Analysing the Impact of Corporate Social Responsibility on Corporate Performance in Central European Countries

Katarina Valaskova [1,*], Dominika Gajdosikova [2]

[1] Faculty of Operation and Economics of Transport and Communications, Department of Economics, University of Zilina, Univerzitna 1, Zilina, 010 26, Slovakia
ORCID: 0000-0003-4223-7519
e-mail: katarina.valaskova@uniza.sk

[2] Faculty of Operation and Economics of Transport and Communications, Department of Economics, University of Zilina, Univerzitna 1, Zilina, 010 26, Slovakia
ORCID: 0000-0001-7705-3264
e-mail: dominika.gajdosikova@uniza.sk

* Corresponding author: Katarina Valaskova, katarina.valaskova@uniza.sk

Abstract

This study delves into the intricate relationship between Corporate Social Responsibility (CSR) and corporate performance (measured by earnings) in the context of Central European countries. The primary purpose is to rigorously analyse the impact of CSR practices on various dimensions of corporate performance in this region. Recognising CSR as a multifaceted concept extending beyond financial metrics, the research aims to uncover the extent to which socially responsible practices contribute to corporate success, and thus validate and graphically represent the relationship between CSR strategy and corporate performance, quantified by the level of earnings management. Employing the ESG score as a key metric for assessing CSR performance, the study integrates financial and accounting data from a comprehensive sample of publicly traded enterprises in Central Europe. Through correlation analyses, statistical tests, and correspondence analyses, the research seeks to elucidate patterns, associations, and sectoral nuances in the interplay between CSR initiatives and corporate performance. To make a profit and obtain a competitive edge in the market, businesses must respect the requirements of all stakeholders. The significance of corporate earnings was supported by the findings of the correlation analysis, which showed a relationship between the amount of corporate earnings and the CSR performance of Central European businesses as determined by the ESG score. Moreover, the results also reveal that the level of earnings management is strongly influenced by the ESG rating, which provides an assessment of the sustainability profile or attributes of a corporation or financial instrument, its exposure to sustainability risks, and its effects on the environment and society. This investigation not only contributes to the understanding of CSR dynamics in Central European contexts, but also provides valuable insights for businesses, policymakers, and stakeholders aiming to foster sustainable and socially responsible corporate practices.

Key words

corporate social responsibility, environmental, social, and governance score, publicly listed enterprises, corporate performance.

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Introduction

Socially responsible practices, encompassed under the umbrella of Corporate Social Responsibility (CSR), have increasingly become integral to corporate success in recent years. CSR refers to a company's commitment to manage the social, environmental, and economic effects of its operations responsibly and in line with public expectations. It goes beyond legal compliance and engages in actions that further social good, beyond the interests of the firm and what is required by law. These practices can contribute to corporate success, and may build a relationship with corporate performance, particularly in terms of earnings management. Engaging in CSR initiatives can significantly enhance a company's reputation and brand image. When a company is perceived as socially responsible, it tends to attract more customers, investors, and top talent (Mahmood et al., 2020). This positive perception translates into increased sales, higher stock prices, and better access to capital, which in general improve the overall financial performance of enterprises. CSR initiatives build trust and loyalty among stakeholders, including customers, employees, investors, and communities (Chen et al., 2021). When stakeholders perceive a company as being committed to ethical and sustainable practices, they are more likely to support the company and remain loyal to its products or services. Nonetheless, adopting socially responsible practices can help companies mitigate various risks, including regulatory, legal, environmental, and reputational risks (Wirba, 2023). For example, companies that proactively address environmental concerns are less likely to face regulatory fines or lawsuits related to pollution or non-compliance with environmental regulations. Many CSR initiatives, such as energy conservation, waste reduction, and employee wellness programmes, can result in cost savings and efficiency improvements for companies. Investors are increasingly considering CSR performance when making investment decisions. Companies with strong CSR profiles often have better access to capital and investment opportunities (Hohnen, 2007). Additionally, the popularity of socially conscious investment funds is growing, giving businesses more ways to receive capital. As a result, it is clear how important the CSR idea is to business practice and how it affects both financial and organizational performance.

In order to fulfil analyst expectations, achieve bonus objectives, or draw in investors, corporations may manipulate their financial statements to offer a false picture of their financial success, a practice known as "earnings management" (Durana et al., 2022). While it may be permissible and lawful to control earnings to some extent, overly manipulating results might damage investor confidence and have unfavourable long-term effects. Empirical evidence indicates that corporations with strong corporate social responsibility plans have lower rates of earnings management (Kim et al., 2012; Moratis & Egmond, 2018; Gaio et al., 2022; Meyer & Dutzi, 2024). This is so because businesses that value corporate social responsibility give equal weight to accountability, transparency, and moral conduct (Zhao & Farinas, 2023). These businesses gain the trust of stakeholders by exhibiting a dedication to social responsibility, which lessens the need for them to manipulate results in order to keep investors happy. On the other hand, because they are under more pressure to satisfy investors and hit short-term financial objectives, businesses with lax or non-existent CSR policies could be more likely to manipulate results (Meyer & Dutzi, 2024). Nevertheless, these actions may eventually harm the business's reputation and have unfavourable effects.

In summary, socially conscious business practices improve a company's reputation, foster stakeholder trust, reduce risks, provide cost savings, and make it easier for businesses to obtain financing. Given that businesses with high CSR profiles are less likely to participate in financial manipulation, the link between CSR strategy and earnings management emphasizes the significance of moral behaviour and openness in corporate governance.

Consequently, in the framework of Central European nations, this study explores the complex link between business success (determined by earnings) and corporate social responsibility (determines by ESG rating). ESG (Environmental, Social, and Governance) is a framework used to assess a company’s practices and performance on sustainability and ethical issues. It helps investors, regulators, and other stakeholders evaluate how a company manages risks and opportunities related

to environmental, social, and governance factors. The main aim of the study is to conduct a thorough analysis of how CSR activities affect different aspects of business performance in this area. Acknowledging CSR as a complex idea that goes beyond financial measurements, the study seeks to determine the degree to which socially conscious actions boost business performance. This will validate and illustrate the connection between CSR strategy and business performance as measured by the degree of earnings management. Earnings management can be perceived as the practice where company management deliberately influences reported financial results to meet certain targets or expectations. This can involve manipulating accounting choices, estimates, or timing of transactions to present the company's earnings in a more favourable or sometimes less favourable light. The study incorporates financial and accounting data from a large sample of publicly-traded firms in Central Europe, using the ESG score as a major criterion for measuring CSR performance. The research aims to clarify trends, connections, and sector-specific subtleties in the relationship between CSR activities and company performance using correspondence analysis, statistical testing, and correlation studies. The correlation analysis's results, which indicated a link between corporate earnings and the CSR performance of central European companies as assessed by the ESG score, confirmed the importance of corporate profitability.

Although previous studies have shown that CSR practices are associated with earnings management, there is limited empirical research focused specifically on publicly traded firms in Central Europe. Most existing literature overlooks the regional regulatory and economic contexts, and few studies use ESG scores as a quantifiable measure of CSR performance in relation to earnings manipulation. This study addresses that gap by examining the relationship between ESG-based CSR performance and earnings management in Central European companies.

The article is organized as follows: the most significant studies and research in the subject are compiled in the literature review. The methodology section outlines the processes used in the study process and provides basic information on the sample of European firms that were evaluated. The results and discussion section presents the outputs of the statistical tests and computations and discusses the study findings in relation to other worldwide studies. The conclusions section illustrates the study's shortcomings as well as the obstacles facing future research.

1. Literature review

Corporate social responsibility has a major role in a company's corporate brand perception, commercial success and perception, and appeal to investors, workers, and customers. As a result, it improves a company's image and generally improves its financial performance. A corporation should wait to allocate its income to socially responsible activities until it has achieved a satisfactory degree of economic success, as stated by Gaio et al. (2022), Vishwanathan et al. (2020), D'Amato and Falivena (2020). One of the most common reasons for declining business financial performance (Deakin, 1972; Gilson, 1989) is the inability to raise enough money to pay short-term obligations. For this reason, assessing the efficiency of corporate finance is critical to maintaining financial stability (Durana et al., 2020; Fialova & Folvarcna, 2020). Ahmadpour and Shahsavari (2016) discovered that earnings management is a common strategy used by both solvent and insolvent companies to present their financial performance as favourably as possible. 198 solvent and 55 insolvent firms were included in the study. One of the models that is most frequently used to determine earning management is the modified Jones model (Dechow et al., 1995). The nondiscretionary accruals are determined by the model and are computed using the model's linear regression coefficients. The discrepancy between total accrual and nondiscretionary accrual is then used to determine the discretionary accruals, which give the possibility to manipulate results.

