


Sustainability of SMEs and their determinants. Comparative analysis from V4 countries


Zora Petrakova

Institute for Forensic Engineering, Faculty of Civil Engineering, Slovak University of Technology, Slovakia
zora.petrakova@stuba.sk

 0000-0002-1398-9415

Peter Karacsony

Institute of Management and Quantitative Methods, Keleti Karoly Faculty of Business and Management, Óbuda University, Budapest, Hungary
karacsony.peter@uni-obuda.hu

 0000-0001-7559-0488

ABSTRACT

Research background: The sustainability of SMEs in the Visegrad Group countries has gained increasing attention due to their critical role in economic growth, employment, and innovation, yet their capacity to adopt sustainable practices is often constrained by limited resources and institutional support. Empirical studies on the determinants of sustainability in SMEs within this region highlight factors such as access to finance, regulatory frameworks, and the influence of stakeholder pressure, alongside internal drivers like leadership commitment and innovation capacity.

Purpose of the article: The aim of the article is to verify differences in the perception of selected factors of sustainability among small and medium-sized enterprises (SMEs) in Central Europe. The subjects of analysis are factors such as business risk sources (market risk sources, financial risk sources, personnel risk sources, and operational risk sources), national support and social changes, and sustainability of SMEs.

Methods: The questionnaire was completed by 1,090 SMEs from the business environments of Visegrad Group countries. Statistical hypotheses were verified using Z-scores for two population properties.

Findings & Value added: The empirical results indicate that there are significant differences in the perception of selected business risks, such as market risk, financial risk, personnel risk, legislative framework, operational risk, and the sustainability of SMEs. Hungarian entrepreneurs perceive the negative effects of market stagnation, strong competition, and low consumer purchasing levels. Hungarian entrepreneurs, compared to those in other countries, perceive the negative impact of personnel risk, such as employee turnover and error rates to a lesser extent. On the other hand, the intensity of operational risk in business is perceived to the least extent by Polish and Czech SMEs. Debt levels, the ability to meet obligations, and lack of profit are attributes of financial risk that Czech entrepreneurs perceive to the least extent in their businesses.

RECEIVED: July 29 © **ACCEPTED:** November 3 © **PUBLISHED ONLINE:** December 31

KEYWORDS: business risk, case study, questionnaire, SMEs, sustainability, Visegrad Group countries

JEL CLASSIFICATION: O11, M25, L14

CITATION: Petrakova, Z., & Karacsony, P. (2024). Sustainability of SMEs and their determinants. Comparative analysis from V4 countries. *Journal of Business Sectors*, 2(2), 50–61. <https://doi.org/10.62222/KWBA5277>

INTRODUCTION

Nowadays, corporate sustainability is becoming a key factor for success and long-term viability, as interest in environmental, social, and economic responsibility is constantly increasing. According to Çera et al. (2023) and Betakova et al. (2023), companies that are aware of their impact on society and the environment become leaders in the field of responsible business and contribute to the creation of a better future. Sustainability focuses

on meeting current needs without jeopardizing the ability of future generations to meet their own needs (Dyllick et al., 2016). The main goal of sustainability is to minimize negative impacts on the environment, preserve natural resources, and promote a balance between economic development, social well-being, and environmental responsibility. According to Schaltegger et al. (2019), sustainability is often perceived as an integral part of various policies, strategies, and business models in order to

achieve long-term sustainable development of society. As a synonym for the concept of sustainability, the concept of ESG, which was created on the basis of the theory of Corporate Social Responsibility, is coming to the fore. The concept of ESG was created thanks to investors who demand the evaluation of the responsible behavior of companies and the prediction of possible future financial results also based on non-financial information (Saunila et al., 2023). The activities carried out by companies in the field of ESG are not only intended to contribute to the mitigation of climate change by directing the European Union on the path of green transformation with the ultimate goal of achieving climate neutrality by 2050 but also to support the transformation to a fair and prosperous society with a modern and competitive economy (Jamil et al., 2024). The European Commission has approved the Corporate Sustainability Reporting Directive (CSRD), aimed at reporting sustainability information in the form of a sustainability report (ESG report). The sustainability report will have to be compiled in accordance with the newly adopted European Sustainability Reporting Standards (ESRS).

In all areas of SME business, the importance of sustainability is growing, especially the effects on the area of finance (Ahmed et al., 2023; Saleh & Manjunath, 2023). According to Nwachukwu & Vu (2020), SME owners therefore need to adapt their understanding of their function, capabilities, and portfolio of services in the financial area so that they correspond to new requirements. The financial area is a central factor of motivation, which ensures the successful transformation of the organization into a sustainable enterprise (2022). The degree of impact on the environment and society is important for maintaining the competitiveness of businesses. Not only in product development, logistics, or marketing, but also in the financial field, huge opportunities arise thanks to the focus on sustainability (Cosenz et al., 2019; Machova et al., 2023). However, their use requires a change in business as well as in individual functions. Company management should therefore emphasize the sustainable future of their business (Wong & Ngai, 2021). To realize this sustainable future, organizations should consider environmental, economic, social aspects, and their impact factors when making decisions and planning strategies.

The originality of this case study lies in the authors' examination of subjective perceptions of important factors of sustainability in the segment of small and medium-sized enterprises, comparing countries within the Visegrad group.

The structure of the scientific article is as follows. The motivation and originality of the article are presented in the introduction section. The theoretical background of the article includes significant scientific findings on the selected factors of sustainability and financial performance within the scope of the article's topic. The subsequent section outlines the aim and methodology of data collection, formulation of statistical hypotheses, basic information on the questionnaire and factors, statistical methods, and the structure of respondents. The empirical results

present an evaluation of statistical hypotheses using pivot tables and statistical testing. The discussion section entails research findings and a comparison with international case studies. Finally, the conclusion addresses the limitations and suggests future research activities for the authors.

THEORETICAL BACKGROUND

There is no single definition for the term 'sustainability' (sustainable development), as it can be defined in many ways. The OECD perceives sustainable development as a dynamic balance between economic, social, and environmental aspects of development in the conditions of globalization. According to Khan et al. (2023), sustainable development is a complex set of strategies that allow the use of economic means and technologies to satisfy human needs—material, cultural, and spiritual—while fully respecting environmental limits. For this to be possible on a global scale in today's world, it is necessary to redefine socio-political institutions and processes at the local, regional, and global levels. Sustainability is focused on three main areas: environmental, social, and economic. Currently, the concept of ESG is coming to the fore, which assesses environmental, social, and governance activities (Ahmed et al., 2023).

Increasing demands for sustainability lead to a change in the thinking of SME owners in the financial area (Metzker et al., 2023; León et al., 2022; Rózsa et al., 2022). As a result of a German study carried out in medium-sized enterprises, factors were identified that influence measures for the transformation of sustainable enterprises (Ahmed et al., 2023; Valaskova et al., 2023; Deloitte, 2024) - 1. A successful transformation towards sustainability requires the adaptation of current structures and processes of taxation and reporting. Sustainability cannot be developed independently of the financial field. 2. Support for the integration of the aspect of sustainability into the data and system environment: Sustainability requires a new form of data transparency, in which non-financial indicators are used to a significant extent. 3. Targeted adaptation of employee motivation: Successfully implemented transformations require highly motivated top management and employees. 4. Development of relevant knowledge on the subject of sustainability: Financial directors must find new ways of acting and can no longer concentrate on, or be limited to, financial indicators only. New kinds of knowledge are needed.

