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ASSOCIATION BETWEEN CSR PERFORMANCE AND DEBT LEVEL OF VISEGRAD PUBLICLY-LISTED ENTERPRISES IN THE CONTEXT OF ECONOMIC CHANGES CAUSED BY COVID-19

Dominika GAJDOSIKOVA, Katarina VALASKOVA*

Faculty of Operation and Economics of Transport and Communications, University of Zilina, Univerzitna 8215/1, 010 26 Zilina, Slovakia

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Abstract. In the era of the COVID-19 epidemic, where industry is doing its best to get through this very difficult moment, corporate social responsibility (CSR) is playing a critical role. The purpose of the article is to demonstrate if there is any association between company debt level and CSR performance measured by ESG score. To proclaim the importance of this strategy, the cartogram maps, Pearson's correlation and Friedman's two-way analysis of variance were used. It was proven, that the COVID-19 pandemic has highlighted the need of CSR initiatives. In this situation, CSR offers a mechanism to preserve investor confidence, employee loyalty, and customer trust.

Keywords: CSR, ESG score, debt level, publicly listed enterprises.

JEL Classification: G30, M14.

Introduction

Globally, the pandemic has impacted company profitability, which has had a significant influence on their budget for corporate social responsibility (CSR). These include supply chain accountability, stakeholders, social risk, and the political economy of CSR (Nagy & Lazaroiu, 2022). Following identification, it is crucial to provide solutions to refocus future CSR research on addressing them. The COVID-19 consequences have given corporate social responsibility a stress test like no other. Risks and possibilities exist in any crisis, and this is what our preliminary research has shown (Antwi et al., 2021). All types of businesses have seized the chance to further ingrain themselves in the social fabric of the localities in which they operate. In this situation, CSR offers a mechanism to preserve investor confidence, employee loyalty, and customer trust (Gajdosikova et al., 2022a; Michalkova et al., 2022). The ability of CSR practices to be effective in reacting to a crisis is evident.

In the era of the COVID-19 epidemic, where industry is doing its best to get through this very difficult moment, CSR is playing a critical role. To create a situation of being socially responsible, a company must communicate with its stakeholders and the general public, according to the "self-regulating business model" known as CSR (Metzker & Zvarikova, 2021). It was announced that all costs associated with COVID-19-related activities would be included in the list of CSR expenses that might be made in 2020 (He & Haris, 2020; Klucka et al., 2021). Further information was provided, including the fact that the money might be used for disaster relief, sanitation, and healthcare promotion initiatives. As stated by George et al. (2020), the CSR community seized the opportunity to boost its response activities through internal approval procedures promptly. Companies have been encouraged to take part in COVID-19 reactions by not only contributing to non-profit organizations due to the pandemic's impact on both personal and professional life in sectors of all sizes and sorts, but relief efforts are also multiplied via the collaboration of several organizations (Rozsa et al., 2021). By concentrating on the Sustainable Development Goals (SDGs), businesses may solve a major obstacle that corporations must overcome in order to develop a CSR strategy that is effective in different jurisdictions. The SDGs establish concrete, well-defined objectives to gauge the effectiveness of actions, while the CSR legislation establishes a wide framework and provides guidance for a better, more sustainable future. The growth of COVID-19 necessitates worldwide collaboration between governments, non-governmental

* Corresponding author. E-mail: *katarina.valaskova@uniza.sk*

groups, and the corporate world (Gajdosikova et al., 2022b, 2023). Companies cannot see their futures while the future of the world is at risk and facing significant economic, social, and environmental difficulties without attempting to safeguard the many stakeholders. As a result, the idea of tying CSR to sustainable development emerged, and responsibility and sustainability are currently seen as two complementary components of CSR (Meirun et al., 2022).

The aim of the paper is to prove if there is any association between the CSR performance measured by ESG score and corporate debt level in the context of economic changes caused by the COVID-19 pandemic. It is assumed that enterprises try to be active in participation and involvement in different occasions for the enhancement of society.