Nondiscretionary accruals (NDA) and discretionary accruals (DA) were also employed by Tbalvandani and Nashtei (2017). They discovered that cash flow was not a significant determinant in failing enterprises, while accrual quality and portfolio rank were statistically significant predictors of future profitability in prosperous businesses. The Hoang and Joseph (2019) study shows how profits

levels are impacted by the application of accounting rules and regimes. However, it is evident that choosing the earnings manipulation approach is impacted by a difficult financial situation. Managers of financially distressed organizations are more prone than their counterparts in the financial industry to use income-decreasing earnings management strategies (Habib et al., 2013). Managers are motivated to manipulate earnings in both directions (based on financial challenges) since they have already experienced financial difficulty. On the other hand, Sayidah et al. (2020) study discovered that management's ability to control earnings within predetermined bounds had no impact on an organization's financial stability. As a result, financial performance data is crucial for businesses to establish socially conscious initiatives and have a good influence on society in addition to demonstrating their competitiveness and stability.

The finding that companies with a history of solid financial performance also showed a high level of social responsibility lends credence to the idea. On the other hand, companies with less stable stock prices are unlikely to support socially responsible projects. Numerous studies have found a favourable correlation between the adoption of the corporate social responsibility concept and enhanced financial performance (Ali & Kaur, 2021; Jaisinghani & Sekhon, 2022; Gallo et al., 2024; Lorincova et al., 2024). The concept of corporate social responsibility and earnings management have been shown to be closely related (Buertey et al., 2019). Businesses that engage in corporate social responsibility consider tackling social and cultural concerns as part of their global operations, with the goal of improving both in the process (Kovacova & Lazaroiu, 2021). When applied correctly, this concept should become ingrained in a business's culture and principles, enhancing its corporate operations (Ballerini et al., 2022). A company's purpose and core values should be strongly entwined with corporate social responsibility, which should also play a significant role in marketing and promotion, strengthening the company's social consciousness and corporate values.

In today’s digitized and data-driven business environment, the principles of corporate social responsibility are being redefined through the integration of digital technologies, artificial intelligence, and structured sustainability governance. Traditional CSR frameworks often assumed that socially responsible initiatives should follow only after a company achieves sufficient financial success, as highlighted by Teres (2023), Ziabina and Dzwigol-Barosz (2022). However, in the age of digital transformation, this approach is rapidly evolving. CSR is no longer an afterthought or a reputational tool, it is increasingly embedded in the digital architecture of modern enterprises, shaping strategy (Nguyen, 2023), risk management (Metzker et al., 2021), and stakeholder engagement from the ground up (Eleyan, 2022).

Digital CSR involves the application of digital tools to enhance and scale the social and environmental responsibilities of a company. This includes the use of artificial intelligence (AI) for supply chain transparency, blockchain for ethical sourcing verification, machine learning for optimizing resource efficiency, and digital platforms that foster inclusive stakeholder dialogue. These technologies enable real-time monitoring and reporting of sustainability metrics, moving companies away from symbolic or static CSR reporting toward more responsive and dynamic accountability. As a result, digital CSR can strengthen corporate brand perception, enhance resilience, and build long-term investor and customer trust factors strongly linked to financial performance in empirical studies (Lyulyov et al., 2024).

Closely linked to this is the concept of sustainability governance, which refers to the mechanisms, structures, and processes through which firms manage their environmental and social impacts. Effective sustainability governance integrates ESG principles into core business operations and risk management (Us et al., 2023). When powered by digital tools, governance becomes more efficient and evidence-based, allowing organizations to assess climate-related risks, human rights concerns, and resource consumption patterns with greater precision (Wu et al., 2025). Digital dashboards, automated compliance tracking, and AI-driven scenario analysis are increasingly used by firms to support board-level decisions and regulatory alignment (Ugwa, 2023).

One of the key enablers of both digital CSR and effective governance is AI-supported transparency. AI and big data analytics help companies not only to disclose performance indicators with greater granularity but also to detect and mitigate unethical practices, including greenwashing, earnings manipulation, and social washing (Moodaley & Telukdarie, 2023). For example, AI systems can identify discrepancies between reported ESG performance and actual environmental impacts, thereby increasing corporate accountability and improving investor confidence (Xiao & Xiao, 2025). Furthermore, as noted in studies by Zimon et al. (2022) and Sihatmi et al. (2024), companies that demonstrate a commitment to transparency in both financial and non-financial reporting tend to be more resilient to economic shocks and reputational risks. Nevertheless, AI-supported transparency must be carefully governed to avoid unintended consequences, such as algorithmic bias or over-automation of ethical judgments (Papagiannidis et al., 2025). Here, sustainability governance plays a crucial role by ensuring that the deployment of AI aligns with corporate values and broader societal expectations. Embedding CSR into AI system design, by considering fairness, inclusivity, and environmental impact, is becoming a new standard of responsible innovation (Ozkan, 2024).

The convergence of digital CSR, sustainability governance, and AI-enabled transparency represents a paradigm shift in how companies define and execute their responsibilities to society. These integrated approaches not only help companies improve their operational efficiency and risk management but also reinforce their legitimacy and social license to operate (Covucci et al., 2024). As corporate responsibility becomes more digitized, real-time, and data-driven, businesses that embrace these changes proactively are more likely to thrive, economically, ethically, and environmentally.

2. Methodology

The main objective of this article is to demonstrate, validate, and visually depict the link that exists between business success as measured by the degree of earnings management and the CSR strategy. As a result, two possibilities were investigated:

1. There is a statistically significant dependence between the CSR strategy measured by ESG rating and corporate performance quantified by the level of earnings management.

2. There are categories of factors (CSR strategy and level of earning management) that are mutually correspondent.

The purpose of creating the dataset of central European businesses was to describe the relationship between corporate social responsibility and earnings management. Publicly listed corporations are the focus of the research because they make verifiable data available in the public domain that can be used to generate an ESG (environmental, social, and governance) rating, which is a measurement of the factors that are becoming crucial to corporate strategy and decision-making. Based on their exposure to ESG risks and how successfully they manage those risks in comparison to peers, industry leaders and laggards are determined using an approach called ESG rating, which is rules-based. The ESG grades are as follows: laggard (B, CCC), average (A, BBB, BB), and leader (AAA, AA). A leader in the industry is a company that manages the biggest ESG risks and opportunities better than its peers; an average company does a mediocre job of managing the biggest risks and opportunities in comparison to its peers; a laggard is a company that performs worse than its peers due to high exposure to and inability to manage major ESG risks.

With an ESG rating reported for three years in a row (2020–2022) and all the financial reports required to calculate the level of discretionary accruals, there are 490 businesses in central Europe that meet the requirements for publicly listed businesses (none from Slovakia, Croatia, or the Baltic states are included due to missing ESG information). The 2020–2022 observation window coincides with a period of significant macroeconomic volatility due to the COVID-19 pandemic, supply chain disruptions, and inflationary pressures, which may have influenced both ESG performance and earnings management practices. During such periods, companies may have faced increased pressure to meet financial targets, potentially incentivizing earnings manipulation, while simultaneously being scrutinized more closely for their social and environmental responses. The dataset comprises only

extremely big public limited firms. Of the total number of businesses examined, almost 48% are from Germany, followed by Switzerland (31.4%), Luxembourg (7.3%), Austria (6%) and Poland (6%), with fewer than 1% each from Czechia, Hungary, and Slovenia. The development of the ESG score, measured on a scale from 0 to 100 points, in the analysed countries is portrayed in Figure 1.

