

Article

The Effect of CSR Policy on Earnings Management Behavior: Evidence from Visegrad Publicly Listed Enterprises

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Abstract: A corporate socially responsible-focused approach adds value to a firm in the form of financial benefits in addition to improving its corporate image. To meet the demands of various stakeholders, including consumers, employees, and shareholders, and to produce high-quality financial reporting, some managers participate in CSR initiatives. The investigation of the relationship between corporate social responsibility and earnings management in publicly listed Visegrad companies is the main aim of the paper. The purpose is to identify the correlation between the CSR concept (measured by ESG score) and earnings management behavior determined by discretionary accrual levels (using the modified Jones model). To ascertain the association between CSR and earnings/discretionary accrual levels or to describe the major changes in the development of these variables, several statistical techniques were applied (correlation analysis, one-way ANOVA, and one-way ANOVA with repeated measures). As this is a pioneering study in the Visegrad environment (analyzing 35 publicly listed enterprises reporting ESG score), the research findings may have significant policy implications for decision-makers, regulators, auditors, and investors in their efforts to restrict earnings management techniques and enhance the quality of financial reporting.

Keywords: CSR; ESG score; earnings management; discretionary accruals; publicly listed companies



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1. Introduction

Sustainable socially responsible business is basically a business concept whose goal is not only profit maximization, but also activity focused on social and community aspects and goals (Cera et al. 2020; Gallardo-Vázquez and Lizcano-Alvarez 2020). Among the basic principles are mainly voluntariness, the initiative of activities beyond the scope of relevant laws, the overall improvement of the quality of life, sustainable development, sustainable communication with stakeholders, and also the integration of social values and parameters into normal corporate practice (Crisan-Mitra et al. 2020; Urbancova and Vrabcová 2020). Within the economic field, the use of this type of business is mainly within the framework of improving processes for economic development, but also for the minimization of economically beneficial consequences (Dabiša and Babut 2014; Gazzola et al. 2018). It is also important to improve relations with, for example, consumers, shareholders, suppliers, and business partners in general (Belas et al. 2022). A company can use, for example, a code of ethics, avoid more transparency, fight against corruption, improve behavior toward customers and investors, and pay attention to innovativeness and sustainable growth (Martinez et al. 2022; Gavurova et al. 2022). As stated by Mai et al. (2021), a clear goal is to motivate entrepreneurs and companies to take part in their activities in reducing the negative environmental impacts and business impacts on the environment. Whether it is the company's behavior itself and waste management, for example, but also the production and provision of services that are ecological (Vo et al. 2020). Therefore, minimization of environmental impacts, protection of resources, responsible waste management, and reduction of the material and energy intensity of processes in the company are important

(Metzker et al. 2021; Lăzăroiu et al. 2021). Business also closely affect the social area, and the socially responsible behavior of the company in this direction tries to limit and minimize the negative consequences and impacts on the social system and the entire society (Cera et al. 2022). Whether it concerns social care and goals directly within the company, and also activity toward the outside, i.e., to the surrounding society. In the social area, as declared by (Amah and Ekwe 2021; Hlawiczka et al. 2021), it should be thought about the safety and security of employees, corporate philanthropy, the protection of special groups of employees, equal opportunities and also help for laid-off employees. Corporate social responsibility (CSR) has been shown to be significantly related to earnings management (Buertey et al. 2019).

The main aim of the paper is to investigate the relationship between corporate social responsibility and earnings management in Visegrad publicly listed enterprises. The purpose of the paper is to declare the negative relationship between the CSR concept measured by the ESG score and earnings management behavior determined by the discretionary accruals (using the modified Jones model). The results of this research do have their relevance in the Visegrad environment, as this is the pioneering study measuring the mutual dependence of CSR and earnings management in conditions of publicly listed enterprises in V4 region.