The paper is divided as follows: the literature review section highlights the most relevant and recently published papers devoted to CSR performance in the context of corporate debt policy. The methodology section presents the methods used to achieve the main aim of the paper. The findings demonstrating the association between the company debt level and CSR performance are summarized in the Results section; the crucial outputs are further discussed in the context of other studies published worldwide.

1. Theoretical background

CSR is important for a corporate reputation, appealing to clients, staff, and investors, as well as retaining top personnel and achieving total commercial success. As stated by Carroll (2021), the operation of a corporation in a way that is economically successful, law-abiding, ethical, and socially beneficial is known as corporate social responsibility. Given that present investors are aware of the significance of social, environmental, and economic problems, a stronger focus on CSR makes the firm more desirable for investments and subsequently results in higher financial performance (Alexander & Buchholz, 1978).

Several ideas can account for the link between CSR and business debt levels. According to the agency theory, the board is in charge of keeping an eye on the managers' adherence to the company's CSR policy. Managers of businesses could be hesitant to engage in sustainability initiatives that do not instantly improve their financial performance but instead put them in a precarious financial position (Bai & Ho, 2022). However, an appropriate CSR strategy helps businesses build their reputation, which makes it simpler for them to obtain outside financing. According to the stakeholder hypothesis, improving relationships with stakeholders is crucial for improving a firm's performance (Wang et al., 2022; Al-Shammari et al., 2022). A company is more likely to invest in sustainable operations if its stakeholders care about sustainability. This aids the business in enhancing investor sentiment, creditor risk assessment, and consumer loyalty (Miao et al., 2021). As a result, enterprises using the CSR strategy could experience less financial limitations. However, trade-off theory contends that the financial costs of making sustainability-related expenditures outweigh their advantages. Businesses may need to divert resources from main business to sustainable operations in order to improve CSR performance (Trumpp & Guenther, 2017), as the financial performance of a company may suffer as a result of these activities (Boubaker et al., 2020). Tan et al. (2020) examined how CSR performance influences public and private debt financing, and their outputs revealed that business reliance on public debt is greater for companies with better financial reporting and that those enterprises with a better CSR concept usually issue bonds at better terms. Costs of debt also play an important role as there is some impact of CSR disclosure on them (see Kuo et al., 2021; Samuel et al., 2022; Oware et al., 2022). The research findings of Bacha et al. (2021) confirm a negative association between the CSR concept and costs of debt, indicating that financial institutions are likely to charge socially conscious businesses preferred rates. Their results also demonstrate that perceived audit quality and CSR performance are important to banks when determining debt pricing. Bhuiyvan and Nguyen (2019) also proved, on a sample of 230 Australian listed companies, that higher CSR performance effects negatively not only the costs of debt but also costs of equity. The findings by Xu et al. (2021) have significant ramifications for how the financial affects of required CSR disclosures were comprehended from the viewpoint of the debt market. Longer CSR reports and better CSR ratings are associated with more noticeable declines in costs of debt across companies.

The mutual relationship between the CSR strategy and debt policy is evident, but it was proven (Halling et al., 2020; Li et al., 2021), that the COVID-19 pandemic has also had a significant impact. Because of the COVID-19 cash flow crisis, businesses are looking for greater outside funding to meet their liquidity demands. Huang and Ye (2021) investigated the corporate capital structure and CSR activities during the pandemic, and they found that CSR policies may help companies build up sustainability and resilience in an unstable market. The research by Ramesh and Athira (2022) in 51 countries proved that during COVID-19, high-CSR businesses perform better, raise more loans, and increase their investment. CSR has a stronger beneficial impact on company performance in nations with higher governance and in those that have not adopted the International Financial Reporting Standards. Their research findings confirmed a relationship between a company and its stakeholders through socially responsible behaviour and dividend pay-offs when faith in firms and markets declines during an economic crisis.

