answers concerning the identification, perception and quantification of risks by entrepreneurs and managers are provided. The Answers and their corresponding percentage shares are shown in Table 1.

It can be concluded that within the specified sectors, the least attention to risk assessment is paid to in agritourism, and services. The greatest attention, in turn, is paid to risk identification and quantification in transportation sector and other fields. Risks are most regularly assessed and quantified in agriculture, manufacturing sector, and services. Risks are most often assessed intuitively and spontaneously when dealing with other processes in retailing, construction sector, and transportation.

Figure 1 shows the overall risk assessments in companies in the Visegrad countries by their legal form. The overall risk assessment by sole traders is at the best level in Hungary and the Czech Republic, while the worst scores are attained by sole traders in Slovakia and Poland. In limited liability companies, risks are best managed in Hungary. Companies in Poland and the Czech Republic show a moderate level of risk management, while Slovakia shows the worst level. In the case of joint stock companies, risks are unambiguously best managed in the Czech Republic. It can be said that in the other three countries, business risks management is at a similar level, although Poland can be considered to show the worst results. As for other legal forms of business, the best management of business risks is in Slovakia, slightly worse in Hungary and Poland, and significantly the worst one in the Czech Republic are significantly worse off.

Overall, business risks are best managed by sole traders; worse results are recorded by other forms of business, which are followed by limited liability companies, and worst results concerning business risk management and assessment are recorded in the case of joint stock companies.

Figure 2 shows overall risk assessment by sector and country. First, it shall be noted that the worst overall risk assessment in the Visegrad group is in the tourism and construction sectors, followed by the services, retailing and manufacturing sectors. According to the responses of company managers and entrepreneurs, risks are best monitored and assessed in the transportation sector, agriculture sector, and other sectors. In the manufacturing sector, risks are best managed in Hungary and Slovakia. In retailing, Hungarian companies occupy, outstanding position, while Poland and Slovakia show the worst results. A similar pattern is

Table 1. Identification and quantification of risks in companies by sector (source: own research)

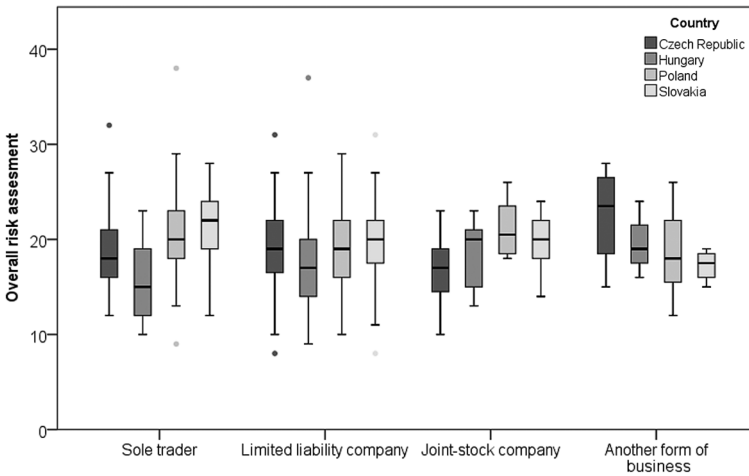|	Intuitively and spontaneously when dealing with other processes	Regularly according to established procedures	We have a professional risk management department	Risks are not assessed
Manufacturing	54.6%	26.4%	6.3%	12.6%
Retailing	66.7%	17.8%	5.4%	10.1%
Construction	63.2%	18.7%	4.5%	13.5%
Transportation	61.5%	17.3%	9.6%	11.5%
Agriculture	41.2%	27.8%	6.2%	24.7%
Tourism	59.1%	18.2%	6.8%	15.9%
Services	57.9%	21.4%	5.0%	15.7%
Other sectors	64.7%	16.7%	6.7%	12.0%

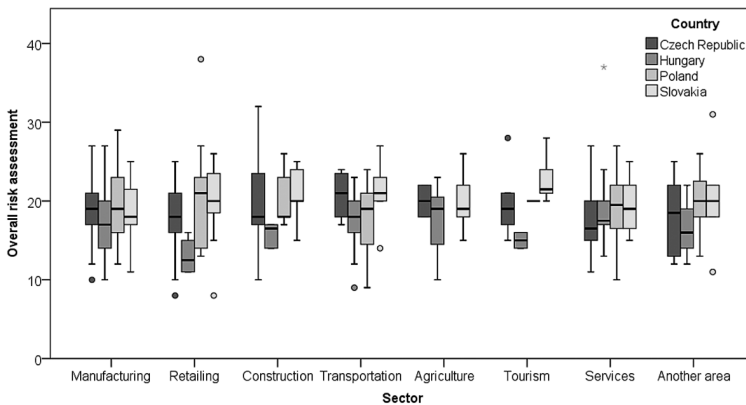Figure 1. Overall risk assessment by legal form and country (source: own research)