The paper is divided into several sections. Literature review declares the importance of the CSR concept in the corporate practice using the most relevant and recent studies. Methodology and data section presents the information about the dataset of enterprises and the methodological steps are clearly presented. Results and discussion section proposes the results of the hypotheses testing and reveal the associations between the analyzed variables, which are further discussed and compared in the context of other studies published worldwide supporting the correctness of the findings in the Visegrad environment. The conclusions section highlights crucial outputs, determines study limitations and future research challenges.

2. Literature Review

Corporate social responsibility (CSR) has a significant impact on how people view a company's brand, how successful a firm is perceived to be, and how appealing a company is to consumers, employees, and investors. This idea extends beyond the bounds of growth rate profitability since it emphasizes many facets of social responsibility and good effects on society as a whole rather than just increased profit (Vrabcova and Urbancova 2021). Triple-bottom-line access is followed by the notion of CSR. Following these pillars entails socially conscious corporate conduct and promotes sustainability (Olah et al. 2021). Making a profit is every company's main objective. This notion is supported by the CSR concept, which asserts that organizations do not have to abandon their main objective while focusing on socially responsible business and that profit maximization and social benefit are not mutually exclusive objectives but rather complement one another (Man et al. 2021). As a result, businesses within the economic pillar place equal emphasis on long-term sustainability and profit. According to Gaio et al. (2022), Vishwanathan et al. (2020), or D'Amato and Falivena (2020), a company must first reach an acceptable level of economic success before allocating corporate profits to socially responsible endeavors. The hypothesis is supported by the fact that businesses with a history of strong economic performance had a high degree of socially responsible activities. Companies with less stable share values, on the other hand, are less likely to be open to funding socially responsible activities. Numerous studies have looked at the relationship between putting the idea into practice and getting better financial success, as was already established.

The social pillar of the CSR concept focuses primarily on workers who can realize the full potential of the business. Many authors stress the necessity of responsible employee conduct as a precondition for responsible corporate activity (Cavaco and Crifo 2014; Schneider and Scherer 2019). According to Ahmad et al. (2022), this pillar has advantages for both the company and the employee. Numerous forms of study have shown that when an employee feels that their company is providing above-standard care, it has a favorable

impact and raises his motivation, self-confidence, and job satisfaction (e.g., [Singhapakdi et al. 2019](#); [Ismael and Yesiltas 2020](#) or [Murshed et al. 2021](#)). This will also have an impact on performance, which will help the business, either directly by increasing financial performance or cost savings ([Bhuiyan and Nguyen 2019](#)). More and more people are paying attention to environmental protection, which is the topic of considerable discussions on both a theoretical and practical level ([Rozsa et al. 2021](#); [Rovnak et al. 2022](#)). [Martinez and del Bosque \(2013\)](#) and [Osakwe and Yusuf \(2021\)](#) assert that a company's environmental orientation boosts its allure and has a significant influence on consumer brand loyalty. Regardless of the sector in which they operate, many businesses are aware of this trend and are starting to adopt a proactive approach to environmental challenges ([Zauskova and Reznickova 2020](#)). Based on these findings, we can conclude that it is crucial for businesses to pay attention to this CSR sector and actively take part in lessening the detrimental effects of business on the environment ([Harness et al. 2018](#)). However, as this dimension encompasses more than just changing the environment, concentrating on the environmental pillar of CSR is important for all businesses, not only those in socially conscious industries.

The most significant contribution of the company's environmental responsibility efforts, in the opinion of [Ahmed and Streimikiene \(2021\)](#), is the creation of a healthy and diversified ecosystem, which guarantees long-term living conditions. Beyond the requirements of the law, businesses engage in environmental activities that benefit them by establishing a favorable environmental reputation and bolstering their long-term performance and competitive advantage. According to [Pfajfar et al. \(2022\)](#), it is possible to conclusively show a link between the implementation of CSR activities and financial gains in all areas; for instance, cost savings ([Saeed and Sroufe 2021](#); [Bacha et al. 2021](#)), support of company image ([Ramesh et al. 2019](#); [Kim et al. 2020](#)), growth of market share ([Ghanbarpour and Gustafsson 2022](#)), improvement of relations with communities ([Kochhar 2014](#); [Kumar et al. 2022](#)), investors ([Hoang and Trotman 2021](#); [Emerson et al. 2020](#)), and government ([Xu et al. 2020](#)), etc.