The recently published studies indicate that the COVID-19 pandemic was determined to have significant effects on the majority of business domains or sectors (Carroll, 2021). The most heavily impacted stakeholder groups in societies are communities, employees, and consumers, although other stakeholder groups also have effects (Xiao & Xi, 2021; Ding et al., 2021). The worldwide pandemic was putting CSR to the test, but enterprises should maintain their commitment to CSR behaviour, because if it is done properly, this is not only beneficial for stakeholders and communities and charities, but companies themselves.

2. Data and methodology

The aim of the paper is to prove if there is any association between the CSR performance measured by the ESG score and corporate debt level in the context of economic changes caused by the COVID-19 pandemic. To proclaim the importance of this strategy, the cartogram maps, Pearson's correlation and Friedman's two-way analysis of variance were used.

The ESG score, which was used to assess the CSR performance of enterprises, is an indicator of how effectively enterprises manage risks related to environmental, social, and governance concerns in the course of their regular business operations. The data was obtained from the Refinitiv database provided by the London Stock Exchange group. To map the situation, the focus was on the period of 2018–2020, when, starting in 2018 business managers are increasingly worried about CSR since companies are judged not just on their financial success but also on how they come across in the community (Chang et al., 2022).

From the Visegrad Four region, 35 enterprises were selected, as these are the publicly listed enterprises having their ESG score calculated. Only very large public limited companies made up the sample, and 76% of those were from Poland, 18.5% from Hungary, 2.8% from Slovakia, and 2.7% from the Czech Republic (the frequency of companies from each country accurately represents the development of the local capital market). Table 1 provides a summary of the dataset's sectoral division (NACE categorization), which is important in light of the CSR concept as also confirmed in the research by Lapinskienė et al. (2023).

Table 1. Sectoral division of companies

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

Note: B – Mining and quarring sector; C – Manufacturing sector; D – Electricity, gas, steam and air condition supply sector; F – Construction sector; G – Wholesale 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.

The individual ESG score was mapped in the given horizon to demonstrate the level of CSR concept in the Visegrad countries. The cartogram analysis was used to illustrate how to distort reality to convey information. Figure 1 presents the level of ESG score in the analysed group of countries in the last monitored period 2020.

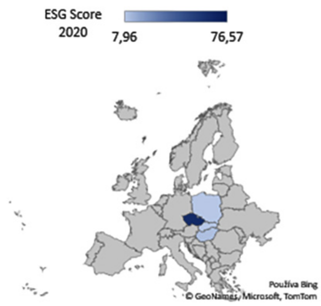

Figure 1. ESG score on V4 countries

To meet the main aim of the paper, the following methodological steps were followed:

1. As it is necessary to quantify the association between the CSR concept and corporate debt level (see Kuo et al., 2021; Samuel et al., 2022; Oware et al., 2022), the most relevant debt indicators were calculated: i) total indebtedness ratio (TI; current and non-current liabilities to total assets); ii) debt-to-equity ratio (DE; current and non-current liabilities to shareholders funds); iii) equity leverage ratio (ER; total assets to shareholders funds).

The relationship between both variables was then measured by the correlation analysis.

H1: There is a statistically significant negative correlation between the CSR performance of publicly listed enterprises in the Visegrad environment and selected debt ratios.

2. It is claimed that bigger growth prospects are brought about by superior profit performance (Kim et al., 2012), and effective CSR practices increase earnings efficiency (Jouber, 2019). So, as claimed by different authors (Hirigoyen & Poulain-Rehm, 2015; Cho et al., 2019; Gaio & Henriques, 2020), there is a statistically significant positive correlation between CSR performance and corporate profits (measured EBIT and EAT), which was investigated also in this research.

H2: There is a statistically significant positive correlation between the CSR performance of publicly listed enterprises in the Visegrad environment and corporate profits.