Figure 2. Overall risk assessment by sector and country (source: own research)

observed in the construction sector, i.e., Hungarian companies show best results in terms of risk assessment, while Slovakian companies are rated worst. In the transportation sector, the situation is balanced, but again, Hungarian companies turn out to manage risks better than companies in other countries. In agriculture, where overall risk management is rated best of all sectors, companies from Slovakia and Hungary achieve the best risk management level. In the tourism sector, where overall risk management shows the worst results of all sectors, companies from Slovakia handle risk clearly in the worst manner, while the best results are achieved by Hungarian companies. In the services sector, Czech companies show the best results, followed by Hungarian companies; the worst situation turns out to be in Poland. In other areas of business, risks are best handled in Hungary; the worst results are achieved in Poland and Slovakia.

To measure the effect of the given variables on the overall risk assessment, two binary logistic regressions are used, whose output, i.e., dependent variable, provides two possible results.

In the first regression (effective risk management), a given company is considered to handle risks properly and correctly if the value of overall risk assessment variable is below 13. It means that the company reached 33% of the lowest values in overall risk management 33% (as already mentioned, Likert scale was set up as follows: 1: Strongly agree, 2: Agree, 3: Neither agree nor disagree, 4: Disagree, 5: Strongly disagree; lower values thus indicate a good result). In contrast, a company is considered to have ineffective overall risk management if its value is in the interval (14, 40). In the second regression, (moderately effective risk management), a company is said to manage risks properly and correctly when the value of overall risk assessment variable is below 20, that is, 50% of lowest values. Both models are well fitted and robust.

The equation of the first regression model is as follows:

$$\ln\left(\frac{\Pr\left(\text{ efficient risk management = yes}\right)}{1-\Pr\left(\text{efficient risk management = yes}\right)}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_n x_n \qquad (2)$$

with supposed explanatory variables Sector, Company size, Legal form, Country, Age of the company, Age of the entrepreneur, Education, Education related to the line of business and Position within the company.

The equation of the second regression model is as follows:

$$\ln\left(\frac{\Pr\left(\text{mid efficient risk management = yes}\right)}{1-\Pr\left(\text{mid efficient risk management = yes}\right)}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_n x_n \qquad (3)$$

with supposed explanatory variables Sector, Company size, Legal form, Country, Age of the company, Age of the entrepreneur, Education, Education related to the line of business and Position within the company.

The results of the regression analysis are presented in Table 2 (effective risk management) and Table 3 (moderately effective risk management). In the tables, only statistically significant regression coefficients are included.

Table 2. Logistic regression – effective risk management (source: own research)

Parameter	B	Std. Error	Hypothesis Test			Exp(B)
			Wald Chi-Square	df	Sig.	
(Intercept)	–2.729	0.6438	17.970	1	0.000	0.065
Sector						
Manufacturing	–0.780	0.4600	2.877	1	0.090	0.458
Retailing	–0.037	0.4972	0.006	1	0.941	0.964
Construction	–1.389	0.8260	2.827	1	0.093	0.249
Transportation	–0.545	0.6334	0.740	1	0.390	0.580
Agriculture	–1.129	0.7537	2.243	1	0.134	0.323
Tourism	–20.81	20644.4745	0.000	1	0.999	9.132E–10
Sector	–0.746	0.5393	1.915	1	0.166	0.474
Sector	0[a]	.	.	.	.	1
Country						
Czech Republic	1.073	0.5176	4.295	1	0.038	2.923
Hungary	1.571	0.5410	8.435	1	0.004	4.812
Poland	0.917	0.5675	2.612	1	0.106	2.502
Slovakia	0[a]	.	.	.	.	1
Gender						
male	0.404	0.3778	1.145	1	0.285	1.498
female	0[a]	.	.	.	.	1
(Scale)	1[b]					

Notes: a – Reference category; b – Maximum likehood estimate.