From the above, it follows that responsibility for the performance of SMEs in relation to strategic goals, including sustainable performance, requires the need to understand the relationships between the company's activities and their impact on financial as well as non-financial performance. According to Małkowska et al. (2022), evaluating and measuring SME performance is usually a feature of most thriving businesses. Key performance indicators help companies achieve sustainability and also ensure their environmental, economic, social, and Corporate Governance impacts. According to the results of seven-

ral studies, e.g., Kocmanová et al. (2020), Tur-Porcar et al. (2018), Pavláková Dočekalová & Kocmanová (2018), the following indicators can be declared: Economic performance indicators: performance indicators (return on equity, sales, assets, and invested capital), economic results (profit, turnover, added value, market share), financial indicators (total liquidity, indebtedness, asset turnover), operating cash flow. Environmental performance indicators: investments (investments in natural resource protection, costs of investments in natural resources), emissions (total air emissions, total greenhouse gas emissions), resource consumption (total annual consumption, renewable energies, materials consumed, recycled input materials, total annual water consumption), waste (total annual waste production, total annual hazardous waste production). Social performance indicators: society (community contributions to municipalities), human rights (discrimination, equal opportunities), labor legal relations (employee turnover rate, education and training expenses, occupational diseases, number of workplace deaths), product liability (marketing communication, labeling of services and products). Corporate Governance performance indicators: monitoring and reporting (reporting on company goals, financial results, etc.), CG effectiveness (CG responsibility, ethical behavior), CG structure (CG remuneration, composition of CG members, equal opportunities), compliance (corruption, compliance with legal standards).

In addition to prerequisites such as orientation to economic, environmental, and social areas, development of quality of life, systematic long-term management, integration into the culture of the organization, and a broad-spectrum approach to stakeholders, risk management can also be implemented within the framework of a proactive approach (Ključnikov et al., 2022). Risk management is a prerequisite for increasing the success of the business activities implemented by the organization from the perspective of sustainable development (Zieba et al., 2022). Based on these facts, not only is socially responsible business coming to the fore, but also the growing need for and importance of risk management within the company, especially due to rapid changes in the global business environment, which directly affect the success and sustainability of businesses. Through risk management, businesses can avoid costly lawsuits, damage to their reputation, and more (Dvorský et al., 2023). Risk management in the company is an important element of effective strategic management, which, through its activities, aims to reduce the negative impacts of various types of risks, i.e., especially market, financial, operational, personnel, and legislative, on planned goals.

Market risk is most often defined as the negative influence of the external environment, which is frequently associated with the failure of products and services in the markets (Kim & Vonortas, 2014). Market risk primarily assesses the impact of competition, customer behavior, suppliers, market development, etc., on the achievement of set goals. Market risk is considered the most serious risk perceived by SMEs in the V4 countries (Stângaciu et

al., 2024). Lopez-Torres (2023) assess the impact of market risk on the sustainability and competitiveness of SMEs. Hernandez-Diaz et al. (2021) and Gorondutse et al. (2021) assessed the impacts of sustainability support on SME performance from the perspective of strategic flexibility. Bratianu et al. (2020) focused on assessing the impact of risk management on the sustainability of SMEs.

Financial risk is defined by Belas et al. (2023) as a potential loss incurred in the financial market, including losses caused by fluctuations in interest rates or non-payment of financial obligations. According to Civelek et al. (2023), financial risk arises from changes in the financial market as well as from the approach of managers to make informed decisions on financial risk management using individual financial instruments. Arsic et al. (2020) in their study assessed the impact of logistics capacities on the economic and financial sustainability of SMEs. Heenkend et al. (2022) and Kliuchnikava et al. (2022) evaluated the role of innovative capability in enhancing sustainability in SMEs as a perspective of the developing economy in Hungary, Poland, and the Czech Republic. Logan et al. (2021) processed results oriented towards the analysis of risks from the viewpoint of consequences for resilience, sustainability, and business management.

Operational risk, as defined by Lopez (2021), is the risk of loss resulting from inadequate or failed internal processes, people, and systems, or from external events. According to Agarwal & Ansell (2016), operational risks include product risks, process or system failures, legality and compliance issues, illegal or criminal activities, and human factors. Dumitrescu & Deselnicu (2018), along with Makovická Osvaldová et al. (2023) and Vandlíčková et al. (2021), identify operational risks primarily as failures in production processes, systems, and services, i.e., risks resulting from business interruptions. These risks are assessments of factors affecting the production-technological process, technical failures, accidents, insufficient utilization of production capacities, low innovation rates, obsolete production equipment, product failure, as well as external risk sources, e.g., loss of suppliers, and scarcity of resources and raw materials.

Personnel risk, according to Grabara et al. (2019), is defined as the risk of violating individual rights and freedoms, physical and psychological violence at work, humiliation of honor and dignity, health risks, job loss, and risks of reduced income. According to Strielkowski et al. (2019), personnel risk is perceived as a negative event with consequences affecting employee turnover, insufficient qualification of employees, employee mistakes, work morale, and relationships at the workplace. The human factor introduces a significant degree of unpredictability and uncertainty to any company activity, which can also lead to crisis situations, as noted by Fraser & Simkins (2016). Gede Riana et al. (2020) argue that the quality of human capital in SMEs is fundamental to enhancing company performance. Boeske & Murray (2022) discuss sustainability leadership issues in SMEs. Belas et al. (2022) examine the effects of ethical and CSR fac-

tors on engineers' attitudes towards SME sustainability. Mizickova et al. (2022) present results focused on assessing the impact of knowledge risk management on enterprise sustainability.

National support and legislative changes are associated with the regulation of business, according to Slusarczyk & Grondys (2019). This primarily concerns the effects of new laws and changes to existing laws and standards, as well as the consequences resulting from them. According to Virglerova et al. (2020), legislative risk represents the potential that government regulations or legislation may significantly change the business prospects of one or more companies. These changes may adversely affect investment interests in these companies. Legislative risk can occur as a direct result of government action or changes in the demand patterns of a company's customers. Several authors, including Kotasova et al. (2020) and Pop et al. (2020), note that the business environment in the V4 countries is regulated by a large number of legal regulations that are constantly subject to changes. Based on the studies processed by Virglerova et al. (2020), Musa et al. (2024), and Gorzeń-Mitka (2016), one of the biggest obstacles in SME business is the instability and ambiguity of laws. These frequent changes in laws make the legislative framework in the V4 countries opaque and complex for entrepreneurs.

RESEARCH OBJECTIVE, METHODOLOGY AND DATA

Aim of the article is verify of differences in the perception on the selected factors of sustainability in the SMEs segment between countries in the middle Europe.

