Journal of Contemporary Economics
Journal homepage: https://swotjournal.com/index.php/casopis/index
Vol. 8, No. 1, 2024

Holistic Performance Assessment: Research on the Relationship between Sustainability Reporting and Financial Performance of MBI10 Companies in R. N. Macedonia

Todor Tocev[1*], Ivan Dionisijev[2], Bojan Malchev[3]

[1 2 3] Ss. Cyril and Methodius University in Skopje, Faculty of Economics-Skopje, Goce Delchev 9V, 1000 Skopje, R.N. Macedonia

ARTICLEINFO
Review Paper
ArticleReceived: 05th of July, 2024
Revised: Accepted: 22th of July, 2024
doi:10.7251/JOCE2408046T
UDK 005.936.43:657.05(497.17)

Keywords:sustainability reporting, ESG index, financial performance (FP), MBI10
JEL Classification: G30, M14, Q56

ABSTRACT
The complex interaction between sustainability indicators and financial performance shapes a company's resilience and long-term value creation, guiding the path toward a sustainable future in the global business world. This paper attempts to explore the relationship between sustainability reporting, measured through the ESG index (ESGIn), and the financial performance (FP) of high-ranked companies listed on the Macedonian Stock Exchange and part of the MBI10 Index. Through the analysis of ten high-ranked companies, including five banks and five companies from the real business sector, over a period of 11 years (2013-2023), the research reveals intriguing insights into the complex relationship between sustainability efforts and financial success. When analyzing the entire sample, no significant correlation between ESGIn and FP was generally observed, except for a moderately positive correlation between ESGIn and the ROE indicator. Additional sector-specific analyses reveal different patterns in the sectors. In the case of companies from the real business sector, there is a moderate positive correlation between ESGIn and the ROA and ROE indicators, while in the financial sector (banks) there is a weak positive correlation between ESGIn and the ROA and ROE indicators and a weak negative correlation between ESGIn and YPS. The analysis did not reveal a correlation between ESGIn and EPS. These results have implications for strategic decision-making in the Macedonian market and beyond, highlighting the need for tailored approaches to effectively integrate sustainability practices. The study contributes to the ongoing dialogue on the relationship between sustainability indicators and FP, providing a basis for further research and practical applications.

[1] Corresponding author, PhD candidate, MSc, Teaching and Research Assistant, e-mail address: todor.tocev@eccf.ukim.edu.mk (T. Tocev).
[2] PhD candidate, MSc, Teaching and Research Assistant, e-maill address: ivan.d@eccf.ukim.edu.mk (I. Dionisijev)
[3] PhD candidate, MSc, Teaching and Research Assistant, e-maill address: bojan.malcev@eccf.ukim.edu.mk (B. Malchev). Published online first 26 July 2024. Published by the Republic of Srpska Association of Economists „SWOT“, Bosnia and Herzegovina.

1. Introduction

In a time when business and the economy are in constant transformation, and companies are directly exposed to various challenges, transparency regarding their performance is gaining increasing significance. To achieve the level of transparency required by current and potential investors, companies need to report on their activities, including the concept of sustainability in every organizational decision (Azam et al., 2011). The relationship between sustainability and financial performance (FP) of companies is a topic that has been discussed and researched globally for decades, or more specifically, as noted by Friede et al. (2015), since 1970. In Macedonian practice, this is a concept that has recently become relevant and increasingly significant. This impetus is due to the increased global attention to matters related to the environment, climate change, social matters, diversity and inclusion, and the Covid-19 crisis. Companies must address all current matters in the context of the ongoing evolution of the international economy to ensure the long-term success of their operations, which requires a solid connection with stakeholders (Ştefănescu et al., 2021). Manes-Rossi et al. (2018) emphasize that, informed by the last financial crisis, companies are now more responsible and transparent with their stakeholders, including their partners, customers, the community, and beyond. As a result, one of the biggest current "problems" for companies is creating an integrated and concise report that presents both financial and non-financial information about their operations. To analyze the past and future performance of a company, stakeholders need more information than can be provided by the standard financial reporting model (Flower, 2015). The publication of integrated reports is a strategic move that significantly improves the company's ability to communicate with its stakeholders, secure investments, capital projects, and long-term success. Less than 1/3 of professional investors often consider extra-financial information in their investment decisions, and only about 20% of professionals globally have received formal training on how to consider sustainability concept in investment analysis (CFA Institute, 2023).

The compatibility of sustainability criteria with corporate FP has been a central topic of debate among practitioners and academics for over 40 years (Friede et al., 2015). In the available relevant literature, numerous studies can be found about the relationship between sustainability, expressed through the ESG concept, and the FP of companies. From a financial perspective, the positive relationship suggests that companies should be socially responsible as it improves profitability (Servaes & Tamayo 2013), while the negative relationship supports the trade-off theory, which states that being socially responsible is expensive and exceeds the financial benefits (Baird et al., 2012; El Khoury et al., 2023). There are various opinions and findings on the positive or negative, as well as strong or weak, correlation of the aforementioned aspects, making this research question current and challenging, especially for a country like R.N. Macedonia, where sustainability/non-financial reporting is still on a voluntary basis.

This paper presents qualitative and quantitative research aimed at exploring the relationship between ESG and FP in high-ranked companies that are part of the MBI10 index, and solid represent for market movements on the capital market in R.N. Macedonia. The aim of this research is to provide a holistic assessment of the performance of high-ranked companies listed on the Macedonian Stock Exchange (MSE) over a period of 11 years (2013-2023) and to explore the correlation between sustainability, i.e., the ESG index, and FP indicators.

The paper is divided into six conceptual parts. After the introduction, a brief overview of the concept of integrated reporting is provided, with a special focus on R.N. Macedonia. The section on Theoretical Background and Previous research presents the results of existing global research on this topic. This is followed by the applied Research Methodology, Results and Discussion sections, which delve into the findings. Finally, the Conclusion summarizes the results of the research, identifies limitations, and offers ideas and directions for further in-depth research.

This research has the potential to generate new hypotheses and research questions, open new research opportunities, and contribute to the academic and practical field of overall business performance analysis and assessment.

2. Literature Review

2.1. Concept of Integrated Reporting (IR) in North Macedonia

The framework for IR represents a shift towards integrated thinking and reporting, where companies disclose both FP and NFP metrics (IIRC, 2013).