As for effective risk management (see Table 2), sector and country are statistically significant variables. It can be stated that in the manufacturing sector the probability of effective risk management is significantly lower than in other sectors. In the construction sector, effective risk management is significantly less likely compared to other sectors. The same applies to the agricultural sector. In the Czech Republic and especially in Hungary, there is a higher probability of effective corporate risk management compared to Slovakia. A similar trend of effective risk management, although slightly less pronounced, can be observed in the comparison of Poland (more effective) and Slovakia.

The results concerning moderately effective risk management are presented in Table 3. In terms of moderately effective risk management, country, age, and position in the company are statistically significant variables. It can be said that the probability of moderately effective risk management is significantly lower in Hungary than in Slovakia. The variable of gender, although only slightly statistically significant, suggests that men are significantly less likely to show moderately effective risk management than women. The age of the respondents, i.e. company managers or owners, is statistically significant; and it can be said that younger managers manage risks with greater accuracy than the older ones. Company owners manage risks to a lesser extent than company managers.

Table 3. Logistic regression – moderately effective risk management (source: own research)

Parameter	B	Std. Error	Hypothesis Test			Exp(B)
			Wald Chi-Square	df	Sig.	
(Intercept)	−0.345	0.3272	1.113	1	0.291	0.708
Country						
Czech Republic	−0.313	0.2618	1.430	1	0.232	0.731
Hungary	−1.303	0.3369	14.968	1	0.000	0.272
Poland	−0.159	0.3037	0.276	1	0.600	0.853
Slovakia	0[a]	.	.	.	.	1
Gender						
males	−0.360	0.2404	2.244	1	0.134	0.698
females	0[a]	.	.	.	.	1
Age						
35 and younger	0.552	0.3420	2.600	1	0.107	1.736
36 to 45	0.581	0.3206	3.288	1	0.070	1.789
46 to 55	0.536	0.3048	3.088	1	0.079	1.708
56 and older	0[a]	.	.	.	.	1
Position						
company owner	−0.403	0.2249	3.206	1	0.073	0.669
manager	0[a]	.	.	.	.	1
(Scale)	1[b]					

Notes: a – Reference category; b – Maximum likehood estimate.

4. Discussion

The goal of the paper was to analyse the determinants of risk management with a focus on sectoral specifics of SMEs in the V4 countries. A part of the analysis was also the quantifica-tion of sectoral differences in the analysed dimensions. The results of the analyses provided interesting findings. According to them, the least attention of SME owners and managers was paid to the risk assessment in the agritourism and services sectors, while the processes of risk identification and quantification were most dealt with by SME owners and managers in the sector of transportation and in other sectors.

In the process of risk management, an important role is played by risk quantification and assessment. Business risks are most regularly quantified and assessed in agriculture, in the manufacturing sector, and in the sector of services. The approach of assessing risks intuitively and spontaneously when dealing with other processes is most commonly applied in the sector of retailing, construction, and transportation. These results are also confirmed by Cepel et al. (2020), and Hudáková et al. (2019).

When analysing the attitudes of trade solers, the best overall risk assessment score was achieved in Hungary and the Czech Republic, while the worst one in Slovakia and Poland. Legal form of companies also turned out to influence risk management in the countries

under review. In the category of limited liability companies, the best risk management was recorded in Hungary; a moderate level of risk management was recorded in Poland and the Czech Republic, while the worst results were recorded in Slovakia. These findings are in line with the results of the study published by Belas et al. (2020).

As for risk management in joint-stock companies, the best risk management was in the companies in the Czech Republic, while the worst results were recorded in Poland. The results are confirmed by Oláh et al. (2019). When focusing on legal forms of business, it was found that the best business risk management was in Slovakia; slightly worse results were recorded in Hungary and Poland. The worst business risk management was in the Czech Republic. These findings correlate with the results published in the studies by Belas et al. (2020), Gavurova et al. (2020), and Virglerová et al. (2016).

As for the overall risk assessment, business risk monitoring is best managed by sole traders; slightly worse results were achieved by companies included in the category "other form of business", followed by limited liability companies. The worst business risk management and monitoring was in joint-stock companies. These results correspond to the findings of Oláh et al. (2019).

The results of the regression analysis show that in effective risk management, statistically significant determining variables are sector and country. This is also confirmed in the study by Buganová et al. (2021), Lahuta et al. (2021), and Bubnova and Stepanova (2022). It can be stated that in the manufacturing sector, the probability of effective risk management is significantly lower than in other sectors. In the construction sector, effective risk management is less likely than in other sectors; the same applies to the sector of agriculture. As for individual countries, the Czech Republic and Hungary show higher probability of effective risk management compared to Slovakia. A similar pattern can be seen in the comparison of Poland (higher probability) and Slovakia (lower probability). These findings are in line with the findings published by Hudakova et al. (2018).