Data collection

The research was conducted in four Central European countries: Hungary (HU), Poland (PL), the Slovak Republic (SR), and the Czech Republic (CR). The survey was completed by 1,090 owners or top managers of small and medium-sized enterprises (SMEs – with fewer than 250 employees; respondents). The distribution of respondents according to their country of business operation was as follows: 301 (27.6%) from PL, 362 (33.2%) from CR, 162 (14.9%) from SR, and 265 (24.3%) from HU. Data collection took place from December 2022 to January 2023 with the assistance of the external research agency MNFORCE. The selection of respondents was facilitated by the CAWI method (Computer-Assisted Web Interviewing).

The questionnaire was divided into two parts. The first part gathered demographic characteristics of the enterprise, such as the size of the enterprise, type of entity, number of years the enterprise has been in operation, level of internationalization, locality of business operation, and business sector. The second part focused on factors related to sustainability, including corporate social responsibility, crisis events in business, reputation and social media, market, financial, operational risk, personnel risk, national support and legislative changes, and sustainability itself. The questionnaire was translated into

the national languages of the respondents to ensure a better understanding of the statements. Respondents were asked to express their attitude using one of the following types of answers (according to the Likert scale): A1 – strongly agree, A2 – agree, ..., A4 – disagree, A5 – strongly disagree. The reliability and validity results confirmed that the questions in the questionnaire were well-formulated. Item-to-total correlation between items and factors confirmed a good connection. These indicators of questionnaire quality were validated.

Variables

The questionnaire contains the following business risk statements:

- Market risks (MR): MR1: I rate the market risk (lack of sales for my company) as acceptable. MR2: The stagnation of the market has no important impact on our business. MR3: Strong competition in the sector of business has no significant effect on our business. MR4: The level of consumers' purchase has a positive influence on our business.
- Personnel risk (PER): PER1: Our employees are the most important organisation assets. PER2: Our company heavily invests in improving the qualifications of our employees. PER3: Employee turnover has no negative impact on my business. PER4: Employee error has no effect on my (our) business.
- National support and legislative changes (NSLCH): NSLCH1: In the last five years, conditions for doing business in my country have improved. NSLCH2: Institutions in the support of the business environment of our country help SME segment during crisis events (e.g. COVID-19; Russia-Ukraine conflict). NSLCH3: Business is affected by frequent legislative changes, but it has no negative impact on our (my) business. NSLCH4: I do not consider the business environment to be 'over-regulated'.
- Operational risks (OR): OR1: Our company has a sufficient utilisation of the production capacities. OR2: The company suppliers' prices for products and services are adequate. OR3: Our company has no problem with distribution of our products/services. OR4: Our company has no problem with the suppliers (e.g. cooperation, numbers of suppliers, relationships).
- Financial risk (FR): FR1: Our company has a sufficient profit. FR2: The indebtedness of the company is adequate (not a high share of debt). FR3: I can adequately manage financial risks in our company. FR4: Our company has no problem with an ability to pay obligations (insolvency).
- Sustainability (S): S1: I understand the concept of sustainable business growth. S2: It is essential to perceive also the social and environmental impact of entrepreneurship. S3: The sustainable development of our company is a key aspect of entrepreneurship. S4: I perceive our company as sustainable.

Statistical hypotheses and methods

The following hypotheses were formulated:

H: The country of business operation is a statistical significant factor that affects the perception of market risk (H_MR), personnel risk (H_PER), national support and legislative changes (H_NSLCH), operational risk (H_OR), financial risk (H_FR), and sustainability (H_S) in the segment of SMEs in the V4 countries.

The statistical hypotheses were verified using statistical methods and the IBM SPSS Statistics software. The analyses included sorting by one statistical sign (e.g., type of answer to the statement, such as FR1, ..., FR4); sorting by two statistical signs (type of answer to the statement and country of business operation - CR, PL, SR, HU); calculation of absolute and relative frequencies of statistical signs; creation of pivot tables and aggregated indexes; and the application of the Z-score for comparing two population proportions, as presented in the tables (see Table 1, ..., Table 4).

Structure of respondents

Structure of respondents according to the country of doing of business.

- Czech Republic (CR; n = 362). Size of enterprise: 222 (61.3%) - Microenterprises (less than or equal to nine employees), 84 (23.2%) - Small enterprise (between ten to 49 employees), 56 (15.5%) - Medium enterprise (between 50 to 249 employees); type of entity: 143 (39.5%) - Sole trader, 183 (50.6%) - Limited liability company, 36 (9.3%) - Joint-stock company; Business sector: 72 (19.9%) - Manufacturing, 76 (21.0%) - Retailing, 44 (12.2%) - Construction, 134 (37.0%) - Services, 36 (9.9%) - Another area; Number of years of enterprise: 64 (17.7%) - less than or equal to 3 years, 38 (10.5%) - more than 3 and less than or equal to 5 years, 75 (20.7%) - more than 5 and less than or equal to 10 years, 185 (51.1%) - more than 10 years; level of internationalization: 329 (90.9%) - domestic market (national business environment), 33 (9.1%) - foreign market (international business environment); locality of doing business: 155 (42.8%) - capital, 207 (57.2%) - others city.
- Poland (PL; n = 301). Size of enterprise: 202 (67.1%) - Microenterprises (less than or equal to nine employees), 69 (22.9%) - Small enterprise (between ten to 49 employees), 30 (10.0%) - Medium enterprise (between 50 to 249 employees); type of entity: 203 (67.4%) - Sole trader, 81 (26.9%) - Limited liability company, 11 (3.7%) - Joint-stock company, 6 (2.0%) other type; Business sector: 28 (9.3%) - Manufacturing, 49 (16.3%) - Retailing, 52 (17.3%) - Construction, 101 (33.5%) - Services, 71 (23.6%) - Another area; Number of years of enterprise: 62 (20.6%) - less than or equal to 3 years, 99 (32.9%) - more than 3 and less than or equal to 5 years, 64 (21.3%) - more than 5 and less than or equal to 10 years, 76 (25.2%) - more than 10 years;

level of internationalization: 266 (88.4%) - domestic market (national business environment), 35 (11.6%) - foreign market (international business environment); locality of doing business: 85 (28.2%) - capital, 216 (71.8%) - others city.