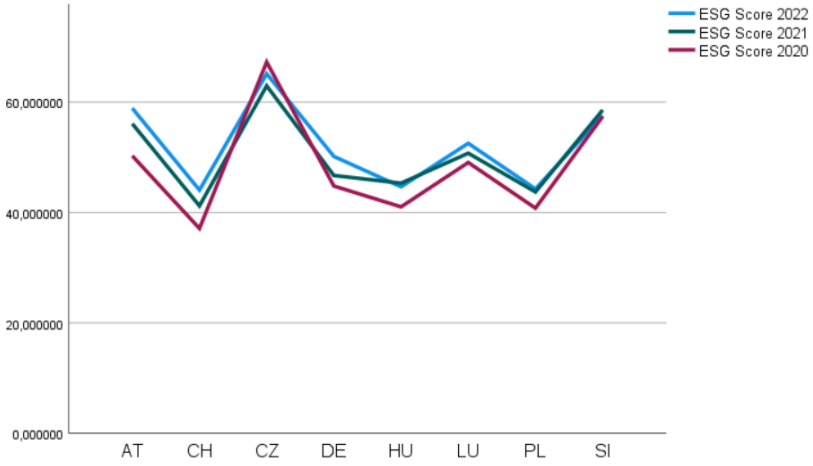

Figure 1. Development of ESG in the analysed countries.
Source: Own elaboration.

To verify the manipulation of earnings, Dechow et al. (1995) employed a modified version of the Jones model. Since Kliestik et al. (2020a) demonstrated that this model (Eq. (1) and (2)), which is based on linear regression, produces the most pertinent findings under Visegrad settings, it was used.

$$\frac{NDA_{it}}{TA_{t-1}} = \alpha_0 \frac{1}{A_{it-1}} + \alpha_1 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \alpha_2 \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it} \quad (1)$$

$$(TA_{t-1} = NDA_{it} + DA_{it}); \quad (2)$$

where NDA_{it} – nondiscretionary accrual in a year t; DA_{it} – discretionary accrual in a year t; TA_{t-1} – total accrual in a year t; A_{it-1} – total assets in a year t-1; ΔREV_{it} – annual change in revenues in a year t; ΔREC_{it} – annual change in receivables in a year t; PPE_{it} – long-term tangible assets in a year; $\alpha_0, \alpha_1, \alpha_2$ – coefficients; ε_{it} – prediction error.

All firms' financial data (as indicated in the equations) were utilized as input variables in the modified Jones model. The model determines the nondiscretionary accruals, which are then estimated using the linear regression coefficients of the model. The discretionary accruals, which allow for result manipulation, are then calculated from the difference between total accrual and nondiscretionary accrual for each business in each analysed year. If the discretionary accruals did not deviate from zero, then it was considered that there had been no manipulation of earnings. Every year, a single sample t test was conducted to ascertain if the average values of discretionary accruals deviated from zero. Manipulation is quite likely if the mean value of discretionary accruals deviates from zero. The higher the evidence of earnings manipulation, the more severe the values and the more they deviate from zero (Otero-Gonzalez et al., 2021). However, previous studies show that a well-defined concept of corporate social responsibility promotes greater moral behaviour and open financial reporting, which in turn curbs deceptive behaviour (Zadeh, 2021; Gaio et al., 2022; Martinez et al., 2022).

The Pearson chi-square test was run at the significance level of 0.05 to ascertain the degree of reliance between the CSR strategy, as determined by the ESG rating, and the company performance, as evaluated by the earnings management level. An essential precondition for the correspondence

analysis is confirming that the variable categories depend on one another. If mutual dependency is verified, the statistical significance of the contingency coefficient is examined, and Cramer's V is utilized to determine the strength of the connection.

Furthermore, the correspondence analysis is performed to look into the underlying structure of contingency tables (where categories of factors are comparable to each other) once statistically significant reliance is discovered between the components being examined. The valuable result of the correspondence analysis is a depiction of the relationships between the rows and columns of the studied contingency tables. The rows and columns of the contingency table are represented by the points when they are projected into the multidimensional space and placed onto the correspondence map, which employs the Euclidean distance measure. The categories are more comparable and have stronger mutual correspondence when the points on the correspondence map are closer to one another. The degree that characterizes the quality of the transfer of multidimensional points into a correspondence map is determined by the variability of those points. Total inertia is a measure of variability that is computed for row categories as (Eq. 3):

$$I^2 = \sum_i p_{i+} d_i^2 \tag{3}$$

where d_i is the chi-square distance between row i's profile, p_{i+} is the marginal relative frequency of row i, and I is the total inertia (Kovacova et al., 2019; Durana et al., 2022). In an analogous manner, column categories are determined using the same process.

3. Research results

The basic descriptive statistics of financial data of all companies, explaining their financial background and position, are summarised in Table 1.

Table 1. Basic financial information of the analysed central European enterprises.

	Debtors	Stock	Current liabilities	Non-current liabilities	Depreciation	Tangible fixed assets
mean (th. €)	645,618.45	679,506.16	2,326,170.90	3,050,548.03	402,677.14	1,889,528.7
median (th. €)	91,698.94	74,623.24	265,528.37	284,034.95	43,800.76	169,441.24
std. dev. (th. €)	1,857,308.46	2,864,674.51	10,407,342.4	13,154,462.5	1,625,596.21	6,478,894.68
CV (%)	2.88	4.22	4.47	4.31	4.04	3.43
	Intangible fixed assets	**Ebit**	**Eat**	**Total assets**	**Current assets**	**Sales**
mean (th. €)	1,819,121.0	375,925.8	270,883.4	8,351,551.3	2,887,862.6	5,228,971.1
median (th. €)	87,399.17	50,822.84	33,009.67	1,171,334.85	449,128.38	795,901.50
std. dev. (th. €)	7,534,177.28	1,558,165.41	1,241,079.4	32,074,239.10	11,988,605.79	17,164,898.7
CV (%)	4.14	4.14	4.58	3.84	4.15	3.28

Source: Own elaboration.

The number of businesses having a positive, negative, or zero value for this indicator is shown by the results of the discretionary accruals calculations made using the modified Jones model (Table 2).

Table 2. Calculated values of DA in the sample of enterprises.

Period	Positive value of DA	Negative value of DA	Zero value of DA
2021/2022	15.71 %	26.53 %	57.76 %
2020/2021	7.55 %	40.20 %	52.25 %

Source: Own elaboration.

The findings show that over 40% of businesses had a negative discretionary value throughout the COVID-19 epidemic period. This suggests that businesses were attempting to reduce their earnings as a result of their unfavourable financial performance. According to Habib et al. (2013), managers of financially unstable businesses are more likely than their counterparts in the financial sector to employ income-decreasing earnings management techniques. Managers are motivated to manipulate earnings in both directions (based on financial challenges) since they have already experienced

financial difficulty. In contrast, as the situation of the macroeconomic development was slightly improved in the second analysed period, the financial performance of enterprises was improved and change in the value of discretionary accruals is also evident. The economic, political, and financial conditions of a nation have a significant impact on its development, as demonstrated by the findings of Kliestik et al. (2020b), Svabova et al. (2020), Sumiyana (2020), and Schwab (2019) study.

The next step of the analysis is to determine whether there is a statistically significant association between the CSR method and earnings manipulation (Table 3).

Table 3. Contingency table of the analysed parameters.

		Discretionary accruals			
		Negative	Positive	Zero	Total
ESG rating	A	27	8	55	90
	AA	15	9	44	68
	AAA	2	0	19	21
	B	22	14	32	68
	BB	23	21	52	96
	BBB	32	17	59	108
	CCC	9	8	22	39
Total		130	77	283	490

Source: Own elaboration.

Using the mean values of the two analysed parameters, the Pearson chi-square test was run at a significance level of 0.05 (Table 4) in order to verify the hypotheses.

Table 4. Confirmation of the relationship between earnings management and CSR level.

P-value of Pearson chi-square test	Decision	Cramer's V	P-value of Cramer's V	Decision
0.044	H1	0.209	0.044	Sig. weak association

Source: Own elaboration.

The chi-square test findings indicate a modest correlation between the examined parameters, indicating that the ESG rating of the central European businesses has an impact on earnings manipulation. As a result, the CSR strategy data as determined by the ESG rating might serve as a reliable predictor of manipulative behaviour. A simple correspondence analysis was carried out in order to better highlight the relationship between the categories of both variables at the same time; reciprocal correlations between the row (Table 5) and column (Table 6) categories were examined.

Table 5. Overview of rows points.