A kind of company self-regulation called corporate social responsibility seeks to hold companies accountable to society and have a good effect on it. Being environmentally responsible and eco-aware, fostering equality, diversity, and inclusion in the workplace, treating employees with respect, giving back to the community, and making sure business choices are moral, are some ways that an enterprise may adopt CSR ([Rovnak et al. 2021](#)). [Vătămănescu et al. \(2020\)](#) claim that CSR transitioned from voluntary decisions made by individual businesses to mandated rules at the regional, national, and international levels. Many businesses, meanwhile, opt to go above and beyond the law and incorporate the notion of "doing good" into their operational strategies ([Glogovetan et al. 2021](#)). A corporation should consider its key concerns, corporate objective, and values to identify which CSR projects best fit with the organization's culture and aims. The company has two options for conducting the assessment: internally or by hiring a third party. As stated by [Birtus and Lazaroiu \(2021\)](#), CSR refers to actions taken by a corporation to make sure its operations have beneficial social and environmental consequences. Businesses that actively pursue CSR initiatives evaluate their global operations to include tackling cultural and social challenges, with the goal of advancing both in the process ([Kovacova and Lazaroiu 2021](#)). When applying this concept correctly, it should become engrained in a company's principles and culture and have a beneficial impact on the business operation ([Ballerini et al. 2022](#)). CSR should be ingrained in an organization's goal and messaging and play a significant role in marketing and promotion and, thus, building the corporate value and social awareness.

3. Methodology and Data

To provide relevant information about CSR activities, enterprises strive to issue numerical measures reflecting a wide range of environmental, social and governance topics. The ESG score, provided by the Refinitiv company (a subsidiary of the London Stock Exchange Group), is issued for publicly listed companies and measures corporate social responsibility performance based on verifiable reported data in the public domain. The ESG

score assesses three categories: environmental (emissions, innovations and resource use), social (workforce, human rights, community, and product responsibility), and governance (management, shareholders, and CSR strategy). The highest possible value is a score range of 100, indicating excellent performance and a high degree of transparency in publicly reporting the CSR data (ESG superiors). And vice versa, scores that do not exceed the value of 25 indicate weak performance and insufficient transparency in reporting (ESG laggards). Those enterprises in between these extreme cases are in the category of average level of ESG score.

To describe the relationship between CSR practices and earnings management, the dataset of European enterprises was built. The focus is on V4 countries, a cultural and political alliance of four central European countries, which seeks to enhance cooperation in matters related to the military, economy, culture, and energy. The research is aimed at publicly listed enterprises, as these report verifiable data in the public domain which enables to calculate the ESG score. Enterprises with ESG score promote their green development being green, environmentally friendly, safer and more productive, which make them attractive for investors and stakeholders. In the Visegrad environment there are 35 enterprises which meet the criteria of publicly listed enterprises with an ESG score reported for three consecutive years (2018–2020) together with all necessary financial report enabling to calculate the level of discretionary accruals. This period was chosen as in the earliest years the ESG score was rarely reported, and 2020 is the last period available. The sample consists only of very large public limited companies, 76% of the dataset were enterprises from Poland, 18.5% from Hungary, 2.8% from the Slovak Republic, and 2.7% from the Czech Republic (the frequency of enterprises from individual countries fully reflects the development of the national capital market). The sector of operation (NACE classification), which plays an important role in the context of the CSR concept, of the dataset is summarized in Table 1.