3. Finally, Friedman's two-way analysis of variance was applied (as the normality of the dataset was not confirmed) to compare the data within the analysed period and identify the changes in the context of the COVID-19 pandemic (see Halling et al., 2020; Li et al., 2021).

H3: There are statistically significant differences in the development of the analysed indicators (selected debt ratios and ESG score) over the years.

2. Results and discussion

To meet the main aim of the study, the development of the ESG score over the given horizon was monitored. Nagy et al. (2022) indicated that enterprises can be divided into 3 categories based on the level of their ESG score: ESG leaders, who are proactively managing risks and taking opportunities better than competitors; ESG laggards with relatively more unmanaged exposure to ESG risk factors. The enterprises, which manage some ESG issues well and some poorly, belong to the category of average ESG performers. Figure 2 summarizes the percentage of Visegrad enterprises in each category.

It is evident, that the number of laggards is sharply decreasing, slight decrease is also seen with average performers, while the portion of ESG leaders increases. According to Barauskaite and Streimikiene (2020), CSR is becoming more and more important in the present global climate, and businesses are being pressured to participate in socially responsible activities in order to support their business success.

The relationship between economic growth and CSR initiatives was reaffirmed by Sharma and Sathish (2022), who also emphasized the significance of these initiatives for attracting dependable and strong shareholders and investors. The COVID-19 pandemic caused remarkable changes in the market, considering both the debt level of enterprises (Huang & Ye, 2021; Wang et al., 2021; Ramesh & Athira, 2022, etc.) and CSR performance (Bae et al., 2021; Crane & Matten, 2021; Manuel & Herron, 2020, etc.). Thus, it was important to measure the mutual association between these two variables by Pearson's correlation coefficient. The results are summarized in Table 2.

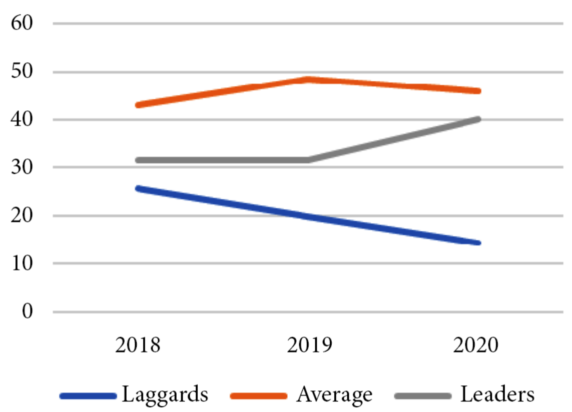

Figure 2. ESG score levels

Table 2. Correlation analysis (CSR performance measured by ESG score vs. debt ratios)

		TI2020	DE2020	EL2020
ESG 2020	Pearson Correlation	−0.383	−0.338	−0.386
	Sig. (2-tailed)	0.023	0.023	0.022
		TI2019	DE2019	EL2019
ESG 2019	Pearson Correlation	−0.322	−0.384	−0.323
	Sig. (2-tailed)	0.059	0.053	0.058
		TI2018	DE2018	EL2018
ESG 2018	Pearson Correlation	−0.244	−0.287	−0.189
	Sig. (2-tailed)	0.159	0.134	0.276