The goal is to provide stakeholders with a comprehensive understanding of the business model, including how the business strategy creates value for them in the short, medium, and long term (CAQ, 2020). In response to this integrated aspect, corporate boards must recognize their responsibility, prioritize, and oversee the collection and disclosure of information on environmental impact, social matters, and governance (the three components of the ESG concept).

The growth of self-initiated charitable initiatives and social responsibility as one of the most discussed topics worldwide is crucial for the long-term success of companies. By improving the overall corporate image and reputation, ESG helps companies compete more effectively, consolidate markets, and build trust among stakeholders (Gardiner et al., 2003; Worcester, 2009). In other words, ESG is a type of marketing and strategic action (McWilliams et al., 2006). The principles of ESG matters refer to a set of factors that companies consider when managing their business and presenting the image of their organization to the public (Damnjanović, 2021).

In the past, sustainability reporting was mainly voluntary, but today, with the increased interest of stakeholders in this type of information, efforts are increasing for certain standardization and regulation of this type of reporting by companies. The disclosure of ESG data is strongly encouraged in Europe through several recent initiatives. Therefore, public interest entities in EU are required to publish a "Non-Financial Report" that addresses environmental and social matters, respect for human rights, and the fight against corruption (EU, 2014) and its adaptation to the specific characteristics of each member state (Sierra-Garcia, et al., 2018). On 5th January 2023, the Corporate Sustainability Reporting Directive (CSRD) came into force in the EU (EU Commission, 2023). The directive is the latest EU initiative to improve the quality, comparability, and continuity of the information disclosed by companies and represents minimum legislation that must be respected.

In R.N. Macedonia, integrated reporting through Corporate Social Responsibility (CSR) as a concept was first introduced in 2002 through the activities of international organizations such as the World Bank, UNDP, and USAID (Stamenkova, 2011). The first published study on the state of CSR in North Macedonia is the "Baseline Study" in 2007, which concluded that the concept of CSR is insufficiently and incompletely understood by companies, resulting in low proactivity in CSR activities, insufficient knowledge, and low awareness (Line & Braun, 2007).

Many large Macedonian companies, according to Mrsik & Kostovski (2015), do not disclose CSR/ESG matters in their annual reports, so sustainability reporting is left to the discretion of companies, their management, and their perception of the need to update key stakeholders and the most appropriate method for doing so. Trpeska et al. (2021) in their research on the disclosure of non-financial information as part of annual reports and/or separate reports in 14 banks actively operating in R.N. Macedonia for the period from 2017 to 2019 indicate that the size of the banks, measured by the value of total assets, positively affects CSR reporting, while, on the other hand, profit, measured by the value of net profit, does not affect it.

According to domestic regulations, companies in R.N. Macedonia are still not required to prepare and publish an integrated report. On the path to EU accession, R.N. Macedonia needs to align national regulations and market practices with the new EU sustainability framework and raise awareness among companies for quality disclosure of integrated reports. To encourage the adoption of solid corporate governance standards and increase the level of ESG disclosure, the MSE has published two important documents that should be taken into account: the new "Corporate Governance Code" published in October 2021, and the "ESG reporting Guidelines" published in January 2022 (MSE, 2022).

Recent initiatives in R.N. Macedonia aim to amend the Law on accounting to include sustainability reporting, aligning with the EU's CSRD, and involve working groups to ensure compliance with international standards like IFRS and IFAC (Unique National Electronic Register of Regulations of the Republic of North Macedonia, 2024).

2.2. Theoretical Background and Previous Research

The relationship between ESG indicators and FP has been extensively researched through both theoretical frameworks (Sancak, 2023) and empirical studies (Chaudhry et al., 2021). Stakeholder theory posits that a company holds responsibilities to a broad range

of stakeholders, including customers, suppliers, employees, the government, and society at large (Ferrell et al., 2010). For these diverse stakeholders, sustainability reporting is a critical concern, as ESG information is believed to confer long-term benefits that surpass the interests of shareholders alone (Khlif et al., 2015). According to stakeholder theory, companies across various sectors customize their sustainability reporting to align with the expectations of their stakeholders (Reverte, 2009; Sweeney & Coughlan, 2008), while agency theory suggests that managers aim to maximize company profits to gain recognition and rewards, and owners prioritize cost reduction to boost profitability (Youssef & Diab, 2021; Gutiérrez-Ponce & Wibowo, 2024).

Buallay et al. (2020) explore the link between CSR disclosure and the operational, financial, and market performance (measured by ROA, ROE, and Tobin's Q) of firms in Mediterranean countries. Their study employs a quantitative approach, utilizing cross-sectional and time-series analyses covering 210 listed firms across six Mediterranean nations over a decade from 2008 to 2017, totaling 1,689 observations. The empirical findings indicate that CSR disclosure has a negative impact on firms' operational and market performance. Interestingly, the study does not find a significant influence of CSR disclosure on FP.

Furthermore, Gutiérrez-Ponce & Wibowo (2024) address the need for deeper research on the impact of corporate ESG indicators on the FP of banks. This study analyzes the ESG-FP relationship in 19 banks from five Southeast Asian emerging economies from 2010 to 2020. Using Thomson Reuters ESG data, parametric correlations, and regression models, the study measures FP through ROA, ROE, and Tobin's Q. Findings indicate a significant negative effect of ESG on all FP measures, though individual ESG pillars show varied impacts on FP. The research also highlights differences in ESG reporting across countries due to distinct economic characteristics.

Friede et al. (2015) analyze and summarize the findings of approximately 2,200 studies on the relationship between ESG and FP to provide generalized conclusions. Their results indicate that most studies show a positive correlation between ESG and FP, with about 90% of the studies indicating no negative correlation. This suggests a strong empirical link and consistent stability over time, leading to the conclusion that "investing in ESG is financially rewarding" (Friede et al., 2015). The study also highlights that more relevant results are obtained when samples consist of companies from the same region, market development stage, or industry.