- Hungary (HU; n = 265). Size of enterprise: 159 (60.0%) - Microenterprises (less than or equal to nine employees), 84 (31.7%) - Small enterprise (between ten to 49 employees), 22 (8.7%) - Medium enterprise (between 50 to 249 employees); Type of entity: 145 (54.7%) - Sole trader, 89 (33.6%) - Limited liability company, 18 (6.8%) - Joint-stock company, 13 (4.9%) other type; Business sector: 36 (13.6%) - Manufacturing, 71 (26.8%) - Retailing, 23 (8.7%) - Construction, 64 (24.2%) - Services, 71 (26.8%) - Another area; Number of years of enterprise: 73 (27.6%) - less than or equal to 3 years, 92 (34.7%) - more than 3 and less than or equal to 5 years, 49 (18.5%) - more than 5 and less than or equal to 10 years, 51 (19.2%) - more than 10 years; level of internationalization: 236 (89.1%) - domestic market (national business environment), 29 (10.9%) - foreign market (international business environment); locality of doing business: 132 (49.8%) - capital, 133 (50.2%) - others city.
- Slovak Republic (SR; n = 162). Size of enterprise: 121 (74.7%) - Microenterprises (less than or equal to nine employees), 27 (16.7%) - Small enterprise (between ten to 49 employees), 14 (8.6%) - Medium enterprise (between 50 to 249 employees); Type of entity: 98 (60.5%) - Sole trader, 52 (32.1%) - Limited liability company, 12 (7.4%) - Joint-stock company; Business sector: 15 (9.3%) - Manufacturing, 39 (24.1%) - Retailing, 20 (12.4%) - Construction, 68 (42.0%) - Services, 20 (8.1%) - Another area; Number of years of enterprise: 40 (24.7%) - less than or equal to 3 years, 34 (21.0%) - more than 3 and less than or equal to 5 years, 35 (21.6%) - more than 5 and less than or equal to 10 years, 53 (32.7%) - more than 10 years; level of internationalization: 152 (93.8%) - domestic market (national business environment), 10 (6.2%) - foreign market (international business environment); locality of doing business: 55 (34.0%) - capital, 107 (66.0%) - others city.

RESULTS

Structure of answer in V4 countries (n = 1,090): MR1: A1 = 219 (20.1%), A2 = 466 (42.8%), A3-A5 = 405 (37.2%); MR2: A1 = 170 (15.6%), A2 = 298 (27.3%), A3-A5 = 622 (57.1%); MR3: A1 = 179 (16.4%), A2 = 284 (26.1%), A3-A5 = 210 (28.3%); MR4: A1 = 332 (30.5%), A2 = 447 (41.0%), A3-A5 = 311 (28.5%). Table 1 shows a comparison between respondents according to the country in V4 group on the statements of MR.

Empirical results showed (see table 1) that the country of doing business is significant factors which has effect on the perception of owners and manager on the statement of market risk (pairwise comparison between: PL-CR,

Table 1: Positive perceptions of respondents on the statements of MR

Factor	Market risk - MR					
	MR1	MR2	MR3	MR4	Index MR	
RPP	PL	0.571	0.495	0.475	0.734	0.569
	CR	0.577	0.276	0.323	0.746	0.481
	SR	0.630	0.494	0.444	0.679	0.562
	HU	0.762	0.525	0.494	0.672	0.613
Z-Score for 2 population proportions (Index MR)	PL-CR	4.530***	PL-HU	2.136**	SR-HU	2.101**
	PL-SR	0.298	CR-HU	6.575***	SR-CR	3.430***

Note: RPP – Ratio of positive perception; * $\alpha = 0.05$; ** $\alpha = 0.01$; *** $\alpha = 0.001$. Source: own data collection.

Source: own research

Table 2: Positive perceptions of respondents on the statements of PER and NSLCH

Factor	Personnel risk - PER					
	PER1	PER2	PER3	PER4	Index PER	
RPP	PL	0.811	0.688	0.449	0.728	0.669
	CR	0.812	0.530	0.199	0.135	0.419
	SR	0.846	0.679	0.469	0.389	0.596
	HU	0.909	0.774	0.562	0.468	0.678
Z-Score for 2 population proportions (Index PER)	PL-CR	12.816***	PL-HU	0.490	SR-HU	3.467***
	PL-SR	3.124***	CR-HU	12.840***	SR-CR	7.478***

Factor	National support and social change - NSLCH					
	NSLCH 1	NSLCH 2	NSLCH 3	NSLCH 4	Index NSLCH	
RPP	PL	0.439	0.485	0.468	0.405	0.328
	CR	0.268	0.268	0.345	0.257	0.285
	SR	0.340	0.352	0.438	0.401	0.383
	HU	0.540	0.460	0.472	0.457	0.482
Z-Score for 2 population proportions (Index NSLCH)	PL-CR	8.807***	PL-HU	1.558	SR-HU	4.010***
	PL-SR	2.765***	CR-HU	10.133***	SR-CR	4.472***

Note: RPP – Ratio of positive perception; * $\alpha = 0.05$; ** $\alpha = 0.01$; *** $\alpha = 0.001$. Source: own data collection.

Source: own research

Table 3: Positive perceptions of respondents on the statements of OR

Factor	Operational risk - OR					
	OR1	OR2	OR3	OR4	Index OR	
RPP	PL	0.741	0.618	0.651	0.615	0.656
	CR	0.702	0.461	0.793	0.715	0.668
	SR	0.531	0.469	0.623	0.648	0.568
	HU	0.683	0.543	0.596	0.638	0.615
Z-Score for 2 population proportions (Index OR)	PL-CR	0.633	PL-HU	2.027*	SR-HU	1.929
	PL-SR	3.742***	CR-HU	2.727**	SR-CR	4.396***

Note: RPP – Ratio of positive perception; * $\alpha = 0.05$; ** $\alpha = 0.01$; *** $\alpha = 0.001$. Source: own data collection.

Source: own research

PL-HU, CR-HU, SR-HU, and SR-CR). The statistical hypothesis H_{MR} was accepted.

Structure of answer in V4 group (n = 1,090): PER1: A1 = 485 (44.5%), A2 = 431 (39.5%), A3-A5 = 174 (16.0%); PER2: A1 = 276 (25.3%), A2 = 438 (40.2%), A3-A5 = 376 (34.5%); PER3: A1 = 276 (25.3%), A2 = 438 (40.2%), A3-A5 = 376 (34.5%); PER4: A1 = 197 (18.1%), A2 = 258 (23.7%), A3-A5 = 635 (58.2%); NSLCH1: A1 = 180

(16.5%), A2 = 247 (22.7%), A3-A5 = 663 (60.8%); NSLCH2: A1 = 138 (12.7%), A2 = 284 (26.1%), A3-A5 = 668 (61.3%); NSLCH3: A1 = 153 (14.0%), A2 = 309 (28.4%), A3-A5 = 628 (57.6%); NSLCH4: A1 = 130 (11.9%), A2 = 271 (24.9%), A3-A5 = 689 (62.3%).

Table 2 shows a comparison between respondents according to the country in V4 group on the statements of PER and NSLCH.

Empirical results showed (see table 2) that the country of doing business is significant factors which has effect on the perception of owners and manager on the statement of personnel risk (pairwise comparison between: PL-CR, PL-SR, CR-HU, SR-HU, and SR-CR), and national support and social change (pairwise comparison between: PL-CR, PL-HU, CR-HU, SR-HU, and SR-CR). The statistical hypotheses H_PER and H_NSLCH were accepted.

Structure of perception in V4 group countries (n = 1,090): OR1: A1 = 270 (24.8%), A2 = 474 (43.5%), A3-A5 = 346 (31.7%); OR2: A1 = 190 (17.4%), A2 = 383 (35.1%), A3-A5 = 517 (47.5%); OR3: A1 = 260 (23.9%), A2 = 482 (44.2%), A3-A5 = 348 (31.9%); OR4: A1 = 260 (23.9%), A2 = 458 (40.0%), A3-A5 = 372 (34.1%).