Table 1. Sector of operation of the analyzed enterprises.

Sector	%	Sector	%	Sector	%	Sector	%	Sector	%
B	8.57	C	35.00	D	17.14	F	8.57	G	20.00
H	2.86	J	2.86	K	5.71	L	2.86	Q	2.86

Source: own research. Note: B—mining and quarrying sector; C—manufacturing sector; D—electricity, gas, steam, and air condition supply sector; F—construction sector; G—whole sale and retail trade sector; H—transportation and storage sector; J—information and communication sector; K—financial and insurance activities; L—real estate activities; Q—human health and social work activities.

To meet the main aim of the paper, to investigate the relationship between corporate social responsibility and earnings management in Visegrad publicly listed enterprises, the following methodological steps were followed:

1. Mapping the ESG score in all four countries, the association between the CSR concept and level of corporate earnings was measured (correlation analysis) to declare that better earnings performance brings higher growth opportunities (Kim et al. 2012) and good CSR practices provide higher earnings efficiency (Jouber 2019).

H1. *The CSR performance of publicly listed enterprises in the Visegrad environment is positively correlated with the volume of earnings achieved.*

2. Earnings management behavior is measured by the modified Jones model (Jones 1991), which is one of the most frequently used models for earning management detection models based on the calculation of non-discretionary accruals:

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

$$TA_{it} = \Delta REC_{it} + \Delta INV_{it} - \Delta PAY_{it} - DEP_{it} \quad (2)$$

$$DA_{it} = TA_{it} - NDA_{it} \quad (3)$$

where:

ΔREC_{it} annual change in receivables accounts

ΔINV_{it} annual change in inventories

ΔPAY_{it} annual change in payable accounts

DEP_{it} depreciation

A_{it-1} total lagged assets

ΔREV_{it} annual change in revenues

PPE_{it} long-term tangible assets

NDA_{it} non-discretionary accrual

DA_{it} discretionary accruals

TA_{it} total accruals

$\alpha_0, \alpha_1, \alpha_2$ estimated parameters (coefficients)

ε_{it} prediction error

First, using Equation (2), the total accruals are determined. The modified Jones model then analyzes the dataset using Equations (1) and (3). In a regression analysis, coefficients $\alpha_0, \alpha_1, \alpha_2$ are computed after all variables were estimated. The discretionary accruals are determined as the difference between total accruals and non-discretionary accruals estimated by the modified Jones model, having the values of all variables and coefficients, and used to determine the level of earnings management practices. The more extreme the values (and significantly different from zero), the stronger the proof of earnings manipulation (Otero-Gonzalez et al. 2021). However, the previous findings indicate, that the precise and developed CSR concept brings more ethical behavior and clear provision of financial reports, and thus the reduction of manipulation practices (Zadeh 2021; Gaio et al. 2022; Martinez et al. 2022).

H2. *The CSR performance of publicly listed enterprises in the Visegrad environment is negatively correlated with the level of discretionary accruals.*

3. The Shapiro–Wilk test was used to determine if the dataset follows the normal distribution. As a result of the findings, which show that the dataset does not follow the normal distribution, the hypotheses are tested using non-parametric tests.

4. The results indicate that the correlation between the level of discretionary accruals and CSR performance changes over the years. Using the non-parametric Friedman test (normality of the dataset was not proven) it was determined if the ESG measurements from the same group of enterprises are significantly different (at a significance level 0.05) from each other in the context of analyzed time horizon, i.e., if the CSR performance changes significantly in time. The same procedure was used to reveal if there are any differences in the development of the discretionary accruals within the investigated sample of enterprises.

H3. *There is statistically significant differentiation in the level of CSR performance/ discretionary accruals over the analyzed period.*

5. The ESG performance of enterprises differs from various reasons, e.g., corporate policy, sector, interest of shareholders and investors (Koundouri et al. 2022). The sample of Visegrad publicly listed enterprises was investigated by the Kruskal–Wallis test to find any statistically significant differences in earnings manipulation across the CSR performance categories (laggards, average, superiors levels of ESG score).