Using a similar research methodology, Whelan et al. (2021) analyzed over 1,000 studies on the relationship between ESG and FP from 2015 to 2020. Their findings reveal a positive relationship between ESG and FP in 58% of the studies focusing on operational indicators such as ROA, ROE, or share price. Additionally, 13% of the studies show a neutral impact, 21% report mixed results (finding positive, neutral, or negative outcomes within the same study), and only 8% indicate a negative relationship (Whelan et al., 2021). The authors also emphasize that research on ESG and FP often employs inconsistent terminology, nomenclature, and methodology.

In his research on companies listed on the German Prime Standard Stock Exchange (DAX30, TecDAX, MDAX), Velte (2017) confirms the financial benefits of ESG, finding that the combined ESG index positively impacts the ROA metric. Examining the three separate components of the ESG concept, Velte (2017) highlights that corporate governance has the most significant influence on FP compared to environmental and social aspects. Notably, no relationship was found between the ESG index and Tobin's Q (Velte, 2017).

Ahmad et al. (2021) investigated the relationship between the ESG index and FP by analyzing 351 companies listed on the London Stock Exchange, part of the FTSE350 index, over the period from 2002 to 2018. The study's static and dynamic results indicate a generally positive and significant impact of the combined ESG index on market value and earnings per share (EPS) (Ahmad et al., 2021). However, the results are mixed when examining the individual segments of ESG and their impact on the company's FP.

Bruna et al. (2022) used a panel regression model with time lags to analyze a sample of 350 European listed companies from 2014 to 2019. They provide evidence of a positive and significant impact of ESG on operational FP, measured by ROA, ROE, current liquidity, and financial leverage, especially under mandatory non-financial reporting conditions. Similarly, Aybars et al. (2019) confirm the empirical link between the combined ESG index, and the performance of the largest U.S. companies listed on the S&P 500. They

emphasize that "ESG data is becoming as important as financial data". Their study, spanning 11 years (2006-2016), found a one-way positive and significant relationship between the combined ESG index and ROA, but no significant relationship between the ESG index and Tobin's Q.

Chen & Xie (2022) examine the relationship between the ESG-related disclosures, and FP among Chinese corporations listed on the stock exchange from 2000 to 2020. Their findings indicate that disclosing ESG data has a positive effect on corporate FP. In their detailed analysis, they highlight two conclusions: firstly, that disclosing ESG data attracts investors, and secondly, that investors also moderately positively influence the relationship between the ESG index and FP (Chen & Xie, 2022).

As previously discussed, the literature presents varied perspectives and empirical results regarding the positive or negative relationship between ESG and FP. Saygili et al. (2022), through their analysis of companies listed on Turkish stock exchanges and part of the XKURY index from 2007 to 2017, reveal a negative effect of disclosing ESG information, particularly within the environmental segment, on FP. They measured this impact using multiple indicators including ROA, ROE, share price and current liquidity, among others. The authors point out that despite this overall negative trend, their detailed segmented analysis identified specific activities that have a slight positive influence on FP. These include involving stakeholders in operational decision-making and enhancing shareholder and board rights and benefits (Saygili et al., 2022).

Landi & Sciarelli (2019) conducted a study focusing on the 40 largest companies listed on the Italian stock exchange, part of the FTSE MIB index, to examine whether ESG is a significant factor for investors in terms of market risk and return, and its impact on investment decisions. Through panel regression analysis, their empirical results indicate that there are no statistically significant findings linking ESG with abnormal returns for high-ranked Italian companies. Instead, investors continue to focus on traditional risk factors such as EBITDA and financial leverage, suggesting that other variables may be considered under control in managing risk.

Nirino et al. (2021) investigated whether corporate controversies, strongly associated with ESG considerations, influence corporate FP. Using data from 356 European listed companies, their linear regression models confirmed a significant negative relationship between corporate controversies and FP. However, the authors did not find evidence to support a positive effect of ESG practices on mitigating the relationship between controversies and FP in their study. In terms of managerial implications, Nirino et al. (2021) emphasize that disputes are detrimental to company performance and suggest that ESG practices should not merely serve as a means to mitigate the negative effects of controversies, but rather as mechanisms to avoid disputes altogether.

Severo et al. (2017) found that cleaner production and environmental management practices have a positive impact on sustainable product innovation. Their study indicated that firms involved in sustainable product innovation outperformed their counterparts financially. They emphasized the strong correlation between cleaner production and environmental management practices. Therefore, FP serves as a crucial indicator for management decision-making regarding the adoption of sustainability programs, leading to enhanced financial benefits through sustainable product innovations.

At the end, this year Rahi et al. (2024) conducted a thorough critique of the existing literature on corporate sustainability and FP (CSFP), identifying overlooked issues and gaps. They argue that while CSFP generally demonstrates a positive relationship, this connection often emerges gradually over time. The authors highlight the uncertainty surrounding the impact of sustainability on FP in economically rational capitalist countries. They suggest that while initial institutional and legitimacy requirements can encourage positive corporate behavior, these measures may not be sustainable in the long term, especially if companies relocate operations to less regulated areas (referred to as pollution havens).

In this regard, the following research question (RQ) is posed:

RQ: Is it financially profitable to be a socially responsible company in North Macedonia?

3. Empirical Analysis

3.1. Sample

The sample for this research consists of 10 high-ranked companies listed on the MSE, all of which are part of the MBI10 index, according to the most recent revision conducted on 15.12.2023 (MSE, 2024). The

research includes 110 observations, i.e. 10 companies were analyzed over a period of 11 years, from 2013 to 2023. The analysis took into account the audited consolidated financial statements, annual reports, separate non-financial/sustainability reports (if any), and the official websites of the companies. It is important to note that all reports are usually published in March of the current year and refer to the previous year. All reports were downloaded from the official website and from the electronic information system for listed companies on the MSE, available at the following link: https://www.seinet.com.mk/. The reports were analyzed in detail, and all relevant data were extracted. For the purposes of the research, data on share prices was retrieved from the official website of the MSE, available at the following link: https://www.mse.mk/mk/stats/symbolhistory/Symbol.

3.2. Variable Definition and Methodology

Table 1 shows a description of the variables used in the research.