ESG score	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
A	0.184	0.296	0.450	0.007	0.087	0.378	0.449	0.551	1.000
AA	0.139	0.303	-0.172	0.003	0.069	0.042	0.854	0.146	1.000
AAA	0.043	1.533	-0.425	0.019	0.546	0.079	0.961	0.039	1.000
B	0.139	-0.494	0.164	0.007	0.184	0.038	0.945	0.055	1.000
BB	0.196	-0.287	-0.373	0.006	0.087	0.277	0.525	0.475	1.000
BBB	0.220	-0.107	0.180	0.001	0.014	0.073	0.398	0.602	1.000
CCC	0.080	-0.174	-0.376	0.002	0.013	0.114	0.287	0.713	1.000
Active Total	1.000			0.044	1.000	1.000			

Source: Own elaboration.

The values are shown in Table 3, which aids in assessing the contributions made by each row to the dimension and the dimensions made by the rows. Each row's relative value to the total number of enterprises (490) is displayed by the mass value. The scores in dimension, which display the scores of rows in the intended dimensions 1 or 2, serve as a representation of the dimensional distance (used in the final correspondence map). The column carrying the inertia values shows the amount of

variance that each row adds to the total inertia value. The contribution of the dimension's point of inertia, or the dimension of inertia to point, explains the function of each row in the dimension (and vice versa). The Total column, which displays the percentage of row points on total inertia as well as the overall contribution of each dimension to the row, contains the most important facts. The results of the overview column point (Table 6) can also be presented in this manner.

Table 6. Overview of columns points.

DA values	Mass	Score in Dimension		Inertia	Contribution				
		1	2		Of Point to Inertia of Dimension		Of Dimension to Inertia of Point		
					1	2	1	2	Total
negative	0.265	-0.285	0.479	0.010	0.117	0.618	0.400	0.600	1.000
positive	0.157	-0.778	-0.453	0.021	0.515	0.328	0.847	0.153	1.000
zero	0.578	0.343	-0.097	0.013	0.368	0.055	0.959	0.041	1.000
Active Total	1.000			0.044	1.000	1.000			

Source: Own elaboration.

The results show that the two-dimensional correspondence map accurately depicts the researched categories in both scenarios (rows and column points) since the values of the contributions (Total column) equal one in every case.

Factor scores are provided for the contingency table's row and column points by the correspondence analysis findings. The result is a unique corresponding map (Figure 2) for every column profile (level of earnings management) and row (ESG rating).

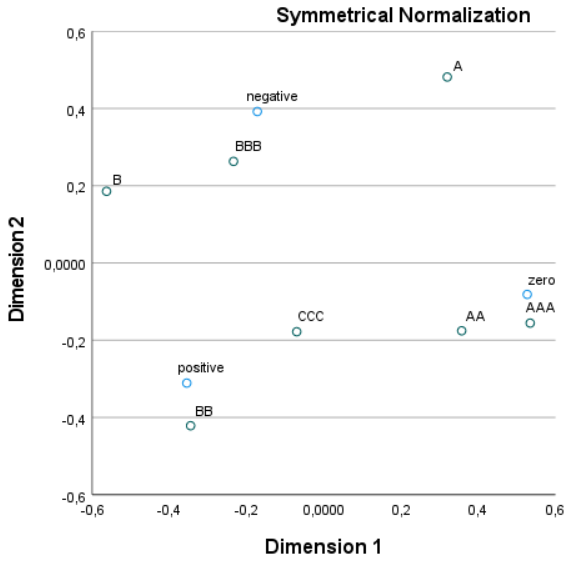

Figure 2. Correspondence map.
Source: Own elaboration.

The final symmetric correspondence map for each year under analysis is shown by overlaying the two related maps. The correspondence analysis outputs show some extremely intriguing findings, and it becomes clear how the financial performance of publicly-traded central European enterprises quantified by the level of earnings management in and their CSR strategy measured by the ESG rating are related (Raoli, 2013).

The study demonstrates that companies with ESG ratings of A, B, and BBB (a mix of average and laggards) with average CSR problem management and below average ESG risk management frequently engage in negative earnings manipulation (income-decreasing behaviour). Income-decreasing earnings management has been a common practice, with the aim of avoiding taxes and attributing the entrepreneurs' personal expenses to the businesses (Francis et al., 2003). Usually, it is connected to a decline in the market value of the company and poorer financial results. Businesses

with ESG ratings of BB and CCC (again, a mix of average and laggards) are characterized by positive earnings manipulation, or income-increasing activities. Kothari et al. (2005) offer factual data to back up Jensen's (2004) claim. According to their basic hypothesis, companies will probably manipulate their earnings in order to meet the inflated expectations of their performance that are reflected in stock prices. This is a common tactic used by businesses with poor financial performance to boost their market value. The companies that have the finest CSR concepts and, thus, the highest ESG ratings (AA and AAA), do not engage in any activities that increase or decrease revenue, and they have zero discretionary accruals. This indicates that the company is financially secure and performing at a level that is adequate.

The findings indicate that there is a modest but statistically significant correlation between business profitability as determined by the degree of earnings management and the CSR strategy as assessed by the ESG rating. In addition, there are categories of factors (CSR strategy and level of earning management) that are mutually correspondent (see Figure 2). With a focus on a few key categories that are positively correlated with each other, the examination of business entities' financial performance in relation to their earnings management strategies and approach to the CSR concept demonstrates that there is a statistically significant dependence between these two crucial metrics. Enterprises operate under different constraints and motivations based on their ESG maturity, and this influences their approach to financial reporting. Businesses with low ESG ratings often operate with weaker internal controls, lower stakeholder oversight, and fewer reputational constraints. These enterprises are more likely to face declining profitability or underperformance relative to expectations. As a result, they have stronger incentives to inflate earnings artificially (income-increasing manipulation) to attract investors, meet debt covenants, or improve market sentiment. The potential benefits of such manipulation, such as higher stock prices or easier access to capital, are perceived to outweigh the risks in the short term, particularly when there is little accountability for ESG or ethical lapses.

By contrast, enterprises with moderate ESG ratings may not face the same performance pressures but often lack a comprehensive commitment to transparency. In these cases, companies might engage in income-decreasing manipulation to reduce taxable income or shift financial results across periods to smooth performance. Economically, this behaviour is tied to tax minimization strategies and earnings smoothing to avoid volatility that could raise investor concerns. These companies might not be driven by a need to impress capital markets, but rather to optimize internal financial planning or mask inefficiencies. Enterprises with high ESG ratings (e.g., AA or AAA), on the other hand, tend to have strong governance structures, proactive risk management, and stakeholder-oriented strategies. These companies often focus on long-term value creation, and the costs of manipulating earnings, such as reputational damage, regulatory scrutiny, or erosion of stakeholder trust, are higher than any potential short-term gains. Their alignment with ESG principles discourages both income-increasing and income-decreasing manipulation because financial integrity is seen as an extension of responsible corporate behaviour. These firms benefit from lower capital costs, enhanced brand loyalty, and improved investor relations, making transparent reporting more valuable than manipulated performance. Therefore, the clustering emerges logically: low ESG enterprises manipulate upward to survive or appear successful, medium-sized ESG enterprises manipulate downward to manage taxes or volatility, and high ESG enterprises avoid manipulation to preserve trust and stability. This pattern reflects how enterprises balance short-term survival incentives against long-term reputational and financial costs within the framework of their ESG positioning.

The relationship between CSR and financial performance is complex and multifaceted, with evidence supporting both directions of influence. On one hand, CSR can act as a driver of financial performance. Companies that engage in socially responsible practices often experience enhanced reputation, stronger brand loyalty, improved employee satisfaction, and better relationships with stakeholders (Cardillo & Basso, 2025). These advantages can lead to increased revenues, cost savings, and reduced risk exposure. For example, environmental initiatives may reduce operational costs,

while ethical labour practices can improve workforce productivity and reduce turnover (Faeni et al., 2025). Additionally, CSR can attract investors who prioritize ESG criteria, thereby improving access to capital (Yu et al., 2024). Numerous empirical studies have found a generally positive relationship between CSR activities and firm profitability (Cho et al., 2019; Abdulah, 2024; Katenova & Qudrat-Ullah, 2024). On the other hand, CSR can also be viewed as an outcome of financial performance. According to the slack resources' theory, financially successful firms are better positioned to allocate resources to non-core activities such as CSR (Vitale et al., 2023). In this view, companies invest in CSR after achieving strong financial results, using surplus profits to improve their public image, meet stakeholder expectations, or pre-empt regulatory scrutiny (Awa et al., 2024). This perspective suggests that CSR is often a discretionary expenditure enabled by financial slack, rather than a strategic tool for improving profitability.