In terms of moderately effective risk management, the statistically significant variables are country, age of entrepreneurs or managers, and the position of the respondent in a given company. It can be stated that the probability of moderately effective risk management is significantly lower in Hungary when compared with Slovakia. This is also confirmed by Cepel et al. (2020).

When analyzing moderately effective risk management, gender-related differences were identified, which suggest that the probability of moderately effective risk management is significantly lower in the case of men compared to women. Age of company manager or owner is also a statistically significant factor; the results show that young managers monitor risks with higher accuracy than the older ones. When comparing company owners and managers, it was found that company owners monitor risks to a lesser extent than managers. This is confirmed by the results of the studies by Sobeková Majková (2016), Hudakova et al. (2021). The presented findings also confirm the importance of continuous research of the business environment and the linkages of companies within this research for the identification of business risks and development of monitoring and evaluation systems of risk management.

The results of the study confirm the importance of examining the given research trajectories in relation to sectoral differences, company size, legal form of company, and socio-

economic factors. This implies that the systems of risk management and monitoring in SMEs cannot be developed without the knowledge of factors that influence the emergence, development and elimination of such risks. Similarly, methodologies for the elimination of risks, models and software applications cannot be developed without quality monitoring of both external and internal business environment, continuous research on the impact of geopolitical changes, the processes of population ageing, and other factors on the development of the business environment, which hinder the unified processes of creating risk management models in SMEs.

Conclusions

The success of business activities of companies depends also on effective risk management. To be successful, entrepreneurs need to be able to respond flexibly to changes in the external environment and to implement changes in the systems of management, marketing, business processes, etc. This requires continuous monitoring of the internal and external environment and identification of the area of potential and real risks emergence. Understanding risks is essential in business activities. Business success is often connected with the acceptance of proper approaches to risk management. Proper approaches to risks enable to eliminate risky tendencies in decision-making, use appropriately material and organizational resources necessary for preventing risks from occurring as well as eliminating their consequences. Higher level of risk management requires their continuous measuring and evaluation, as well as the identification of potential areas of their occurrence in the business environment. The attitude of company managers and owners as well as the knowledge of sectoral specificities also plays an important role. Different processes of company management in different sectors presuppose setting up differentiated strategies reflecting the internal and external business environment of a company and its economic and political stability.

These aspects are reflected in the study being submitted, whose goal was to examine the determinants of risk management with a focus on sectoral specificities of SMEs in the V4 countries. Within the study, sectoral differences in examined dimensions were also quantified. The results show that the least attention of SME managers and owners is paid to the risk assessment in the sectors of agritourism and services. The processes of risk identification and quantification are most addressed by SME managers and owners in the transportation sector and other sectors. Hungarian limited liability companies show the highest level of risk management; moderate level of risk management in limited liability companies was in Poland and the Czech Republic, while the worst results were recorded in Slovakia. As for joint-stock companies, the highest level of risk management was in the Czech Republic; the lowest in Poland. In terms of legal forms of business, it was found that the highest level of risk management was in Slovakia; Hungary and Poland showed slightly worse results, while the worst results were achieved in the Czech Republic. The study also shows that sole traders achieve the best results in risk management; as for business risk monitoring and management, the worst results were recorded in the case of joint-stock companies. In terms of moderately effective risk management, country, age of company owners or managers, and the position of the respondent in a given company are statistically significant variables. The probability

of moderately effective risk management is significantly lower in Hungary compared to Slovakia. Men show significantly lower probability of moderately effective management than women. Age of company owners or managers is also a statistically significant factor; it was found that young managers monitored business risks with higher accuracy than the older ones. Similarly, company owners monitored risks to a lesser extent than company managers. There are potential limitations that could be researched in the study, for instance unavailability of the relevant information for the individual sectors of the V4 countries. Hence, the data was obtained from the information that is available through the accessible platforms. The further research will be aimed at the investigation of the determinants of risk management in an association with the factors of the business environment quality and competitiveness of the enterprises as well as the regions.

The results of the study can be used for the creation of a valuable platform for the creation of development policies, national and regional development plans related to the improvement of the business environment quality and support of the competitiveness of companies and regions. They will also contribute to the development of systems for monitoring and assessment of business risks depending on the sectoral differentiation, as well as setting up necessary training systems in this field.

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