The information presented in the table declares, that the correlation between CSR practices and debt level is negative. These findings correspond with other relevant studies published worldwide. According to Bacha et al. (2021) or Bhuiyan and Nguyen (2019) research findings, there is a negative link between the CSR concept and debt costs. The study of Samuel et al. (2022) confirms, based on the research of 104 Malaysian publicly listed companies, that the better the CSR initiatives the lower the costs of debt. The fact that CSR activities can reduce the costs of debt capital was investigated on a large sample of enterprises listed on the Taiwan Stock Exchange and the Taipei Exchange (Kuo et al., 2021). Prasad et al. (2022) declared on a sample of Indian enterprises, that higher CSR performance decreases the costs of debt and increases the costs of equity, which affirms the outputs of all studies. Moreover, Gigante and Manglaviti (2022) used ESG score by Refinitv to find the effect of the cost of debt on ESG performance. Their results are in tone with the current findings as they declare that the relationship was not statistically significant for the European nonfinancial companies, which was also confirmed in 2018 and 2019 within the current research in the Visegrad region. In our study, however, only in 2020, which is the period strongly affected by the COVID-19 pandemic, was the association proven to be statistically significant (at the 5% significance level). As affirmed by Srivastava and Bhanot (2022), during the COVID-19 epidemic, companies with better stakeholder participation received higher loan funding. This effect is particularly significant for riskier enterprises, emphasizing the significance of preserving stakeholder ties. Nonetheless, it can be concluded that H1 was confirmed and there is a negative correlation between the CSR performance of publicly listed enterprises in the Visegrad environment and selected debt ratios which was proved to be statistically significant only in one of the analysed periods, that was seriously influenced by the pandemic.

CSR practices improve the overall financial performance of enterprises and contribute to their corporate reputation. Cho et al. (2019), using a sample of 191 companies listed on the Korea Exchange, examined if there is a consistent association between CSR performance and corporate performance. The findings demonstrate that CSR performance is positively correlated with corporate value and profitability. According to Hermawan and Mulyawan (2014), listed firms believe their CSR performance is important since it affects how well they perform financially. The CSR idea presents several difficulties for the profitability of businesses (Tran et al. 2021). According to the research by Machmuddah et al. (2020), profitability moderates the influence of corporate social responsibility disclosure on business value and this impact is both positive and substantial. The use of regression models on a sample of Chinese appliance listing businesses demonstrated the considerable link between CSR and profitability (Wu et al., 2021). The quality of financial reporting is also influenced by financial performance and economic cycles, which are significant factors in CSR efforts (Kyaw et al., 2017). Using the data of the 35 Visegrad publicly listed companies, the association between these two variables was also investigated (Table 3).

Table 3. Correlation analysis (CSR performance measured by ESG score vs. profitability)

		EBIT2020	EAT2020
ESG 2020	Pearson Correlation	0.232	0.148
	Sig. (2-tailed)	0.181	0.397
		EBIT2019	EAT2019
ESG 2019	Pearson Correlation	0.542	0.503
	Sig. (2-tailed)	0.001	0.002
		EBIT2018	EAT2018
ESG 2018	Pearson Correlation	0.543	0.481
	Sig. (2-tailed)	0.001	0.003

The results of the correlation analysis reveal, that the positive statistically significant correlation between CSR performance and corporate profits was not confirmed only in 2020, which was affected by turbulent economic changes. The COVID-19 pandemic has had a principal impact on companies, and their management and corporate social responsibilities have been tested (Carroll, 2021). The negative impact of the pandemic on the financial performance of enterprises in China was confirmed in the study by Sun and Li (2021). They declared that CSR activities moderated the reversed relationship between the pandemic and corporate economic results. Jaiyeoba et al. (2023) noted that the latest pandemic has brought the CSR concept to the forefront of business, preferring business preservation to profit maximization. In addition, Hafidzi and Qomariah (2022) proclaimed that in some sectors the pandemic made enterprises unable to generate profits, thus, these enterprises cannot develop their CSR activities in full.

The results indicate, that both the debt level measured by the total indebtedness ratio, debt-to-equity ratio and equity leverage as well as the profitability of enterprises were strongly affected by the COVID-19 pandemic in the context of their CSR performance. In 2020, the statistically significant negative correlation of all analysed debt ratios with the CSR concept was confirmed, while this was the only period, where the statistically significant positive correlation of corporate profits with the CSR concept was rejected. In both cases, the development of mutual associations was different compared to the other two periods analysed, which could be a consequence of the turbulent changes on the market caused by the pandemic. However, to prove the veracity of this claim, Friedman's two-way analysis of variance was applied, testing the statistically significant differences in the development of the analysed indicators. The results are summarized in Table 4. If the differences are confirmed over the years, then the pairwise comparisons based on the Bonferroni correction of significant values were calculated to find the years with the most notable differences in the development.