Recent research increasingly supports a bidirectional and context-dependent relationship between CSR and financial performance (Gu, 2023; Homayoun et al., 2023). In many cases, firms with sustained profitability can invest in CSR initiatives, which in turn reinforce their market position and long-term value creation. The strength and direction of this relationship may vary depending on industry characteristics, market maturity, regulatory environment, and the alignment of CSR efforts with core business strategies (Bahta et al., 2020). For example, consumer-facing industries may experience more immediate financial benefits from CSR due to heightened public visibility, while firms in heavily regulated sectors may pursue CSR primarily for compliance and risk management (Arian et al., 2023). In conclusion, CSR can function both as a cause and a consequence of financial performance. Rather than a simple linear relationship, the interaction between CSR and profitability is better understood as a dynamic cycle, where financial success enables CSR investment, and responsible business practices contribute to long-term competitive advantage and financial sustainability.

4. Discussion

CSR reporting is particularly cognizant of the fact that it affects investment opportunities, corporate reputation, and financial performance (Hermawan & Mulyawan, 2014; Ali et al., 2022). This is especially true for publicly traded companies. Habek and Wolniak (2016) provide evidence that the publication of corporate social responsibility data positively impacts the CSR concept. Moratis and Egmond (2018) looked at a sample of US-listed corporations to see if accrual-based earnings management and corporate social responsibility were related. The study's conclusions showed that businesses that have a bigger environmental impact avoid manipulating their revenues and perform better in terms of CSR (Siueia & Wang, 2018). Therefore, it is undeniable that companies that place a high priority on social responsibility are less likely to manipulate results through discretionary accruals (Kim et al., 2012). The study conducted by Choi et al. (2018) revealed somewhat different results, indicating that corporate social responsibility programs affect companies' real earnings management practices but not accrual-based earnings management. On the contrary, the findings of their research, which were derived from a sample of publicly traded non-financial organisations, substantiated the significance of the CSR notion as it pertains to managerial obligations. In the words of Ajina et al. (2019), companies that practice social responsibility are motivated to demonstrate their dedication to moral conduct by means of cooperation and confidence; as a result, they significantly curtail the use of earnings management techniques. Discretionary accruals, or cash flows, are the most resilient part of the model compared to other parts during expansions and recessions, according to Park and Shin (2015), who also noted that the decline in persistence for discretionary accruals, or cash flows, is greatest (smallest) during the transition from an expansion to a recession. Business cycles and macroeconomic variables have a substantial impact on the quality of accruals, and companies that engage in earnings management are typically more susceptible to a range of macroeconomic disruptions (Kim & Qi, 2010). Setyoputri and Mardijuwobo (2020) and Gajdosikova et al. (2022) conducted studies on the influence of corporate qualities on

earnings management. Their findings revealed specific factors that influence the expression of earnings management practices. Their financial reporting is of the highest calibre (Nagy et al., 2022). Gaio et al. (2022) found a negative association between earnings management and corporate social responsibility, concluding that CSR programs are associated with greater levels of ethical conduct. Furthermore, firms that prioritize social responsibility exhibit more dependable financial data and sustainable economic outcomes, which in turn lowers the perceived risk among their partners and other stakeholders (Shayan et al., 2022). Chen and Hung (2020) corroborated the tendency of organizations with worse CSR performance to use earnings management strategies. On the other hand, companies are putting CSR into practice not just to improve information transparency but also to encourage positive interaction with stakeholders and reduce the likelihood of earnings manipulation (Ajina et al., 2019). Tran et al. (2022) assert that the idea of corporate social responsibility (CSR) has important and relevant consequences for different authorities when it comes to using CSR as a gauge of the calibre of financial reporting. The research conducted by Dimitropoulos (2022) suggests that companies with strong CSR performance have higher quality financial reporting and fewer discretionary accruals and income normalisation.

Hermawan and Mulyawan (2014) assert that listed firms understand the value of CSR success as it reflects their financial performance. The CSR idea presents a number of obstacles to a company's capacity to remain profitable (Tran et al., 2021). The results of Machmuddah et al. (2020) show that business value is positively and significantly impacted by corporate social responsibility disclosure, with the influence of profitability moderating this effect. Profitability has a substantial effect on CSR, as demonstrated by regression models applied to a sample of Chinese appliance lister firms (Wu et al., 2021). CSR activities are significantly impacted by financial performance and economic cycles, both of which have an impact on the integrity of financial reporting (Kyaw et al., 2017). Goncalves et al. (2021) claim that managers of companies with an established CSR concept act more ethically, however they fail to include earnings management.

Conclusions

In Central European countries, corporate social responsibility has a major impact on company performance through a number of interrelated methods. Studies showing strong correlations between CSR participation and indicators like return on equity, return on assets, and stock market success attest to the link between robust CSR policies and improved financial performance. Furthermore, CSR activities support the development of solid stakeholder connections, which in turn strengthens consumer, employee, investor, and community trust, loyalty, and reputation resilience. Consequently, this enhances the long-term viability and competitive edge. Effective CSR policies also reduce the risk of operational interruptions, reputational harm, and regulatory compliance, which strengthens a company's resilience in unstable market conditions.

Businesses need to respect the needs of all stakeholders in order to turn a profit and get a competitive advantage in the market. Corporate social responsibility is the term for this. The correlation study's results, which indicated a positive association between corporate earnings and the CSR performance of central European enterprises as assessed by the ESG rating, further reinforced the importance of corporate profitability. This study looks at ways to measure the link between corporate performance as measured by the degree of earnings management and socially responsible behaviour in order to validate and visually express the amount to which these practices contribute to corporate success.

This research looks at how to characterize the relationship between corporate social responsibility and earnings management in central European listed companies. The study finds a statistically significant relationship between company profitability as determined by the degree of earnings management and the CSR strategy as assessed by the ESG rating. Moreover, there are categories of factors (CSR strategy and level of earning management) that are mutually correspondent. Positive discretionary accruals, and thus income-increasing earnings management practices are used by the

enterprises with the average leading to lag value of ESG rating (BB and CCC) and thus weak CSR concept. The market leaders with the best score of ESG rating (AA, AAA) do not use any revealable earnings management practices and the calculates not discretionary accrual is not different from zero. Finaly, the income-decreasing activities (negative discretionary accruals) are typical for the enterprises with ESG rating at A, B and BBB level.

It may be argued that the study's limitations are related to the time period and the dataset of firms, which is the main focus of future research and analysis. A critical limitation of this study lies in the composition of the dataset, which is heavily skewed toward large, publicly listed companies, particularly from Germany and Switzerland. This overrepresentation limits the generalizability of the findings to the broader Central European context. Germany and Switzerland possess more mature economies, well-developed regulatory environments, and greater institutional support for CSR and ESG reporting compared to other Central European countries. As a result, the CSR strategies and financial behaviours observed in firms from these countries may not accurately reflect the practices and challenges faced by companies in smaller or less economically advanced nations in the region. Moreover, the dataset focuses primarily on publicly traded firms (which are reporting ESG score), whereas a significant share of enterprises in Central European countries are not listed on stock exchanges. These unlisted companies operate under different regulatory and market pressures, often with lower levels of transparency and reduced incentives for formal CSR disclosure or adherence to ESG standards. Unlike large corporations, SMEs were not required to implement ESG frameworks, and they typically face fewer legal or institutional obligations to disclose non-financial information. As a result, their engagement in CSR activities tends to be informal, ad hoc, or based on local stakeholder expectations rather than standardized ESG metrics. To improve the validity and inclusiveness of future research, the dataset should be expanded to include a broader and more representative mix of firms, particularly SMEs and companies from underrepresented Central and Eastern European countries such as Slovakia, Hungary, the Czech Republic, and Poland, which may be a difficult task due to underperformed capital market in the most of these countries. This would allow for a more accurate assessment of how CSR and earnings management practices vary across firm size, ownership structure, and national context, and would yield more relevant insights for policymakers, investors, and practitioners seeking to strengthen responsible business conduct across the region.