H4. *The calculated value of discretionary accruals depend on the CSR performance levels, i.e., there are statistically significant differences in the median values of discretionary accruals across the CSR performance categories.*

4. Results and Discussion

To meet the main aim of the paper and investigate the relationship between corporate social responsibility and earnings management, the relevant dataset of enterprises should be built. Its basic descriptive statistics are summarized in Table 2.

Table 2. Descriptive statistics of fundamental corporate parameters.

	Debtors	Stock	Current Liabilities	Non-Curr. Liabilities	Depreciation	Tangible Fixed Assets
mean (th. €)	388,076.32	370,601.25	1,164,711.02	1,316,102.38	292,229.21	2,579,361.61
median (th. €)	175,900.67	175,515.00	699,190.33	536,864.00	109,979.33	662,237.00
std. dev. (th. €)	575,086.82	599,917.89	1,583,082.98	1,974,830.18	443,751.88	4,094,966.03
CV (%)	148.19	161.88	135.92	150.05	151.85	158.76
	Intangible Fixed Asset	EBIT	EAT	Total Assets	Current Assets	Sales
mean (th. €)	340,116.26	201,167.84	103,947.90	3,678,155.44	1,393,800.50	3,453,040.92
median (th. €)	95,573.00	80,028.00	50,906.67	1,085,356.67	767,743.00	1,822,117.00
std. dev. (th. €)	761,786.07	432,138.95	325,393.56	5,099,085.79	1,853,468.06	4,718,276.19
CV (%)	223.98	214.82	313.04	138.63	132.98	136.64

Source: own research.

Using the data about the ESG score provided by the Refinitiv company, the dataset of publicly listed Visegrad enterprises was formed. Within the dataset, companies provide various CSR policies. Their performance in individual years, measured by ESG score, is summarized in Table 3.

Table 3. Division of enterprises based on their CSR performance level.

CSR Level/Year	2020	2019	2018
Laggards (ESG score < 25)	14.29%	20.00%	25.71%
Average (25 < ESG score < 50)	45.71%	48.57%	42.86%
Superiors (ESG score > 50)	40.00%	31.43%	31.43%

Source: own research.

Table shows that enterprises try to improve their CSR policy as the number of laggards decreased in the monitored time horizon and the increase is obvious in the category of superiors. As stated by [Barauskaite and Streimikiene \(2020\)](#), the importance and CSR is growing in the current global environment and enterprises are increasingly required to take part in socially conscious endeavors in order to promote their enterprise success. [Sharma and Sathish \(2022\)](#) confirmed the relation between the economic growth and CSR activities, and highlighted the importance of these activities to gain solid and reliable shareholders and investors. It should be also noted that enterprises tend to improve their CSR concepts to outperform their peers, build strong corporate reputations, which create long or short-term added value ([Gaio and Henriques 2020](#)). To be able to improve the CSR policy, enterprises should report positive net income, and vice versa, corporate social responsibility may increase company profits (e.g., [Wang 2014](#); [Machmuddah et al. 2020](#); [Tran et al. 2021](#); or [Wu et al. 2021](#)). Thus, the mutual dependence between corporate profits, measured by earnings before interests and taxes (EBIT), and CSR performance (measured by ESG score) is summarized in Table 4.

Table 4. Correlation analysis (CSR level vs. corporate earnings).

		EBIT	EAT
CSR performance	2020	0.232 **	0.148 **
	2019	0.542 **	0.503 **
	2018	0.481 **	0.454 **

Source: own research. ** Correlation is significant at the 0.01 level (2-tailed).