Table 3 shows a comparison between respondents according to the country in V4 group on the statements of OR.

Empirical results showed (see table 3) that the country of doing business is significant factors which has effect on the perception of owners and manager on the statement of corporate social responsibility (pairwise comparison between: PL-CR, PL-SR, PL-HU, CR-HU, SR-HU, and SR-CR), and operational risk (pairwise comparison between: PL-SR, PL-HU, CR-HU, and SR-CR). The statistical hypotheses H_CSR and H_OR were accepted.

Structure of answer in V4 group (n = 1,090): FR1: A1 = 229 (21.0%), A2 = 453 (41.6%), A3-A5 = 408 (37.4%); FR2: A1 = 271 (24.9%), A2 = 445 (40.8%), A3-A5 = 374 (34.3%); FR3: A1 = 281 (25.8%), A2 = 559 (51.3%), A3-A5 = 250 (22.9%); FR4: A1 = 369 (33.9%), A2 = 474 (43.5%), A3-A5 = 247 (22.6%); S1: A1 = 295 (27.1%), A2 = 575 (52.8%), A3-A5 = 220 (20.1%); S2: A1 = 294 (27.0%), A2 = 582 (53.4%), A3-A5 = 214 (19.6%); S3: A1 = 272 (25.0%), A2 = 527 (48.3%), A3-A5 = 291 (26.7%);

S4: A1 = 300 (27.5%), A2 = 535 (49.1%), A3-A5 = 255 (23.4%).

Table 4 presents a comparison of respondents from the V4 group countries based on their responses to statements regarding Financial Risk (FR), and Sustainability (S).

Empirical results showed (see table 4) that the country of doing business is significant factors which has effect on the perception of owners and manager on the statement of financial risk (pairwise comparison between: PL-CR, PL-HU, CR-HU, SR-HU, and SR-CR); sustainability (pairwise comparison between: PL-HU, CR-HU, and SR-HU). The statistical hypothesis H_FR was accepted, and H_S was partially accepted.

DISCUSSION

Our findings are very interesting in the segment of SMEs, specifically in the region of the V4 countries.

The country of business operation is a significant factor influencing respondents' attitudes toward selected sustainability factors of SMEs in the V4 countries.

Stagnation of the market, strong competition, or lack of sales are attributes of market risk that have a stronger effect on Czech SMEs in comparison with Polish, Hungarian, and Slovak SMEs. Only 48.1% of Czech SMEs do not have problems with these attributes. The empirical results showed that Polish and Slovak SMEs have very comparable perceptions of market risk sources (SR: 56.2%/PL: 56.9%). On the other hand, these results in the PL and SR SME segments are statistically of lower intensity than in Hungarian SMEs (HU: 61.3%). The country of doing business is an important factor. The authors Kim & Vonortas (2014), Stângaciu et al. (2024), and Lopez-Torres (2023), based on their research, con-

Table 4: Positive perceptions of respondents on the statements of FR and S

Factor		Financial risk – FR				
		FR1	FR2	FR3	FR4	Index FR
RPP	PL	0.551	0.621	0.671	0.668	0.628
	CR	0.746	0.682	0.865	0.901	0.798
	SR	0.512	0.549	0.747	0.728	0.634
	HU	0.615	0.728	0.770	0.747	0.715
Z-Score for 2 population proportions (Index FR)	PL-CR	9.743***	PL-HU	4.398***	SR-HU	3.488***
	PL-SR	0.270	CR-HU	4.844***	SR-CR	7.992***
Factor		Sustainability – S				
		S1	S2	S3	S4	Index S
RPP	PL	0.804	0.797	0.688	0.718	0.752
	CR	0.785	0.815	0.710	0.793	0.776
	SR	0.765	0.796	0.759	0.735	0.764
	HU	0.830	0.801	0.799	0.804	0.808
Z-Score for 2 population proportions (Index S)	PL-CR	1.444	PL-HU	3.248**	SR-HU	2.202*
	PL-SR	0.584	CR-HU	1.988*	SR-CR	0.588

Note: RPP – Ratio of positive perception; * α = 0.05; **α = 0.01; ***α = 0.001. Source: own data collection.

Source: own research

sider market risk as the most serious perceived risk in SMEs in the V4 countries and note the impact of market risk on the sustainability of SMEs. Hernandez-Diaz et al. (2021) and Gorondutse et al. (2021) regard the impact of market risk as an important strategic factor in the management of SMEs.

Only 19.9% of Czech SMEs think that employee turnover has no negative impact on their business. More positive perceptions of this statement come from Slovak, Hungarian, and Polish owners and managers. Generally, Czech SMEs also perceive other indicators of personnel risk more negatively, such as employee errors or investments in improving the qualifications of employees, in comparison with other SMEs from the V4 countries. These results are also confirmed by authors Fraser & Simkins (2016), and Gede Riana et al. (2020), who claim that the quality of human capital in SMEs is linked to successful and competitive business operations. It is important to recognize the risks that affect the quality of human potential in SMEs, and their timely reduction will help prevent crises. Boeske & Murray (2022) and Belas et al. (2022) emphasize the need to enhance the knowledge, skills, and soft skills of managers in this domain.

48.2% of Hungarian SMEs think that national support and legislative changes do not negatively affect their business. More negative perceptions of these factors are held by Czech (28.5%), Polish (32.8%), and Slovak (38.3%) owners and managers. There are significant differences between countries in the V4 region. In this context, over-regulation of the business environment is a more negative indicator than frequent legislative changes. The level of support from national institutions in times of crisis (e.g., COVID-19; Russia-Ukraine conflict) is considered adequate by 48.5% of Polish SMEs and 46% of Hungarian SMEs, but only by 35.2% of Slovak SMEs and 26.8% of Czech SMEs. Based on the studies processed by authors Slusarczyk & Grondys (2019), Virglerova et al. (2020), Kotaskova et al. (2020), Popp et al. (2020), Musa et al. (2024), it is possible to state that the instability of laws, frequent changes in laws, the ambiguity of laws, and the unclear and complex legislative framework are among the biggest obstacles to SME business in the V4 countries.

Current world trends highlight sustainability as an important element in business management. The European Commission approved the Corporate Sustainability Reporting Directive (CSRD). Other authors, such as Beta-kova et al. (2023), Metzker et al. (2023), and León-Gómez et al. (2022), declare the sustainability of enterprises as part of competitive performance, development, and efforts to protect the interests of consumers and the environment.

The effectiveness of production capacities, problems with the distribution of products/services, or issues with suppliers are attributes of operational risk that are evaluated the worst in Slovak SMEs. Rózsa et al. (2022) and Małkowska et al. (2022) share the same opinion, i.e., they state that the evaluation and measurement of SME

performance is an important element of prosperous businesses and, therefore, it is necessary to change the thinking of SME owners in the financial area. Additionally, Kocmanová et al. (2020), Tur-Porcar et al. (2018) or Kliestik et al. (2023) declare that key performance indicators help companies achieve sustainability and prevent environmental, economic, social, and corporate governance impacts.