Table 1
Description of variables

Variable	Acronim	Measurement
Yield per Share	YPS	Yield per share measured through earnings yield. Calculated as the earnings per share (EPS) divided by the share price (last transaction in the current year), expressed as a percentage. It shows the return on investment for the shareholders.
Earnings per Share	EPS	Earnings per share in the relevant year as disclosed in the consolidated audited financial statements.
Return of Assets	ROA	ROA as a relative measure of a company's profitability. It is calculated as net profit/total assets.
Return of Equity	ROE	ROE as a relative measure of a company's profitability. It is calculated as net profit/shareholder's equity.
ESG Index	ESGIn	Generated ESG index through content analysis methodology in accordance with the requirements of the European Directive on non-financial reporting (2014/95/EU). Detailed view in Table 2.

Notes. Authors' text.

Sustainability reporting is still on a voluntary basis in North Macedonia and the companies are not included in the analysis carried out by renowned international companies specialized in generating ESG/Sustainability index and ranking. Therefore, a detailed content analysis of all the above-mentioned reports was carried out and the binary scoring method (1 and 0) was used to generate the ESG index (ESGIn), which is expressed as a relative indicator (calculated as points awarded/maximum possible points).

The generation of ESGIn was carried out according to the methodology applied by Ali et al. (2017), Hinson et al. (2010), Branco & Rodrigues (2006) and key performance indicators (KPIs) defined in the EU (2014) Directive 2014/95/EU on non-financial reporting: 1 point for disclosing qualitative data, 1 additional point if this information is supplemented by quantitative data, 1 each point if a separate section in the report is dedicated to the following segments: (1) environment, (2) social and employee matters, (3) human rights, (4) anti-corruption and bribery, and (5) other matters. Table 2 shows a detailed representation of ESGIn generation:

Table 2
Methodology for generating the ESG Index (ESGIn)

Describtion	„Yes" Max. points	„No" Min. points
1. Availability of non-financial data:		
- **Qualitative** (Qual.) ESG data	1	0
- **Quantitative** (Quant.) ESG data	1	0
2. Disclosure of information referring to the environmental matters (EnvM): (KPIs: Corporate focus on environmental matters, management and reduction of pollution, energy saving measures, waste management, creation of eco-friendly products and services, etc.)	1	0
3. Disclosure of information referring to the social and employee matters (Soc&EmpM): (KPIs: Employment matters, diversity initiatives, occupational health and safety protocols, HR management, customer relationships, community engagement, etc.)	1	0
4. Disclosure of information referring to the human rights (HRi): (KPIs: Dedication to upholding human rights, including the rights of children, women, indigenous populations, individuals with disabilities, human trafficking victims, workers' rights, etc.)	1	0
5. Disclosure of information referring to anticorruption and bribery (AC&B): (KPIs: Anticorruption strategies, policies, and standards, internal control systems, utilization of reporting mechanisms, etc.)	1	0
6. Disclosure of information referring to other matters (OM): (KPIs: Supply chains, conflict minerals, etc.)	1	0
Total points per company for 1 year	**7**	**0**
Total points for the observed period of 11 years (2013-2023)	**77**	**0**

Notes. Authors' calculation.

To investigate the relationship and influence between the variables, the following tests were conducted:

1. Descriptive statistics for general summary of results;
2. Trend analysis to see the trends and changes of all variables over a 11 year period
3. Covariance and correlation tests to measure the strength of the linear relationship between variables.

The annual panel data consists of 110 observations that are the initial basis and subject to adjustment in the research. In order to achieve a relevant analysis, when conducting covariance and correlation tests, the EPS variable was transformed into a logarithmic form, denoted by the acronym Ln_EPS. EViews software was used for statistical data processing.

4. Empirical Results and Discussion

The sample consists of 10 high-ranked companies listed on the MSE, evenly divided between the financial and real business sectors. Specifically, it includes 5 banks from the financial sector and 5 companies from various industries within the real business sector—namely, pharmacy, construction, oil derivatives, telecommunications, and hospitality, with one company representing each industry. To effectively summarize the panel data, including the ESGIn, the results of the companies' rankings in Sustainability reporting were initially presented (see Table 3).

Table 3
ESG Index (ESGIn)

Sector	No. of com.	1a. Qual. ESG data	1b. Quant. ESG data	2 EnvM	3 Soc&Emp M	4 HRi	5 AC&B	6 OM	**Total ESGIn**	**Avrg. ESGIn per comp. per year**
Real Business	5	30	13	27	30	2	0	25	**127**	**2.3**
	-50%	-55%	-24%	-49%	-55%	-4%	0%	-45%	**-33%**	**-33%**
Financial	5	51	11	26	47	8	17	22	**182**	**3.3**
	-50%	-93%	-20%	-47%	-85%	-15%	-31%	-40%	**-47%**	**-47%**
Total	10	**81**	**24**	**53**	**77**	**10**	**17**	**47**	**309**	**2.8**
	-100%	**-74%**	**-22%**	**-48%**	**-70%**	**-9%**	**-15%**	**-43%**	**-40%**	**-40%**

Notes. Authors' calculation.

The results indicate that high-ranked companies in R.N. Macedonia generally report minimally on their sustainability initiatives (combined ESGIn = 0.4). It's crucial to recognize that there is no legal mandate in the country to disclose on ESG, which contributes to the lesser emphasis on non-financial information compared to the EU and other regions where such disclosure is obligatory. Additionally, the ESGIn metric is based on publicly disclosed information, which does not rule out the possibility that a company may be socially responsible without this being reflected in available data sources.

Sector-specific analysis shows that banks are more forthcoming about sustainability than firms in the real business sector, resulting in a higher combined ESGIn score (0.47 vs. 0.33). Regarding the nature of the disclosed information, companies predominantly share qualitative details of their actions (0.74) rather than quantitative, measurable data (0.22). The bulk of this information pertains to social and employee matters (0.7), with the least amount of disclosure concerning human rights (0.09). Table 4 displays the descriptive statistics of the unadjusted panel data.

Table 4
Descriptive statistics, unadjusted annual panel data (2013 – 2023)

	ESGIn	**EPS**	**YPS**	**ROA**	**ROE**
Mean	0.401273	951.5627	0.107388	0.034319	0.092210
Median	0.428571	178.0400	0.095844	0.021606	0.091540
Maximum	1.000000	13939.00	0.338889	0.173307	0.223220
Minimum	0.000000	-2019.200	-0.079968	-0.025328	-0.064402
Std. Dev.	0.302565	2270.237	0.077067	0.033387	0.055467
Skewness	0.176561	3.949310	0.807712	1.316711	0.033297
Kurtosis	2.234718	20.22696	3.938525	5.131726	3.015494
Observations	110	110	110	110	110

Notes. Authors' calculation.