The CSR performance has a positive link with business profits throughout all examined time periods, with low correlation in 2020 and a moderate correlation in 2019 and 2018. Therefore, it might be said that *H1* was verified and that there is a positive

correlation between CSR performance and corporate profitability. As stated by [Hermawan and Mulyawan \(2014\)](#), listed enterprises perceive the relevance of CSR performance as it reflects their financial performance. CSR concept poses different challenges for the profitability of enterprises ([Tran et al. 2021](#)). The findings by [Machmuddah et al. \(2020\)](#) indicate that profitability moderates the effect of corporate social responsibility disclosure on firm value, and that the disclosure of corporate social responsibility has a positive and significant impact on firm value. The application of regression models on a sample of Chinese appliance lister enterprises proved the significant impact of profitability on CSR ([Wu et al. 2021](#); [Gajdosikova et al. 2022a](#)). In general, financial performance and economic cycles play an important role in CSR activities, which also influence the quality of financial reporting ([Kyaw et al. 2017](#)). As stated by [Goncalves et al. \(2021\)](#), managers of enterprises with developed CSR concept practice more ethical behavior and do not manage earnings. Moreover, the findings of [Habek and Wolniak \(2016\)](#) confirm that the disclosure of CSR data has a positive influence on the CSR concept. The mutual dependence between the CSR concept (measured by the ESF score) and earnings management measured by discretionary accruals was also analyzed in the dataset of publicly listed Visegrad enterprises. The value of discretionary accruals was calculated by the modified Jones model and subsequently the correlation between the discretionary accruals and ESG score was computed, Table 5.

Table 5. Correlation analysis (CSR level vs. discretionary accruals).

		Pearson Correlation	Sig. (2-Tailed)
CSR performance	2020/2019	−0.347	0.041
	2019/2018	−0.012	0.945

Source: own research.

In the last monitored period it was proven that there is a negative statistically significant relationship (medium correlation) between the discretionary accruals and CSR performance measured by the ESG score. On the other hand, in the period 2019/2018, the negative correlation was also determined; however, this relationship cannot be assessed as it is not statistically significant. Nonetheless, the verification of the *H2* confirmed that the CSR performance of publicly listed enterprises in the Visegrad environment is negatively correlated with the level of discretionary accruals. The same findings were presented by [Gras-Gil et al. \(2016\)](#) who declared a negative effect of CSR practices on earnings management investigating a sample of Spanish non-financial enterprises. The research by [Moratis and van Egmond \(2018\)](#), analyzing a relationship between accrual-based earnings management and CSR on a sample of US listed companies, revealed that those enterprises with higher environmental impact (which is one of the most important aspects of CSR, see e.g., [Siueia and Wang 2018](#)), do not practice earnings manipulation and reach higher levels of CSR performance. It is, therefore, evident, that socially responsible enterprises are less likely to manipulate earnings through discretionary accruals ([Kim et al. 2012](#)). Slightly different outcomes were presented by [Choi et al. \(2018\)](#) as they proved that CSR activities affect corporate practice in real earnings management behavior, while it has no effect on accrual-based earnings management. However, the results of their study based on a sample of non-financial listed companies confirmed the importance of the CSR concept in the context of managerial responsibilities. As admitted by [Ajina et al. \(2019\)](#), socially responsible enterprises are urged to demonstrate their dedication to moral conduct based on confidence and collaboration, and, thus, their earnings management practices are significantly eliminated. Even though the negative correlation was detected, the statistical significance of the correlation was not confirmed in all analyzed years. Therefore, it should be validated whether the different development of ESG score or of discretionary accruals across the years may be the reason. As the normal distribution of the dataset was not confirmed, the differences in the development of both parameters were validated by the Friedman test (Table 6).

Table 6. Friedman test (distribution of ESG score across years).

Null Hypothesis	Test	Sig.	Decision
The distributions of ESG Scores across the years are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	0.012	Reject the null hypothesis.

Source: own research.