More than 79% of Czech SMEs and more than 70% of Hungarian SMEs confirmed that financial indicators, such as sufficient profit, adequate indebtedness, and no problems with payment obligations, are perceived positively. These results are more positive in Czech and Hungarian SMEs compared with Slovak (63.4%) and Polish (62.8%) SMEs. Authors Agarwal & Ansell (2016), Dumitrescu & Deselnicu (2018), Makovická Osvaldová et al. (2023), and Vandlíčková et al. (2021) claim that it is also necessary to pay attention to operational risks, especially from the perspective of product risks, process or system failures, failure of production processes, business interruption, accidents, insufficient utilization of production capacities, non-compliance with quality, etc.

More than 80% of Hungarian SMEs perceive that their company is sustainable, and owners/managers understand the concept of sustainable business growth. Generally, the index of sustainability is the highest factor in each country of the Visegrad group. According to authors Arsic et al. (2020), Heenkenda et al. (2022), Kliuchnikava et al. (2022), Belas et al. (2023), financial risk is and will continue to be considered one of the key risks affecting business sustainability in the V4 countries, which impacts the financial performance of the business. Logan et al. (2021) and Civelek et al. (2023) encourage managers to adopt the right approach to financial risk management decisions and to pay the necessary attention to their timely mitigation.

CONCLUSION

The aim of the article was to verify differences in the perception of selected sustainability factors in the SME segment between countries in Central Europe.

The research confirmed significant findings. The country in which business is conducted is a significant factor in the evaluation of perceptions of selected sustainability factors in the SME segment within the business environment of the Visegrad Group. The greatest differences are observed between owners and managers in the evaluation of CSR indicators. The impact of CSR in the Hungarian SME segment (64.9%) is significantly higher than in the Czech SME segment (43.9%). The factor with the most positive responses (according to the index; Slovakia: 76.4% and Hungary: 80.8%) is sustainability.

The processed results are intended for owners and managers of key processes in SMEs not only in Central Europe but also in other European countries and around the world. They focus on the awareness and acceptance of current trends in the global competitive environment,

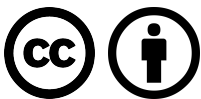
with a special emphasis on the sustainability of SMEs. This includes particularly the identification of stakeholders' needs and values from the perspectives of social, economic, and environmental aspects. Ultimately, this enhances the effectiveness of risk management, prevents business crises, and achieves long-term sustainability and success for SMEs. The findings serve as a useful basis for analyzing the quality of the business environment in Central European countries, educational institutions, and other support organizations that aid in the development and sustainability of businesses in the SME segment.

The case study has the following limitation: The research was conducted in only four countries in Central Europe. The subject of the research was solely the subjective perceptions of owners and managers in the SME segment. The questionnaire covered only selected aspects

that affect the sustainability of SMEs. Data collection was carried out using the CAWI methodology, which has certain deficiencies (e.g., questionnaires filled out using a computer). The hypotheses were evaluated using basic statistical methods (descriptive statistics, Z-score).

The authors would like to conduct the research again, using a questionnaire that also includes other important factors such as business ethics, the environmental aspects of entrepreneurship, the level of digitalization in SMEs, technological factors of doing business, the level of artificial intelligence application in SMEs, and so on. The authors believe that demographic characteristics, such as the size or age of the enterprise, business sector, etc., could significantly affect the perception of factors influencing sustainability in the SME segment.

Copyright © European Center of Economic and Social Research (Slovakia) & authors. This is an Open Access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



REFERENCES

1. Agarwal, R., & Ansell, J. (2016). Strategic Change in Enterprise Risk Management. *Strategic Change*, 25: 427-439. <https://doi.org/10.1002/jsc.2072>
2. Ahmad, H., Yaqub, M., & Lee, S.H. (2024). Environmental-, social-, and governance-related factors for business investment and sustainability: a scientometric review of global trends. *Environment, Development and Sustainability*, 26 (2), 2965-2987. <https://doi.org/10.1007/s10668-023-02921-x>
3. Arsić, M., Jovanović, Z., Tomić, R., Tomović, N., Arsić, S., & Bodolo, I. (2020). Impact of Logistics Capacity on Economic Sustainability of SMEs. *Sustainability*, 12, 1911. <https://doi.org/10.3390/su12051911>
4. Belas, J., & Rahman, A. (2023). Financial management of the company. Are there differences of opinion between owners and managers in the SME segment? *Journal of Business Sectors*, 1 (1), 1-9. <https://doi.org/10.62222/UQAH6943>
5. Belas, J., Škare, M., Gavurova, B., Dvorsky, J., & Kotaskova, A. (2022). The impact of ethical and CSR factors on engineers' attitudes towards SMEs sustainability. *Journal of Business Research*, 149, 589-598. <https://doi.org/10.1016/J.JBUSRES.2022.05.056>
6. Betakova, J., Pietrzak, M. B., & Iglinski, B. (2023). Effect of demographic characteristics of enterprises on the implementation of corporate social responsibility in SMEs context. *Journal of Business Sectors*, 1 (1), 53-62. <https://doi.org/10.62222/XQKO8567>
7. Boeske, J., & Murray, P.A. (2022). The Intellectual Domains of Sustainability Leadership in SMEs. *Sustainability*, 14, 1978. <https://doi.org/10.3390/su14041978>
8. Brătianu, C., Neșțian, AȘ., Tiță, SM., Vodă, AI. & Guță, AL. (2020). The Impact of Knowledge Risk on Sustainability of Firms. *Amfiteatru Economic*, 22(55), 639-652. <https://doi.org/10.24818/EA/2020/55/639>
9. Civelek, M., Krajčák, V., & Fialova, V. (2023). The impacts of innovative and competitive abilities of SMEs on their different financial risk concerns: System approach. *Oeconomia Copernicana*, 14(1), 327-354. <https://doi.org/10.24136/oc.2023.009>
10. Cosenz, F., Rodrigues, V.P., & Rosati, F. (2020). Dynamic business modeling for sustainability: Exploring a system dynamics perspective to develop sustainable business models. *Business Strategy and the Environment*, 29 (2), 651-664. <https://doi.org/10.1002/bse.2395>
11. Deloitte. Available online: <https://www2.deloitte.com/sk/sk/pages/riadenie-rizik/articles/cfos-a-sustainability.html> (accessed on 20.02.2024).