For legislators, auditors, regulators, and investors in their endeavours to curtail earnings manipulation strategies and enhance the calibre of fiscal documentation. The findings of this study, along with its acknowledged limitations, carry important managerial and policy implications for stakeholders aiming to foster responsible business conduct and financial transparency in Central Europe. Given the uneven implementation of ESG standards across firm sizes and national contexts, regulators should consider expanding the scope of ESG reporting requirements to include not only publicly listed companies but also large privately held firms and, in a proportionate and flexible manner, selected small and medium-sized enterprises. Moreover, national CSR strategies should be adapted to reflect the economic realities and institutional maturity of Central European countries. Corporate boards, especially in non-listed and medium-sized firms, are encouraged to view CSR and ESG not merely as compliance requirements but as strategic instruments for enhancing long-term value. Boards should integrate sustainability objectives into core management processes, including risk oversight, performance evaluation, and executive remuneration. As the study suggests, companies with well-developed CSR strategies and strong ESG ratings are less likely to engage in earnings management practices, indicating a higher level of financial discipline and governance quality. This proactive approach to sustainability can strengthen stakeholder trust, increase resilience to market volatility, and ultimately improve competitive positioning. Investors also have a crucial role to play in encouraging ethical corporate behaviour. Investment decisions should take into account not only financial indicators but also the reliability and substance of CSR and ESG disclosures. Companies with weak ESG ratings and signs of earnings manipulation, such as high levels of

discretionary accruals, warrant closer scrutiny, as these may signal deeper governance or transparency issues. In contrast, firms with credible ESG commitments and transparent financial practices represent lower-risk, sustainable investment opportunities.

Companies that integrate corporate social responsibility into their operations need to persuade their owners and shareholders of the cost-effectiveness of doing so while also claiming that their financial reporting is accurate, precise, and up to date, and that their earnings management strategies are mitigated. Moreover, CSR encourages innovation by providing incentives for the invention of sustainable goods, procedures, and business plans, this boosts competitiveness and long-term value generation. All things considered, the incorporation of corporate social responsibility into company plans is essential for promoting good social effect, improving corporate performance, and guaranteeing the long-term viability of businesses that operate in Central European nations.

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Reference

1. Abdulah, H. (2024). Corporate social responsibility and firm performance from developing markets: The role of audit committee expertise. *Sustainable Future, 8*, Article 100268. https://doi.org/10.1016/j.sftr.2024.100268.
2. Ahmadpour, A., & Shahsavari, M. (2016). Earnings management and the effect of earnings quality in relation to bankruptcy level (Firms listed at the Tehran stock exchange). *Iranian Journal of Management Studies*, *9*(1), 77–99. https://doi.org/10.22059/IJMS.2016.55036.
3. Ajina, A., Lakhal, F., & Sabrine, A. (2019). Does Corporate Social Responsibility Reduce Earnings Management? The Moderating Role of Corporate Governance and Ownership. *Management International, 23*, 45–55. https://doi.org/10.7202/1060030ar.
4. Ali, S. S., & Kaur, P. (2021). Effectiveness of corporate social responsibility (CSR) in implementation of social sustainability in warehousing of developing countries: A hybrid approach. *Journal of Cleaner Production*, *324*, Article 129154. https://doi.org/10.1016/j.jclepro.2021.129154.
5. Ali, W., Wilson, J., & Husnain, M. (2022). Determinants/Motivations of Corporate Social Responsibility Disclosure in Developing Economies: A Survey of the Extant Literature. *Sustainability*, *14*, Article 3474. https://doi.org/10.3390/su14063474.
6. Arian, A., Sands, J., & Tooley, S. (2023). Industry and Stakeholder Impacts on Corporate Social Responsibility (CSR) and Financial Performance: Consumer vs. Industrial Sectors. *Sustainability*, *15*(16), Article 12254. https://doi.org/10.3390/su151612254.
7. Awa, H. O., Etim, W. & Ogbonda, E. (2024). Stakeholders, stakeholder theory and Corporate Social Responsibility (CSR). *International Journal of Corporate Social Responsibility, 9,* Article 11. https://doi.org/10.1186/s40991-024-00094-y.

8. Bahta, D., Yun, J., Islam, M. R., & Bikanyi, K. J. (2020). How does CSR enhance the financial performance of SMEs? The mediating role of firm reputation. *Economic Research-Ekonomska Istraživanja*, *34*(1), 1428–1451. https://doi.org/10.1080/1331677X.2020.1828130.
9. Ballerini, J., Alam, G. M., Zvarikova, K., & Santoro, G. (2022). How emotions from content social relevance mediate social media engagement: Evidence from European supermarkets during the COVID-19 pandemic. *British Food Journal*, *125*(5), 1698–1715. https://doi.org/10.1108/BFJ-06-2021-0695.
10. Buertey, S., Sun, E., Lee, J. S., & Hwang, J. (2019). Corporate social responsibility and earnings management: The moderating effect of corporate governance mechanisms. *Corporate Social Responsibility and Environmental Management*, *27*, 256–271. https://doi.org/10.1002/csr.1803.
11. Cardillo, M. A.R., & Basso, L.F.C. (2025). Revisiting knowledge on ESG/CSR and financial performance: A bibliometric and systematic review of moderating variables. *Journal of Innovation & Knowledge, 10*(1), Article 100648. https://doi.org/10.1016/j.jik.2024.100648.
12. Chen, C., Khan, A., Hongsuchon, T., Ruangkanjanases, A., Chen, Y., Sivarak, O., & Chen, S. (2021). The role of corporate social responsibility and corporate image in times of crisis: The mediating role of customer trust. *International Journal of Environmental Research and Public Health*, *18*(16), Article 8275. https://doi.org/10.3390/iderph18168275.
13. Chen, R., & Hung, S. W. (2020). Exploring the impact of corporate social responsibility on real earning management and discretionary accruals. *Corporate Social Responsibility and Environmental Management*, 28, 333–351. https://doi.org/10.1002/csr.2052.
14. Cho, S. J., Chung, C. Y., & Young, J. (2019). Study on the Relationship between CSR and Financial Performance. *Sustainability*, *11*(2), Article 343. https://doi.org/10.3390/su11020343.
15. Choi, H., Choi, B., & Byun, J. (2018). The relationship between corporate social responsibility and earnings management: Accounting for endogeneity. *Investment Management and Financial Innovations*, *15*, 69–84. https://doi.org/10.21511/imfi.15(4).2018.06.
16. Covucci, C., Confetto, M. G., Kljucnikov, A., & Panait, M. (2024). Unrevealing the nexus between digital sustainability and corporate digital responsibility: A dual-track systematic literature review towards a framework of corporate digital sustainability. *Technology in Society*, *79*, Article 102743. https://doi.org/10.1016/j.techsoc.2024.102743.
17. D'Amato, A., & Falivena, C. (2020). Corporate social responsibility and firm value: Do firm size and age matter? Empirical evidence from European listed companies. *Corporate Social Responsibility an Environmental Management*, *27*, 909–24. https://doi.org/10.1002/csr.1855.
18. Deakin, E. B. (1972). A Discriminant Analysis of Predictors of Business Failure. *Journal of Accounting Research*, *10*(1), 167–179. https://doi.org/10.2307/2490225.
19. Dechow, P., Sloan, R., & Sweeney, A. (1995). Detecting earnings management. *The Accounting Review*, *70*(2), 193–225.
20. Dimitropoulos, P. (2022). Corporate social responsibility and earnings management in the EU: A panel data analysis approach. *Social Responsibility Journal*, *18*, 68–84. https://doi.org/10.1108/SRJ-04-2020-0156.
21. Durana, P., Zauskova, A., Vagner, L., & Zadnanova, S. (2020). Earnings drivers of Slovak manufacturers: Efficiency assessment of innovation management. *Applied Sciences*, *10*(12), Article 4251. https://doi.org/10.3390/app10124251.
22. Durana, P., Valaskova, K., Siekelova, A., & Michalkova, L. (2022). Apprasial of earninigs management across the sectors. *Journal of Business Economics and Management*, *23*(2), 399–425. https://doi.org/10.3846/jbem.2022.16563.
23. Eleyan, F. J. Y. (2022). Corporate Social Responsibility and Public Shareholding Companies at Palestine Securities Exchange. *Marketing and Management of Innovations*, *4*, 76–84. https://doi.org/10.21272/mmi.2022.4-08.
24. Faeni, D. P., Oktaviani, R. F., Riyadh, H. A., Faeni, R. P., & Beshr, B. A.H. (2025). Green human resource management and sustainable practices on corporate reputation and employee well-