The analysis reveals significant variation in the minimum and maximum values of each variable, reflecting the diverse nature and operations of the companies within the MBI10 index. It is noted that some companies even recorded negative indicators during the analyzed period. Overall, an investor holding an equal number of shares across these companies would see an average EPS of approximately MKD 951 (around 15 EUR), with an average YPS of 10.7%, a ROA of 3.4%, a ROE of 9.2%, and an average ESGIn of 40%. The median values of the financial indicators are notably lower than the mean values, indicating that a few high-ranked companies skew the average upwards, whereas the majority exhibit lower performance during the analyzed period.

The distribution of the data, characterized by high skewness and kurtosis, suggests it is non-normal with "heavy tails". For further statistical analysis, the EPS values were transformed into logarithmic scale, referred to as Ln_EPS in subsequent discussions. Despite initial attempts to fit the data with a Unit Root test for panel regression, the assumptions of normality and homogeneity were not met, leading to the adoption of non-parametric tests.

In subsequent covariance and correlation analyses, the original panel data were used for the ESGIn, YPS, ROA, and ROE variables, whereas the logarithmically transformed EPS (Ln_EPS) was employed. The linear relationships were examined using 107 observations out of a total of 110, excluding three observations with negative EPS values from two companies in the real business sector, which were not suitable for logarithmic transformation. Table 5 presents the results from the conducted covariance and correlation tests among the variables.

Table 5
Covariance and Correlation tests

Covariance	ESGIn	Ln_EPS	YPS	ROA	ROE
ESGIn	0.088615				
Ln_EPS	0.292450	4.617830			
YPS	-0.001369	0.065041	0.005364		
ROA	0.001085	0.018675	-0.000238	0.001055	
ROE	0.006447	0.068869	0.001721	0.000517	0.002630
Correlation					
ESGIn	1. 000000				
Ln_EPS	0.457171	1. 000000			
YPS	-0.062786***	0.413253*	1. 000000		
ROA	0.112243***	0.267515**	-0.100042***	1. 000000	
ROE	0.422262***	0.624857*	0.458168***	0.310284***	1. 000000

Notes. Authors' calculation. *** Significant at 1%, ** Significant at 5%, и * Significant at 10%.

The p-value in the covariance matrix indicates the statistical significance of the correlations identified among the variables. This information, along with the correlation matrix, provides key insights into the relationships between the analyzed variables. Our primary research question (RQ1) explores whether being a socially responsible company in R.N. Macedonia is financially beneficial. Specifically,

we investigate whether companies that engage in robust sustainability reporting experience enhanced profitability and operational success, potentially earning greater trust and loyalty from customers, suppliers, the community, investors, and other stakeholders.

The analysis reveals a moderately positive correlation between the ESGIn and ROE, suggesting that companies focused on sustainability reporting tend to achieve higher profitability relative to their capital investments. This indicates a possible alignment between sustainable practices and financial performance. Additionally, there is a weak positive correlation between ESGIn and ROA. Our results are in line with the research of Friede et al. 2015; Whelan et al. 2021; Bruna et al. 2022, and contrary to the research results of Buallay et al. (2020), Gutiérrez-Ponce & Wibowo (2024). On the other hand, there is an almost negligible negative correlation with YPS. The correlation matrix also highlights relationships among financial indicators, including a strong positive correlation between Ln_EPS and ROE, a moderate positive correlation between Ln_EPS and YPS, and a weak positive correlation between Ln_EPS and ROA. Further, moderate and weak positive correlations exist between YPS and ROE, as well as between ROA and ROE, respectively, with a weak negative correlation between YPS and ROA.

Although correlation tests do not establish direct causality, they provide a solid foundation for understanding the complex interplay between financial indicators and the ESG index, reflecting company performance. The results concerning ESGIn's relationship with ROE, ROA, and YPS suggest that while sustainability reporting is aligned with profitability (ROE), it seems less impactful on asset efficiency (ROA) and market measures (YPS and EPS), influencing shareholder decisions to a lesser extent.

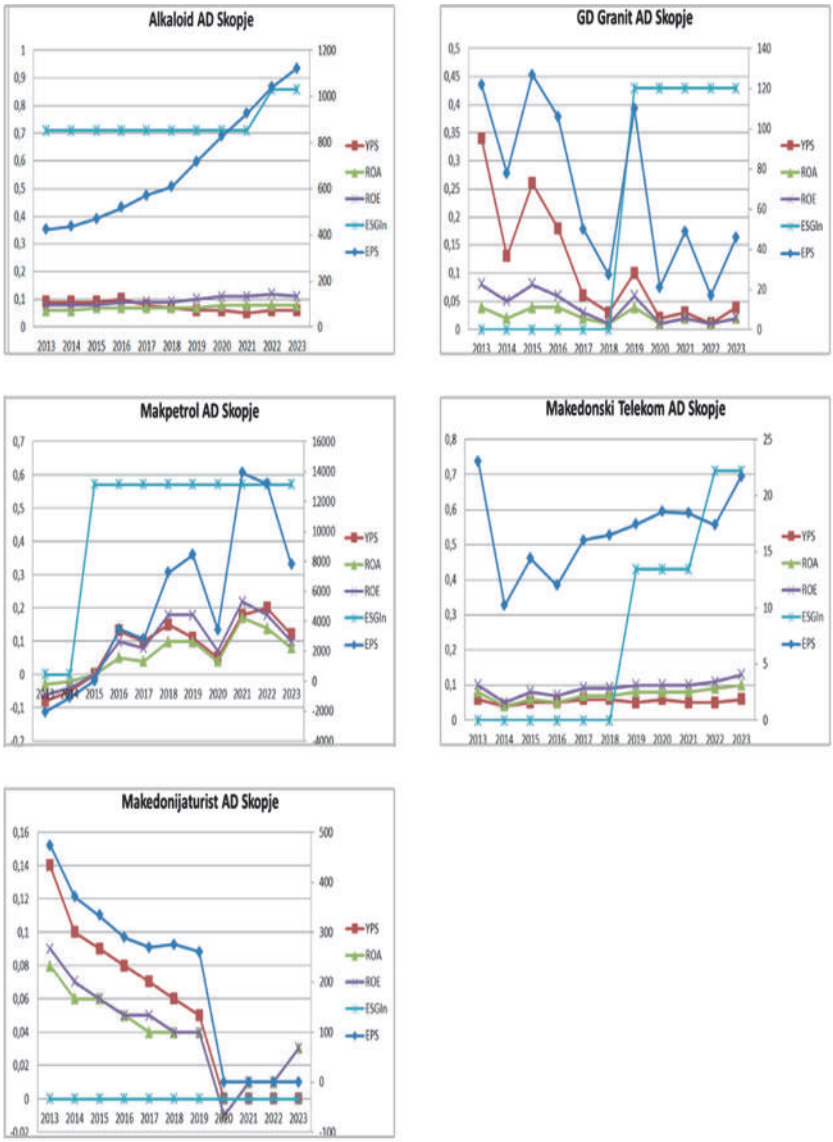
This analysis indicates that the concept of sustainability is still not fully embraced or understood by companies, stakeholders, or the public, leading to little or no correlation between sustainability reporting and key FP metrics.