12. Dumitrescu, A., & Deselnicu, D.C. (2018). Risk assessment in manufacturing SMEs' labor system. *Procedia Manufacturing*, 22, 912-915. <https://doi.org/10.1016/j.promfg.2018.03.129>
13. Dvorský, J., Švihlíková, I., Kozubíková, Ludmila, Frajtova Michalíková, K., & Balcerzak, A. P. (2023). Effect of CSR implementation and crisis events in business on the financial management of SMEs. *Technological and Economic Development of Economy*, 29(5), 1496-1519. <https://doi.org/10.3846/tede.2023.19821>
14. Dvorský, J., Bednarz, J., & Blajer-Golebiewska, A. (2023). The impact of corporate reputation and social media engagement on the sustainability of SMEs: Perceptions of top managers and the owners. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 18(3), 779-811. <https://doi.org/10.24136/eq.2023.025>
15. Dyllick, T., & Muff, K. (2016). Clarifying the Meaning of Sustainable Business: Introducing a Typology From Business-as-Usual to True Business Sustainability. *Organization and Environment*, 29 (2), 156-174. <https://doi.org/10.1177/1086026615575176>
16. Čera, G., Khan, K. A., Bláhová, A., & Belas, Jr., J. (2022). Do owner-manager demographics in SMEs matter for corporate social responsibility? *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 17(2), 511-531. <https://doi.org/10.24136/eq.2022.018>
17. Fraser, J. R. S., & Simkins, B. J. (2016). The challenges of and solutions for implementing enterprise risk management. *Business Horizons*, 59(6), 689-698. <https://doi.org/10.1016/J.BUSHOR.2016.06.007>
18. Gede Riana, I., Suparna, G., Gusti Made, I., Kot, S., & Rajjani, I. (2020). Human resource management in promoting innovation and organizational performance. *Problems and Perspectives in Management*, 18 (1), 107-118. [https://doi.org/10.21511/ppm.18\(1\).2020.10](https://doi.org/10.21511/ppm.18(1).2020.10)
19. Gorodutse, A. H., Arshad, D., & Alshuaibi, A.S. (2020). Driving sustainability in SMEs' performance: the effect of strategic flexibility. *Journal of Strategy and Management*. 14 (1), 64-81. <https://doi.org/10.1108/JSMA-03-2020-0064>
20. Grabara, J., Cehlar, M., & Dabylova M. (2019). Human Factor as an Important Element of Success in the Implementation of New Management Solutions. *Polish Journal of Management Studies*, 20 (2), 225-235. <https://doi.org/10.17512/pjms.2019.20.2.19>
21. Heenkenda, H., Xu, F.; Kulathunga, K., & Senevirathne, W. (2022). The Role of Innovation Capability in Enhancing Sustainability in SMEs: An Emerging Economy Perspective. *Sustainability*, 14, 10832. <https://doi.org/10.3390/su141710832>
22. Henriques, P.L., Matos, P.V., & Jerónimo, H.M. (2022). Eager to Develop Sustainable Business Ideas? Assessment through a New Business Plan (BP4S Model). *Sustainability*, 14 (2), 1030. <https://doi.org/10.3390/su14021030>
23. Hernández-Díaz, A., Calderón-Abreu, T., & Castro-González, S. (2021). Exploring the sustainability of SMEs: the Puerto Rican case. *Environment, Development and Sustainability*, 23, 8212-8233. <https://doi.org/10.1007/s10668-020-00960-2>
24. Hudakova, M., Gabrysova, M., Petrakova, Z., Buganova, K., & Krajcik, V. (2021). The Perception of Market and Economic Risks by Owners and Managers of Enterprises in the V4 Countries. *Journal of Competitiveness*, 13(4), 60-77. <https://doi.org/10.7441/joc.2021.04.04>
25. Iwona, G. M. (2016). Leading Risk Management Determinants of Small and Medium-Sized Enterprises (SMEs): An Exploratory Study in Poland. *Entrepreneurship, business and economics*, 289-298. https://doi.org/10.1007/978-3-319-27570-3_23
26. Jamil, M., Stephens, S., & Md Fadzil, A.F. (2024). Sustainability in family business settings: a strategic entrepreneurship perspective. *Journal of Family Business Management*. <https://doi.org/10.1108/JFBM-01-2024-0001>
27. Kim, Y., & Vonortas, N. S. (2014). Managing Risk in the Formative Years: Evidence from Young Enterprises in Europe. *Technovation*, 34, 454-465. <https://doi.org/10.1016/j.technovation.2014.05.004>
28. Khan, K. A., Akhtar, M. A., Vishwakarma, R., K., & Hoang, H. C. (2023). A sectoral perspective on the sustainable growth of SMEs. Empirical research in the V4 countries. *Journal of Business Sectors*, 1 (1), 10-19. <https://doi.org/10.62222/CVFW6962>
29. Kliestik, T., Nica, E., Durana, P., & Popescu, G. H. (2023). Artificial intelligence-based predictive maintenance, time-sensitive networking, and big data-driven algorithmic decision-making in the economics of Industrial Internet of Things. *Oeconomia Copernicana*, 14(4), 1097-1138. <https://doi.org/10.24136/oc.2023.033>
30. Kliuchnikava, Y. (2022). The Impact of the Pandemic on Attitude Towards Innovation Among SMEs in the Czech Republic And Poland. *International Journal of Entrepreneurial Knowledge*, 10(1), 34-45. <https://doi.org/10.37335/ijek.v10i1.131>
31. Ključnikov, A., Civelek, M., Klimeš, C., & Farana, R. (2022). Export risk perceptions of SMEs in selected Visegrad countries. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 17(1), 173-190. <https://doi.org/10.24136/eq.2022.007>
32. Kocmanová, A., Dočekalová, M. P., Meluzin, T., & Škapa, S. Sustainable Investing Model for Decision Makers (Based On Research of Manufacturing Industry in the Czech Republic). *Sustainability* 2020, 12, 8342. <https://doi.org/10.3390/su12208342>
33. Kotaskova, A., Lazanyi, K., Amoah, J., & Belas, J. (2020). Financial risk management in the V4 Countries' SMEs segment. *Investment Management and Financial Innovations*, 17(4), 228-240. [https://doi.org/10.21511/IMFI.17\(4\).2020.21](https://doi.org/10.21511/IMFI.17(4).2020.21)