being: A model for Indonesia's F&B industry. *Environmental Challenges, 18*, Article 101082. https://doi.org/10.1016/j.envc.2025.101082.
25. Fialova, V., & Folvarcna, A. (2020). Default prediction using neural networks for enterprises from the post-soviet country. *Ekonomicko-manazerske spektrum*, *14*(1), 43–51. https://doi.org/10.26552/ems.2020.1.43-51.
26. Francis, J., Schipper, K., & Vincent, L. (2003). The relevant and incremental explanatory power of alternative (to earnings) performance measure for returns. *Contemporary Accounting Research*, *21*(1), 121–164.
27. Gaio, C., Goncalves, T., & Sousa, V. (2022). Does corporate social responsibility mitigate earnings management? *Management Decision*, *60*(11), 2972–2989. https://doi.org/10.1108/MD-05-2021-0719.
28. Gallo, P., Kollman, J., Pavlinska, J., & Dobrovic, J. (2024). KPIs and BSC in the SME segment. Myth or reality? *Journal of Business Sectors*, *2*(1), 1–10. https://doi.org/10.62222/YTKL9850.
29. Gajdosikova, D., Valaskova, K., & Durana, P. (2022). Earnings Management and Corporate Performance in the Scope of Firm-Specific Features. *Journal of Risk Financial Management*, *15*, Article 426. https://doi.org/10.3390/jrfm15100426.
30. Gilson, S. C. (1989). Management turnover and financial distress. *Journal of Financial Economics*, *25*, 241–262. https://doi.org/10.1016/0304-405X(89)90083-4.
31. Goncalves, T., Gaio, C., & Ferro, A. (2021). Corporate Social Responsibility and Earnings Management: Moderating Impact of Economic Cycles and Financial Performance. *Sustainability*, *13*, Article 9969. https://doi.org/10.3390/su13179969oi.
32. Gu, J. (2023). Firm Performance and Corporate Social Responsibility: Spatial Context and Effect Mechanism. *SAGE Open, 13*(1). https://doi.org/10.1177/21582440231152123.
33. Habek, P., & Wolniak, R. (2016). Assessing the quality of corporate social responsibility reports: The case of reporting practices in selected European Union member states. *Quality & Quantity*, *50*, 399–420. https://doi.org/10.1007/s11135-014-0155-z.
34. Habib, A., Bhuiyan, M. B. U., & Islam, A. (2013). Financial distress, earnings management and market pricing of accruals during the global financial crisis. *Managerial Finance*, *39*(2), 155–180. https://doi.org/10.1108/03074351311294007.
35. Hermawan, M., & Mulyawan, S. (2014). Profitability and corporate social responsibility: An analysis of Indonesia's listed company. *Asia Pacific Journal of Accounting and Finance*, *3*, 15–31. https://ssrn.com/abstract=2292394.
36. Hoang, T. C., & Joseph, D. M. (2019). The effect of new corporate accounting regime on earnings management: Evidence from Vietnam. *Journal of International Studies*, *12*(1), 93–104. https://doi.org/10.14254/2071-8330.2019/12-1/6.
37. Hohnen, P. (2007). *Corporate Social Responsibility. An implementation Guide for Business*. Canada: International Institute for Sustainable Development.
38. Homayoun, S., Mashayekhi, B., Jahangard, A., Samavat, M., & Rezaee, Z. (2023). The controversial link between CSR and financial performance: The mediating role of green innovation. *Sustainability*, *15*(13), Article 10650. https://doi.org/10.3390/su151310650.
39. Jaisinghani, D., & Sekhon, A. K. (2022). CSR disclosures and profit persistence: evidence from India. *International Journal of Emerging Markets*, *17*(3), 705–724. https://doi.org/10.1108/IJOEM-03-2020-0246.
40. Jensen, M. C. (2004). The agency costs of overvalued equity and the current state of corporate finance. *European Financial Management*, *10*(4), 549–565.
41. Katenova, M., & Qudrat-Ullah, H. (2024). Corporate social responsibility and firm performance: Case of Kazakhstan. *Heliyon, 10*(10), Article e31580. https://doi.org/10.1016/j.heliyon.2024.e31580.
42. Kim, Y., Parak, M. S., & Wier, B. (2012). Is earnings quality associated with corporate social responsibility? *The Accounting Review*, *87*(3), 761–796. https://doi.org/10.2308/accr-10209.

43. Kim, D., & Qi, Y. (2010). Accruals Quality, Stock Returns, and Macroeconomic Conditions. *The Accounting Review*, *85*, 937–78. https://doi.org/10.2308/accr.2010.85.3.937.
44. Kliestik, T., Belas, J., Valaskova, K., Nica, E., & Durana, P. (2020a). Earnings management in V4 countries: The evidence of earnigns smoothing and inflating. *Economic Research – Ekonomska Istrazivanja*, *34*, 1452–1470. https://doi.org/10.1080/1331677X.2020.1831944.
45. Kliestik, T., Valaskova, K., Nica, E., Kovacova, M., & Lazaroiu, G. (2020b). Advanced methods of earnings management: Monotonic trends and change points under spotlight in the Visegrad countries. *Oeconomia Copernicana, 11*(2), 371–400. https://doi.org/10.24136/oc.2020.016.
46. Kothari, S., Leone, A., & Wasley, C. (2005). Performance matched discretionary accruals measures. *Journal of Accounting and Economics*, *39*(1), 163–197. https://doi.org/10.1016/j.jacceco.2004.11.002.
47. Kovacova, M., & Lazaroiu, G. (2021). Sustainable Organizational Performance, Cyber-Physical Production Networks, and Deep Learning-assisted Smart Process Planning in Industry 4.0-based Manufacturing Systems. *Economics, Management, and Financial Markets*, *16*, 41–54. https://doi.org/10.22381/emfm16320212.
48. Kyaw, K., Olugbode, M., & Petracci, B. (2017). The Role of the Institutional Framework in the Relationship between Earnings Management and Corporate Social Performance. *Corporate Social Responsibility and Environmental Management*, *24*, 543–554. https://doi.org/10.1002/csr.1426.
49. Lorincova, S., Stasiak-Betlejewska, R., Streimikis, J., & Fulajtarova, Z. (2024). Identifying Corporate Culture Using the Organizational Culture Assessment Instrument. *Journal of Business Sectors*, *2*(1), 11–20. https://doi.org/10.62222/ZYXY3647.
50. Lyulyov, O., Pimonenko, T., Infante-Moro, A., Zimbroff, A., & Ziabina, Y. (2024). The Role of Visual Branding in Driving Investment Attractiveness in the Digitalisation Era: Psychophysiological Data Analysis. *Virtual Economics*, *7*(4), 7–29. https://doi.org/10.34021/ve.2024.07.04(1).
51. Machmuddah, Z., Sari, D. W., & Utomo, D. (2020). Corporate Social Responsibility, Profitability and Firm Value: Evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, 7, 631–638. https://doi.org/10.13106/jafeb.2020.vol7.no9.631.
52. Mahmood, A., & Bashir, J. (2020). How does corporate social responsibility transform brand reputation into brand equity? Economic and noneconomic perspectives of CSR. *International Journal of Engineering Business Management, 12*, 1–13. https://doi.org/10.1177/1847979020927547.
53. Martinez, M., Rafael, S. R., & Cervantes, P.M. (2022). Should risk-averse investors target the portfolios of socially responsible companies? *Oeconomia Copernicana*, *13*, 439–474. https://doi.org/10.24136/oc.2022.014.
54. Metzker, Z., Belas, J., & Amoah, J. (2021). The Perception of Using Social Media – A Comparison of Entrepreneurs Implementing CSR in Managerial Practice and other Entrepreneurs in Selected V4 Countries. *Marketing and Management of Innovations*, *2*, 191–203. http://doi.org/10.21272/mmi.2021.2-16.
55. Meyer, A. K., & Dutzi, A. (2024). What earnings management has to do with corporate social responsibility. *Sustainability*, *16*(7), Article 2836. https://doi.org/10.3990/su16072836.
56. Moodaley, W., & Telukdarie, A. (2023). Greenwashing, Sustainability Reporting, and Artificial Intelligence: A Systematic Literature Review. *Sustainability*, *15*(2), Article 1481. https://doi.org/10.3390/su15021481.
57. Moratis, L., & Egmond, M. (2018). Concealing social responsibility? Investigating the relationship between CSR, earnings management and the effect of industry through quantitative analysis. *International Journal of Corporate Social Responsibility*, *3*(1), Article 8. https://doi.org/10.1186/s40991-018-0030-7.