Further research by authors such as Buallay et al. (2020), Galletta et al. (2022), and Gutierrez-Ponce et al. (2022) highlights the importance of the industry sector in shaping stakeholder expectations and the pressures of sustainability. Companies in sectors closely linked to societal and community resource utilization face heightened scrutiny and public expectations. In this study, additional analyses were conducted to assess the impact and connection between sustainability reporting and FP from a sectoral perspective, comparing the financial and real business sectors. To better visualize the trends and relationships among the variables, trend analyses were conducted alongside the covariance and correlation tests.

- **Real business sector** (pharmacy, construction, oil derivates, telecommunications and hospitality)

Figure 1 presents data and trends for each of the companies from the real business sector over an 11-year period. The graphs feature both primary and secondary axes: EPS is plotted on the secondary axis, while the other variables are displayed on the primary axis. These visualizations help illustrate the growth and decline of the analyzed variables, highlighting their reciprocal or proportional movements throughout the timeframe.

Figure 1
Trend analysis – real business sector companies



Notes. Authors' calculation.

Although classified within the same sector, the companies operate across different industries and under varied conditions, leading to distinct trends in the movements of the analyzed variables. Notably, the ESGIn shows a continuous growth in four out of the five analyzed companies, indicating a positive trend towards sustainability practices.

The most significant fluctuations are observed in

the EPS, where three companies exhibit a decreasing trend, while two show an increasing trend. A similar pattern is evident with the YPS, suggesting variability in market returns across these companies. Regarding the ROA and ROE indicators, the trends differ slightly, with three companies showing an increasing trend, indicative of improving asset efficiency and profitability relative to equity, respectively. Conversely, the remaining two companies display a decreasing trend in these metrics.

Table 6 provides a summary and displays the results of the conducted descriptive statistics, covariance, and correlation tests specifically for companies from the real business sector, offering a detailed view of the financial and sustainability performance across different industries within the sector.

Table 6

Descriptive Statistics and Covariance and Correlation Tests - Real Business Sector Companies

	ESGIn	EPS	YPS	ROA	ROE
Mean	0.348901	1369.418	0.080868	0.058141	0.078073
Median	0.428571	193.8450	0.061174	0.060860	0.081251
Maximum	0.857143	13939.00	0.338889	0.173307	0.218955
Minimum	0.000000	0.050000	1.03E-05	0.000280	0.000611
Std. Dev.	0.318074	3110.555	0.063334	0.034134	0.046531
Skewness	-0.019698	2.895253	1.859726	0.697828	0.664898
Kurtosis	1.324104	10.66675	7.575529	4.373094	3.789119
Observations	52	52	52	52	52
Covariance	ESGIn	Ln_EPS	YPS	ROA	ROE
ESGIn	0.099226				
Ln_EPS	0.429346	7.332382			
YPS	-0.000867	0.085549	0.003934		
ROA	0.004577	0.051918	0.000722	0.001143	
ROE	0.006898	0.078589	0.001334	0.001475	0.002124
Correlation					
ESGIn	1.000000				
Ln_EPS	0.503353	1.000000			
YPS	-0.043901***	0.503702*	1.000000		
ROA	0.429849***	0.567196*	0.340351***	1.000000	
ROE	0.475185***	0.629807*	0.461586***	0.946986***	1.000000

Notes. Authors' calculation. *** Significant at 1%, ** Significant at 5%, и * Significant at 10%.

The analysis of covariance and correlation tests for real business sector companies involved 52 observations, after excluding 3 instances where 2 companies had negative EPS. The findings from the correlation tests reveal a moderately positive correlation between the ESGIn and both the ROA and ROE. Additionally, a strong positive correlation exists between ROA and ROE, indicating that improvements in asset efficiency often coincide with increased profitability relative to equity.