Table 4. Outputs of Friedman's analysis

Friedman's test		Pairwise comparisons		
Null Hypothesis	Sig.	Sample 1-Sample 2	Test Stat.	Adj. Sig.[a]
The distributions of ESG2020, ESG2019 and ESG2018 are the same	0.012	ESG2018-ESG2019	0.571	0.050
		ESG2018-ESG2020	0.629	0.026
		ESG2019-ESG2020	0.057	1.000
The distributions of TI2020, TI2019 and TI2018 are the same	0.003	TI2018-TI2019	0.600	0.056
		TI2018-TI2020	0.771	0.004
		TI2019-TI2020	0.171	1.000
The distributions of EL2020, EL2019 and EL2018 are the same	0.003	EL2018-EL2019	0.486	0.126
		EL2018-EL2020	0.800	0.002
		EL2019-EL2020	0.314	0.566
The distributions of DE2020, DE2019 and DE2018 are the same	0.003	DE2018-DE2019	0.524	0.036
		DE2018-DE2020	0.671	0.004
		DE2019-DE2020	0.156	1.000
The distributions of EBIT2020, EBIT2019 and EBIT2019 are the same	0.690			

The outputs of the analysis declare that all variables, except for corporate earnings, change over the years. The crucial differences were confirmed between 2018 and 2020 within the ESG score determining the level of CSR, total indebtedness, equity leverage and debt to equity ratio (considering this debt ratio, significant differences were also revealed between 2018 and 2019). The impact of the pandemic on the performance of the publicly listed enterprises in Visegrad is apparent, as verified by international studies. Muhmad et al. (2021) analysed the corporate performance and ESG score on a sample of enterprises from 37 countries. The results confirm that corporate performance and competition on the market influence ESG score levels. The results show the numerous forces driving ESG practices and how strong corporate governance is essential to ensure that strategic ESG is used for the long-term success of businesses. The findings have ramifications for businesses looking to include ESG into their operations, particularly those looking to reinvent themselves for the years after the COVID-19 epidemic. The research by Zhang et al. (2022) examined the significance of the corporate social responsibility concept to businesses in COVID-19. Based on a dataset of Chinese listed companies, it was discovered that a high degree of CSR is beneficial to raise profits. Giakoumelou et al. (2022) affirmed that during periods of economic decline and low profits, ESG factors influence investing decisions.

Conclusions

Prior research on CSR has been concentrated on macro rather than micro levels. Our study fills a gap in the literature by shifting the focus of CSR research from an organizationally-focused macro perspective to a micro-focused one. This study is located in the Visegrad environment and examines how the pandemic influenced the development of corporate profits and debt levels in the context of CSR activities. A growing number of companies are realizing that maintaining a delicate balance between profitability and harmony with their diverse stakeholders is essential to their long-term survival and growth. For the application of CSR policies both during and after the COVID-19 epidemic, this study has significant significance. Overall, this study highlights the significance that COVID-19 pandemic-affected organizations should place on CSR activities, which in turn can result in high embedding in the workforce and ultimately help corporations survive the crisis.

Finally, the COVID-19 epidemic has highlighted the need for CSR. By reorienting their existing CSR strategies, corporations of all sizes, with headquarters in the Visegrad region or elsewhere, have responded to the challenge and aided the government's efforts. It is anticipated that the same fervour and mission-focused attitude would extend to endeavours unrelated to the pandemic. Government and interested entities should work to make it easier for businesses to find meaningful CSR initiatives. By enhancing efforts and promoting information sharing among many stakeholders, this would improve the ease of doing business which may be the most relevant practical implication of this study.

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Contribution

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

Disclosure statement

The authors declare no conflict of interests.

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