58. Nagy, M., Valaskova, K., & Durana, P. (2022). The effect of CSR policy on earnings management behavior: Evidence from Visegrad publicly listed enterprises. *Risks*, *10*, Article 203. https://doi.org/10.3390/risks10110203.
59. Nguyen, V. I. (2023). Increasing Sustainable Performance Through Green Human Resource Management: The Role of Green Supply Chain Management and Corporate Social Responsibility. *Marketing and Management of Innovations*, *14*(4), 1–16. https://doi.org/10.21272/mmi.2023.4-01.
60. Otero-Gonzalez, L., Duran-Santomil, P., Rodriguez-Gil, L., & Lado-Sestayo, R. (2021). Does a Company's Profitability Influence the Level of CSR Development? *Sustainability*, *13*, Article 3304. https://doi.org/10.3390/su13063304.
61. Ozkan, B. (2024). The Transformative Impact of AI on CSR, ESG, and Sustainability: Critical Review and Case Studies. *International Finance Reeview, 23*, 203–218. https://doi.org/10.1108/S1569-376720240000023012.
62. Papagiannidis, E., Mikalef, P., & Conboy, K. (2025). Responsible artificial intelligence governance: A review and research framework. *The Journal of Strategic Information Systems*, 34(2), Article 101885. https://doi.org/10.1016/j.jsis.2024.101885.
63. Park, S., & Shin, H. (2015). Earnings Persistence Over the Macroeconomic Cycle: Evidence from Korea. *The Journal of Applied Business Research*, *31*, 2147–2166. https://doi.org/10.19030/jabr.v31i6.9473.
64. Raoli, E. (2013). Do managers engage in earnings management to support firm´s market valuation? *Corporate Ownership & Control*, *10*(2), 627-645.
65. Sayidah, N., Assagaf, A., & Faiz, Z. (2020). Does earnings management affect financial distress? Evidence from state-owned enterprises in Indonesia. *Cogent Business & Management*, *17*(1), Article 1832826. https://doi.org/10.1080/23311975.2020.1832826.
66. Setyoputri, L. S., & Mardijuwobo, A. W. (2020). The impact of firm attributes on earnings management. *Polish Journal of Management Studies, 22*, 502–512. https://doi.org/10.17512/pjms.2020.22.1.32.
67. Schwab, K. (2019). The global competitiveness report 2019. Switzerland: World Economic Forum. https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf.
68. Shayan, N. F., Mohabbati-Kalejahi, N., Alavi, S., & Zahed, M. A. (2022). Sustainable Development Goals (SDGs) as a Framework for Corporate Social Responsibility (CSR). *Sustainability*, *14*, Article 1222. https://doi.org/10.3390/su14031222.
69. Siueia, T. T., & Wang, J. (2018). The association between Corporate Social Responsibility and Earnings Quality: Evidence from Extractive Industry. *Revista de Contabilidad Spanish Accounting Review, 22*, 112–121. https://doi.org/10.6018/rc-sar.22.1.354361.
70. Sihatmi, E. C., Dasman, S., Badarisman, D., Nahar, A., & Jaya, A.A. (2024). Sustainability reporting and its influence on corporate financial performance: A global analysis. *The Journal of Academic Science, 1*(6), 715–724. https://doi.org/10.59613/d0qn5c22.
71. Sumiyana, S. (2020). Different characteristics of the aggregate of accounting earnings between developed and developing countries: Evidence for predicting future GDP. *Journal of International Studies*, *13*(1), 58–80. https://doi.org/10.14254/2071-8330.2020/13-1/4.
72. Svabova, L., Kramarova, K., Chutka, J., & Strakova, L. (2020). Detecting earnings manipulation and fraudulent financial reporting in Slovakia. *Oeconomia Copernicana*, *11*(3), 485–508. https://doi.org/10.24136/oc.2020.020.
73. Tbalvandani, M. R., & Nashtei, R. A. (2017). Investigating the earnings quality characteristics and earnings management type in bankrupt and distressed companies (Case study: companies listed on Tehran Stock Exchange). *Helix*, 7(2), 907–915.
74. Teres, Y. (2023). Green bonds as a mechanism for financing environment projects. *European Science, 4*(sge16-04), 8–22. https://doi.org/10.30890/2709-2313.2023-16-04-004.

75. Tran, N. M., Tran, M. H., & Phan, T. D. (2022). Corporate social responsibility and earning management: Evidence from listed Vietnamese companies. *Cogent Business & Management*, *9*, Article 2114303. https://doi.org/10.1080/23311975.2022.2114303.
76. Tran, Q. T., Vo, T. D., & Le, X. T. (2021). Relationship Between Profitability and Corporate Social Responsibility Disclosure: Evidence from Vietnamese Listed Banks. *Journal of Asian Finance, Economics and Business*, *8*, 875–83. https://doi.org/10.13106/jafeb.2021.vol8.no3.0875.
77. Ugwa, S. (2023). Artificial intelligence for IT strategy: Driving data-driven decision-making and business alignment. *World Journal of Advanced Research and Reviews*, *18*(2), 1455–1474. https://doi.org/10.30574/wjarr.2023.18.2.0922.
78. Us, Y., Pimonenko, T., & Lyulyov, O. (2023). Corporate Social Responsibility and Renewable Energy Development for the Green Brand within SDGs: A Meta-Analytic Review. *Energies*, *16*(5), Article 2335. https://doi.org/10.3390/en16052335.
79. Vishwanathan, P., Osterhout, H., Heugens, P., Duran, P., & van Essen, M. (2020). Strategic CSR: A Concept Building Meta-Analysis. *Journal of Management Studies*, *57*, 314–350. https://doi.org/10.1111/joms.12514.
80. Vitale, G., Cupertino, S., & Taticchi, P. (2023). Analysing the role of available organisational slack resources in affecting environmental performance. A structural equation modelling approach. *Measuring Business Excellence, 27*(3), 341–363. https://doi.org/10.1108/MBE-09-2022-0110.
81. Wirba, A. V. (2023). Corporate Social Responsibility (CSR): The Role of Government in promoting CSR. *Journal of the Knowledge Economy*, *23*, 7428–7454. https://doi.org/10.1007/s13132-023-01185-0.
82. Wu, X., Dluhosova, D., & Zmeskal, Z. (2021). Corporate Social Responsibility and Profitability: The Moderating Role of Firm Type in Chinese Appliance Listed Companies. *Energies, 14*, Article 227. https://doi.org/10.3390/en14010227.
83. Wu, L., Yi, X., Hu, K., Lyulyov, O. & Pimonenko, T. (2025). The effect of ESG performance on corporate green innovation, *Business Process Management Journal*, *31*(8), 24–48. https://doi.org/10.1108/BPMJ-04-2023-0237.
84. Xiao, Y., & Xiao, L. (2025). The impact of artificial intelligence-driven ESG performance on sustainable development of central state-owned enterprises listed companies. *Scientific Reports, 15*, Article 8548. https://doi.org/10.1038/s41598-025-93694-y.
85. Yu, Z., Farooq, U., Alam, M. M., & Dai, J. (2024). How does environmental, social, and governance (ESG) performance determine investment mix? New empirical evidence from BRICS. *Borsa Istanbul Review, 24*(3), 520–529. https://doi.org/10.1016/j.bir.2024.02.007.
86. Zadeh, H. M. (2021). The effect of corporate social responsibility transparency on corporate payout policies. *International Journal of Managerial Finance*, *17*, 708–732. https://doi.org/10.1108/IJMF-07-2020-0386i.
87. Ziabina, Y., & Dzwigol-Barosz, M. (2022). A Country's Green Brand and the Social Responsibility of Business. *Virtual Economics, 5*(3), 31–49. https://doi.org/10.34021/ve.2022.05.03(2).
88. Zhao, J., & Farinas, B. G. (2023). Artificial Intelligence and Sustainable Decisions. *European Business Organization Law Review, 24*, 1–39. https://doi.org/10.1007/s40804-022-00262-2.
89. Zimon, G., Arianpoor, A., & Salehi, M. (2022). Sustainability Reporting and Corporate Reputation: The Moderating Effect of CEO Opportunistic Behavior. *Sustainability*, *14*(3), Article 1257. https://doi.org/10.3390/su14031257.