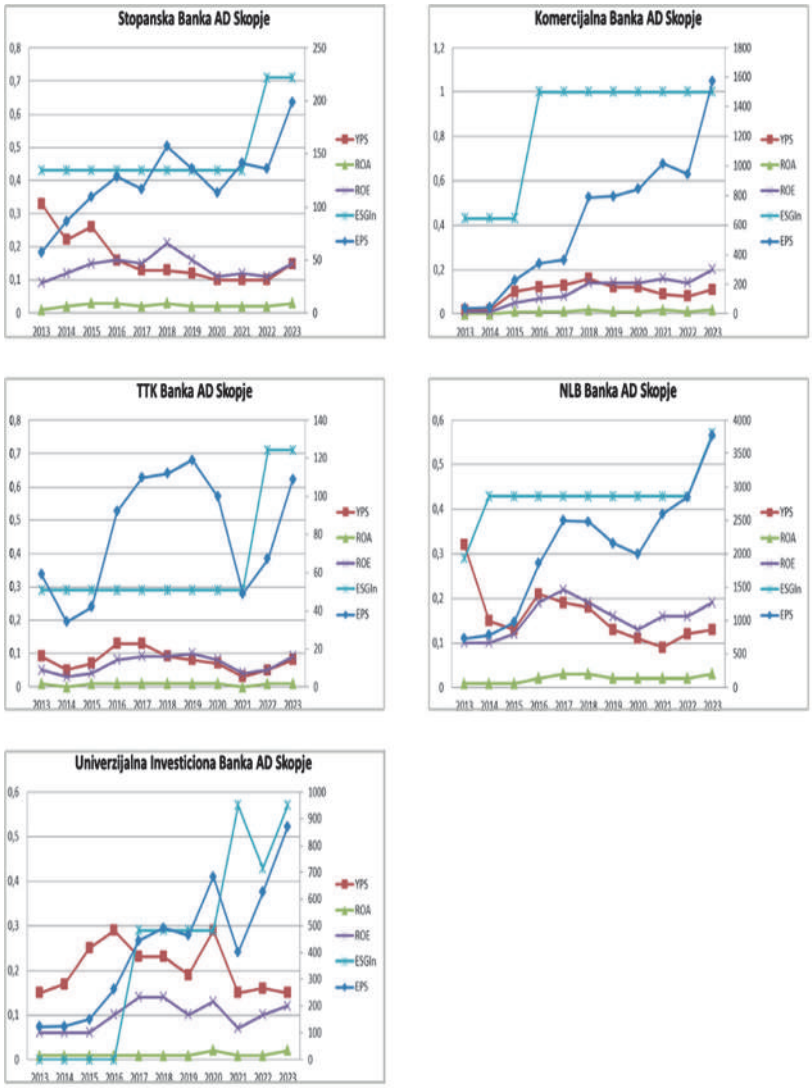
This analysis suggests that within the real business sector, sustainability reporting plays a notable role and is linked to some of the key financial indicators, albeit with minimal significance. However, the results also show that there is no significant linear relationship between ESGIn and EPS, and only a very slight, almost negligible negative correlation between ESGIn and YPS. These findings indicate that while sustainability initiatives may influence overall financial health and efficiency, their impact on market measures

such as EPS and YPS is limited. This highlights the varying influence of sustainability practices across different financial metrics within the sector.

- **Financial sector** (banks)

Figure 2 shows the movements and trends of the analyzed variables at the banks that are part of the MBI10 index. As in the case of Figure 1, the graphs show primary and secondary axes, where EPS, as a variable, is shown on the secondary axis, while the other variables on the primary axis.

Figure 2: *Trend analysis – financial sector companies*



Notes. Authors' calculation.

The graphs above illustrate a consistent increase in all analyzed variables for the banks, including the ESGIn, with the sole exception of the YPS variable, which experienced either stagnation or a slight decline during the analyzed period. To examine the relationship between ESGIn and FP in banks, descriptive statistics, along with covariance and correlation tests, were conducted (see Table 7).

Table 7

Descriptive Statistics and Covariance and Correlation Tests – Financial Sector Companies

	ESGIn	EPS	YPS	ROA	ROE
Mean	0.472675	665.2200	0.140686	0.014659	0.112700
Median	0.428571	229.0000	0.127270	0.013231	0.113919
Maximum	1.000000	3766.550	0.329651	0.030332	0.223220
Minimum	0.000000	34.00000	0.020112	0.000943	0.008683
Std. Dev.	0.269176	868.9929	0.071203	0.007417	0.050736
Skewness	0.686581	1.784052	0.820712	0.248299	0.032614
Kurtosis	3.051526	5.457100	3.352436	2.183067	2.470278
Observations	55	55	55	55	55
Covariance	ESGIn	Ln_EPS	YPS	ROA	ROE
ESGIn	0.071138				
Ln_EPS	0.113281	1.719044			
YPS	-0.005441	0.021613	0.004977		
ROA	0.000399	0.004719	0.000118	5.400832	
ROE	0.003938	0.045765	0.001080	0.000342	0.002527
Correlation					
ESGIn	1.000000				
Ln_EPS	0.323938	1.000000			
YPS	-0.289158***	0.233657**	1.000000		
ROA	0.203948***	0.489777***	0.228881***	1.000000	
ROE	0.293707***	0.694327**	0.304597***	0.927916	1.000000***

Notes. Authors' calculation. *** Significant at 1%, ** Significant at 5%, и * Significant at 10%.

Among the analyzed banks, there is a weak positive correlation between ESGIn and financial indicators such as ROA and ROE. Additionally, these financial indicators themselves show a strong positive relationship. Compared to companies in the real business sector, ESGIn has a weaker correlation with ROA and ROE in the banking industry. However, ESGIn is weakly negatively correlated with YPS in banks. The weak negative correlation between ESGIn and YPS in the banking industry can be explained by the initial costs of implementing ESG practices, short-term investor focus, market perception, regulatory costs, changes in business models, investor skepticism, etc. These factors can individually or collectively lead to a temporary decrease in profitability and lower YPS for banks investing in ESG practices.

This difference between the real business sector and the banking sector is due to the unique characteristics and operating environments of these industries, as well as the nature of their business activities.

5. Conclussions and Implications

In an era of growing global emphasis on sustainability, this study examines the link between sustainability reporting and FP in R.N. Macedonia over an 11-year period. The research includes 10 highly-ranked companies, evenly divided between the real business sector and financial sector. It focuses on key financial

metrics such as EPS, YPS, ROA, and ROE, along with a combined ESGIn.

Financially, companies in the real business sector generally report higher EPS and ROA, while banks exhibit better YPS and ROE. Banks also report more comprehensively on sustainability, as reflected in higher ESGIn scores.

The findings indicate no substantial correlation between ESGIn and overall FP, except for a moderate positive correlation with ROE. This suggests that sustainability reporting alone does not significantly influence financial outcomes, particularly in market valuation. However, sector-specific analyses reveal nuances. In the real business sector, a moderate positive correlation between ESGIn and both ROA and ROE suggests that strong sustainability practices may enhance asset utilization and capital returns. Conversely, no significant links were found between ESGIn and EPS or YPS, highlighting the complexity of sustainability's impact on market performance.

In the financial sector (banks), ESGIn shows a weaker correlation with ROE and ROA but maintains a weak negative correlation with YPS, with no significant connection to EPS. These distinctions suggest that sustainability impacts financial metrics differently across sectors, highlighting the need for tailored sustainability strategies to guide resource allocation and risk management.