34. Kubas, J., Polorecka, M., Holla, K., Soltes, V., Kelisek, A., Strachota, S., & Maly, S. (2022). Use of Toxic Substance Release Modelling as a Tool for Prevention Planning in Border Areas. *Atmosphere*, 13, 836. <https://doi.org/10.3390/atmos13050836>
35. León-Gómez, A., Santos-Jaén, J. M., Ruiz-Palomo, D., & Palacios-Manzano, M. (2022). Disentangling the impact of ICT adoption on SMEs performance: the mediating roles of corporate social responsibility and innovation. *Oeconomia Copernicana*, 13(3), 831-866. <https://doi.org/10.24136/oc.2022.024>
36. Logan TM, Aven T, Guikema S, & Flage R. (2021). The Role of Time in Risk and Risk Analysis: Implications for Resilience, Sustainability, and Management. *Risk analysis: an official publication of the Society for Risk Analysis*. 41(11), 1959-1970. <https://doi.org/10.1111/risa.13733>
37. Long, F., Chen, Q., Xu, L., Wang, J., & Vasa, L. (2022). Sustainable corporate environmental information disclosure: Evidence for green recovery from polluting firms of China. *Frontiers in Environmental Science*, 10, 1019499. <https://doi.org/10.3389/FENVS.2022.1019499/BIBTEX>
38. Lopez-Torres, G.C. (2023). The impact of SMEs' sustainability on competitiveness. *Measuring Business Excellence*, 27 (1), 107-120. <https://doi.org/10.1108/mbe-12-2021-0144>
39. Machova, R., Korcsmaros, E., Csereova, A., & Varga, J. (2023). Innovation activity of Slovak ICT SMEs. *Journal of Business Sectors*, 1 (1), 32-41. <https://doi.org/10.62222/HTPI2054>
40. Malkowska, A., & Uhruska, M. (2022). Factors affecting SMEs growth: the case of the real estate valuation service industry. *Oeconomia Copernicana*, 13(1), 79-108. <https://doi.org/10.24136/oc.2022.003>
41. Mizickova, J., Levicky, M., & Papcunova, V. (2022). Perception of barriers to cross-border cooperation between Slovakia and Poland in the context of small and medium-sized enterprises. *Auspicia*, 2, 22-33. https://doi.org/10.36682/a_2022_2_2
42. Nwachukwu, C., & Vu, H. M. (2020). Strategic flexibility, strategic leadership and business sustainability nexus. *International Journal of Business Environment*, 11 (2), 125-143. <https://doi.org/10.1504/IJBE.2020.107500>
43. Metzker, Z., Zvarikova, K., Slepecky, J., & Dvorsky, J. (2023). The Perception of CSR from the Point of View of the Environmental Pillar of V4 SMEs. *Transformations in Business & Economics*, 22, 3 (60), 485-500.
44. Musa, H., Krištofik, P., Medzihorský, J., & Klieštík, T. (2024). The development of firm size distribution – Evidence from four Central European countries. *International Review of Economics & Finance*, 91, 98-110. <https://doi.org/10.1016/J.IREF.2023.12.003>
45. Oliinyk, O., Mishchuk, H., Vasa, L., & Kozma, K. (2023). Social Responsibility: Opportunities for Integral Assessment and Analysis of Connections with Business Innovation. *Sustainability*, 15, 5608. <https://doi.org/10.3390/su15065608>
46. Osvaldová, L. M., Kubás, J., Hollá, K., Klouda, K., & Bárťlová, K. (2023). The Influence of Mechanical, Physical and Chemical Influences on Protective Clothing. *Applied Sciences*, 13, 9123. <https://doi.org/10.3390/app13169123>
47. Pavláková Dočekalová, M., & Kocmanová, A. (2018). Comparison of Sustainable Environmental, Social, and Corporate Governance Value Added Models for Investors Decision Making. *Sustainability*, 10, 649. <https://doi.org/10.3390/su10030649>
48. Popp, J., Oláh, J., Machova, V., & Jachowicz, A. (2020). Private equity market of the Visegrad group. *Ekonomicko-manazerske spektrum*, 12(1), 1-15. <https://doi.org/10.26552/ems.2018.1.1-15>
49. Rózsa, Z., Holúbek, J., Veselá, Z., & Soboleva, O. (2022). Antecedents and Barriers which Drive SMEs in Relation to Corporate Social Responsibility? Literature Review. *International Journal of Entrepreneurial Knowledge*, 10(2), 107-122. <https://doi.org/10.37335/ijek.v10i2.174>
50. Ruiz-Canela López, J. (2021). How Can Enterprise Risk Management Help in Evaluating the Operational Risks for a Telecommunications Company? *Journal of Risk Financial Management*, 14, 139. <https://doi.org/10.3390/jrfm14030139>
51. Saleh, M. A. K., & Manjunath, K. R. (2023). The performance of small and medium enterprises in Yemen: a cross-sectional study. *International Journal of Entrepreneurial Knowledge*, 11(2), 39-56. <https://doi.org/10.37335/ijek.v11i2.198>
52. Saunila, M., Ukko, J., & Kinnunen, J. (2024). Sustainability partnership as a moderator in the relationship between business sustainability and firm competitiveness. *Business Strategy and the Environment*, 33 (2), 123-133. <https://doi.org/10.1002/bse.34932-s2.0-85162011029>
53. Semenikhina, V., Pochtovyuk, A., & Onyshchenko, O. (2023). Social and environmental components of social responsibility of industrial companies in the conditions of a digital and sustainability economy. *Auspicia*, 1, 18-33. https://doi.org/10.36682/a_2023_1_2
54. Schaltegger, S., Hörisch, J., & Freeman, R.E. (2019). Business cases for sustainability: A stakeholder theory perspective. *Organization and Environment*, 32 (3), 191-212. <https://doi.org/10.1177/1086026617722882>
55. Ślusarczyk, B., & Grondys, K. (2019). Parametric Conditions of High Financial Risk in the SME Sector. *Risks*, 7, 84. <https://doi.org/10.3390/risks7030084>
56. Stângaciu, A., Țimiraș, L., Zaiț, L., Nichifor, B., Danu, M., & Harja, E. (2024). The EU e-commerce market in a pandemic context – linking demographic factors and territorial convergence. *Journal of Business Economics and Management*, 25(1), 21-46. <https://doi.org/10.3846/jbem.2024.20705>

57. Strielkowski, W., Astachova, E., & Larionova, N. (2019). Assessment of Personnel Risks and Threats in the Context of State Security: a Neo-Institutional Perspective. *Journal of Institutional Studies*, 11(3), 170-181. <https://doi.org/10.17835/2076-6297.2019.11.3.170-181>
58. Tur-Porcar, A., Roig-Tierno, N., & Llorca Mestre, A. (2018). Factors Affecting Entrepreneurship and Business Sustainability. *Sustainability*, 10, 452. <https://doi.org/10.3390/su10020452>
59. Valaskova, K., Durana, P., Kliestik, T., & Vojtekova, S. (2023). Level of pandemic consequences for the indebtedness of the Slovak hospitality sector. *Investment Management and Financial Innovations*, 20(4), 334-349. [https://doi.org/10.21511/IMFI.20\(4\).2023.27](https://doi.org/10.21511/IMFI.20(4).2023.27)
60. Vandličková, M., Markova, I., Holla, K., & Gašpercová, S. (2021). Evaluation of Marblewood Dust's (Marmaroxylon racemosum) Effect on Ignition Risk. *Applied Sciences*, 11, 6874. <https://doi.org/10.3390/app11156874>
61. Virglerova, Z., Conte, F., Amoah, J., & Massaro, M. R. (2020). The Perception of Legal Risk and its Impact on the Business of SMEs. *International Journal of Entrepreneurial Knowledge*, 8(2), 1-13. <https://doi.org/10.37335/ijek.v8i2.115>
62. Wong, D. T. W., & Ngai, E. W. T. (2021). Economic, organizational, and environmental capabilities for business sustainability competence: Findings from case studies in the fashion business. *Journal of Business Research*, 126, 440-471. <https://doi.org/10.1016/j.jbusres.2020.12.06>
63. Zieba, M., Durst, S. & Hinteregger, C. (2022). The impact of knowledge risk management on sustainability. *Journal of Knowledge Management*, 26 (11), 234-258. <https://doi.org/10.1108/JKM-09-2021-0691>