The results indicate the existence of statistically significant changes in the level of CSR performance ($H3$ was confirmed), which may be caused by the overall perception of this corporate strategy. The role of enterprises has changed significantly over the last decades, which also supported the evolution of the corporate social responsibility (Rozsa et al. 2021). The outputs of the current studies declare that green investment and green credit are very attractive for investors (Li et al. 2021), have positive impact on the stock return (Metzker and Zvarikova 2021) and financial and sustainable performance (Indriastuti and Chariri 2021). As a consequence, enterprises try to develop this concept and become more competitive and attractive for investors (Gajdosikova and Valaskova 2022; Valaskova et al. 2022). The importance and periodical changes of the CSR concept in the corporate practice of publicly listed Visegrad enterprises were analyzed by the pairwise comparison (using the Dunn-Bonferroni correction for multiple tests) of the ESG score development in individual years. Table 7 indicates that while no statistically significant differences were proven between 2018–2019 and 2019–2020 (adj. sig. value is over the significance level), the level of CSR concept significantly changed comparing its strength in 2018 and 2020.

Table 7. Pairwise comparison of CSR level across years.

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig
ESG Score 2018-ESG Score 2019	0.571	0.239	2.390	0.017	0.050
ESG Score 2018-ESG Score 2020	0.629	0.239	2.630	0.009	0.026
ESG Score 2019-ESG Score 2020	0.057	0.239	0.239	0.811	1.000

Source: own research.

The development of the discretionary accruals was also mapped to explain the reason why statistically significant correlation between CSR and discretionary accrual (DA) was not confirmed. The outputs of the Friedman test are summarized in Table 8.

Table 8. Friedman test (distribution of discretionary accruals levels across years).

Null Hypothesis	Test	Sig.	Decision
The distributions of DA across the years are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	0.000	Reject the null hypothesis.

Source: own research.

The findings show that there are statistically significant changes in the level of discretionary accruals calculated for publicly listed Visegrad enterprises, which may be related to how this earnings management behavior is practiced in the context of various macro and microeconomic changes (Carp and Anton 2020). Viana et al. (2019) based on their research findings claim that in developed economies, high levels of macroeconomic volatility reduce the effectiveness of accrual-based earnings management, but in emerging countries, it promotes the use of accruals to manipulate results. Using the modified Jones model, similarly to this Visegrad study, Park and Shin (2015) observed that discretionary accruals are the most durable compared to other model components during both expansions and recessions, and a decline in persistence is largest (smallest) for discretionary accruals (cash

flows) when going from an expansion to a recession. The quality of accruals is strongly affected by business cycles and macroeconomic variables, and enterprises practicing earnings managements are usually more vulnerable to various macroeconomic shocks (Kim and Qi 2010). Setyoputri and Mardijuwobo (2020) and Gajdosikova et al. (2022b) focused on the impact of corporate attributes on earnings management and detected specific determinants that influence the occurrence of earnings management behavior. Summarizing the research outputs, it is evident that there are statistically significant changes in the level of CSR performance and in the value of discretionary accruals over the analyzed periods.

The previous findings of the analysis focused on Visegrad enterprises indicate a significant relationship between earnings management practices (measured by discretionary accruals) and CSR performance. As a results, the last step of the research portrays the differences in the discretionary accruals development across the categories of CSR strategy (laggards, average, superiors). As the normality of the dataset was not confirmed by the Shapiro–Wilk test (Table 9), the Kruskal–Wallis test for independent samples was applied to detect statistically significant differences in the median values of discretionary accruals across the CSR performance categories (Table 10).

Table 9. Shapiro–Wilk normality test.

	ESG Score	Statistic	df	Sig.
Discretionary accruals (DA)	average	0.484	16	0.000
	laggard	0.705	5	0.011
	superior	0.914	14	0.182

Source: own research.

Table 10. Kruskal–Wallis test.

Null Hypothesis	Test	Sig.	Decision
The distribution of DA is the same across categories of ESG Score level.	Independent-Samples Kruskal-Wallis Test	0.007	Reject the null hypothesis.

Source: own research.

The outcome of the Kruskal–Wallis test revealed differences in the levels (categories) of the CSR concept; the post-hoc test was used for pairwise comparisons of subgroups. The biggest differences in earnings manipulation are between the categories superior—laggard and average—laggard. So, it is then evident that $H4$ was confirmed—the calculated value of discretionary accruals depends on the CSR performance levels, i.e., there are statistically significant differences in the median values of discretionary accruals across the CSR performance categories.

The results indicate that more socially responsible companies are more ethical and their financial reporting is of higher quality (Kliestik et al. 2022). Gaio et al. (2022) found a negative association between earnings management and CSR declaring that socially responsible activities are associated with more ethical behavior. In addition, more socially responsible companies, reducing risk perception from their business partners and other stakeholders, present more sustainable economic performance and more reliable financial information (Shayan et al. 2022). Chen and Hung (2020) confirmed that enterprises with lower CSR performance are prone to earnings management practices. On the other hand, enterprises are engaging CSR not only to increase information transparency but also to create positive interaction with stakeholders and reduce earnings management phenomenon (Ajina et al. 2019). As stated by Tran et al. (2022), CSR concept provides very important and relevant implications for several authorities when using corporate social responsibility as a measure of financial reporting quality. The research by Dimitropoulos (2022) on a sample of EU enterprises over the period 2003–2018, support our findings in the Visegrad environment claiming that there is a negative correlation between CSR and earnings management. It suggests that good CSR-performing companies have

greater financial reporting quality and less discretionary accruals and income smoothing. Especially publicly listed enterprises are aware of the CSR reporting which reflects their financial performance (Hermawan and Mulyawan 2014), corporate reputation, and access to investment opportunities (Ali et al. 2022).

5. Conclusions

Corporate social responsibility has drawn the attention of businesses and market players all over the world as an essential business practice. CSR is a challenge for many organizations, forcing them to abandon their focus on reaching financial objectives in favor of implementing the idea of socially responsible business, which will specifically focus on their company's long-term viability. However, the practical application of the notion varies based on the size, industry, and place of origin of a given business organization, with multinational corporations and businesses more involved in environmental damage showing a larger degree of social responsibility.

This study looks at how to specify the relationship between corporate social responsibility and earnings management in Visegrad publicly listed enterprises. The CSR performance of publicly listed enterprises in the Visegrad environment is positively correlated with the volume of earnings achieved and negatively correlated with the level of discretionary accruals. There are statistically significant changes in the level of CSR performance and discretionary accruals over the analyzed period. The calculated value of discretionary accruals depends on the CSR performance levels (laggard, average and superior), and there are statistically significant differences in the median values of discretionary accruals across the CSR performance categories.

Despite the fact that the study covers the Visegrad area, there are only 35 enterprises meeting the criteria of publicly listed enterprises with an ESG score reported for three consecutive years (2018–2020) together with all necessary financial report enabling to calculate the level of discretionary accruals. The dataset of enterprises may be perceived as the limitation of the study; however, it should be noted that the underdeveloped capital market of Slovakia should be also taken into consideration. The future study should be focused on wider spatial and time orientation using panel and longitudinal data analysis as well as on closer identification of CSR parameters (environmental, social and government). For policymakers, regulators, auditors, and investors in their efforts to limit earnings management techniques and improve the quality of financial reporting, the research findings may have significant policy implications.

With the corporate community's rising interest in putting the CSR idea into practice, it makes sense to analyze the success of the investments made in doing so. Given that many of the advantages of the idea are intangible, evaluating the outcomes of socially responsible company is fairly difficult. On the one hand, businesses that include CSR into their operations must be able to convince their owners and shareholders of the cost-effectiveness, on the other hand, they declare the quality, precision, and correctness of financial reporting and mitigation of earnings management practices.

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