5.1. Theoretical implications

The findings of this study are in line with stakeholder theory to some point, highlighting that robust sustainability practices can fulfill diverse stakeholder expectations and potentially enhance FP metrics like ROA and ROE (in the case of the real business sector). From the perspective of agency theory, the mixed impacts of ESG reporting on FP suggest that managerial incentives and ownership priorities play a significant role in shaping the outcomes of sustainability initiatives.

5.2. Policy and managerial implications

In conclusion, this research makes a significant contribution to the ongoing discussion about the interplay between sustainability indicators and financial performance. As R.N. Macedonia aims for EU membership, aligning its directives and legislation with European standards becomes crucial. The new national Law on accounting needs to be complemented with the new EU CSRD and also there is a need for providing training for better and easier practical implementation. The insights from this study provide a solid foundation for further research and practical implementation, urging stakeholders to navigate the complex relationship between sustainable practices and financial outcomes.

5.3. Limitations and suggestions for future research

The limitations in this study include the manual generation of ESGIn, which may be at risk of subjectivity, and reliance on voluntary sustainability reporting, complicating comparisons. Additionally, the exclusion of three observations due to negative EPS in the real business sector could slightly skew the correlation analysis. The limitation in terms of publicly available information limited us to calculate the Tobins Q indicator of all companies and it was not considered in the analysis, which is extensively used in the research literature.

There is a clear need for more comprehensive research involving a wider array of companies with publicly accessible data and larger samples categorized by sector or industry. Future studies could also enhance their analysis by incorporating a broader range of FP indicators and by collecting primary data through interviews and surveys with company executives, shareholders, brokers, and other relevant parties. These expanded methodologies could provide deeper insights and foster a more nuanced understanding of the dynamics at play.

CRediT authorship contribution statement: Conceptualization, T.T.; methodology, T.T. and I.D.; software, T.T. and B.M.; validation, T.T., I.D. and B.M.; formal analysis, T.T., I.D. and B.M.; investigation, I.D. and B.M.; resources, I.D. and B.M.; data curation, I.D. and B.M.; writing—original draft preparation, T.T.; writing—review and editing, I.D. and B.M.; visualization, I.D. and B.M; supervision, T.T. All authors have read and agreed to the published version of the manuscript.

Data availability: The data that has been used is available upon a request to the author.

Funding: This research received no external funding.

Institutional Review Board Statement: This research is part of the 101120390 - USE IPM - HORIZON-WIDERA-2022-TALENTS-03-01 project, funded by the European Union. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the European Research Executive Agency can be held responsible for them.

Informed Consent Statement: Not applicable.

Conflicts of Interest: The author declares no conflict of interest.

References

Ahmad, N., Mobarek, A., & Roni N. N. (2021). Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. *Cogent Business & Management, 8*(1). https://doi.org/10.1080/23311975.2021.1900500.

Ali, W., Frynas, J. G., & Mahmood, Z. (2017). Determinants of Corporate Social Responsibility (CSR) Disclosure in Developed and Developing Countries: A Literature Review. *Corporate Social Responsibility and Environmental Management, 24*(4), 273-294. https://doi.org/10.1002/csr.1410.

Aybars, A., Ataünal, L., & Gürbüz, A. O. (2019). ESG and Financial Performance: Impact of Environmental, Social, and Governance Issues on Corporate Performance. In H. Dinçer & S. Yüksel (Eds.), *Handbook of Research on Managerial Thinking in Global Business Economics (pp. 520-536)*. IGI Global. https://doi.org/10.4018/978-1-5225-7180-3.ch029

Azam, Z. M., Warraich, M. K., & Awan, H. S. (2011). One Report: Bringing Change in Corporate reporting through integration of Financial and Non-Financial Performance Disclosure. *International Journal of Accounting and Financial Reporting, 1*(1). https://doi.org/10.5296/ijafr.v1i1.831

Baird, P. L., Geylani, P. C., & Roberts, J. A. (2012). Corporate Social and Financial Performance Re-Examined: Industry Effects in a Linear Mixed Model Analysis. *Journal of Business Ethics, 109*(3), 367–388. https://doi.org/10.1007/s10551-011-1135-z

Branco, M., & Rodrigues, L. (2006). Communication of corporate social responsibility by Portuguese banks: a legitimacy theory perspective. *Corporate Communications, An International Journal, 11*(3), 232-248. https://doi.org/10.1108/13563280610680821

Bruna, G. M., Loprevite, S., Raucci, D., Ricca, B., & Rupo, D. (2022). Investigating the marginal impact of ESG results on corporate financial performance. *Finance Research Letters, 47*(A). https://doi.org/10.1016/j.frl.2022.102828

Buallay, A., Kukreja, G., Aldhaen, E., Al Mubarak, M., & Hamdan, A.M. (2020). Corporate social responsibility disclosure and firms' performance in Mediterranean countries: a stakeholders' perspective. *EuroMed Journal of Business, 15*(3), 361-375. https://doi.org/10.1108/EMJB-05-2019-0066

CAQ. (2020). The Role of Auditors in Company-Prepared ESG Information: Present and Future. https://thecaqprod.wpenginepowered.com/wp-content/uploads/2020/06/caq_role-of-the-auditor-in-company-prepared-esg-information_2020-06.pdf

CFA Institute. (2023). Certificate in ESG Investing. https://www.cfainstitute.org/en/programs/esg-investing

Chaudhry, S. M., Saeed, A., & Ahmed, R. (2021). Carbon neutrality: The role of banks in optimal environmental management strategies. *Journal of Environmental Management, 299*(1). https://doi.org/10.1016/j.jenvman.2021.113545

Chen, Z., & Xie, G. (2022). ESG disclosure and financial performance: Moderating role of

ESG investors. *International Review of Financial Analysis, 83*.
https://doi.org/10.1016/j.irfa.2022.102291

Damnjanović, S. (2021). *Handbook for companies – Step by Step to the Non-financial Report*. Smart kolektiv.
http://smartkolektiv.org/wp-content/uploads/2021/12/Prirucnik_Korak-po-korak-do-nefinansijskog-izvestaja.pdf

El Khoury, R., Nasrallah, N., & Alareeni, B. (2023). ESG and financial performance of banks in the MENAT region: concavity–convexity patterns. *Journal of Sustainable Finance & Investment, 13*(1), 406-430.
https://doi.org/10.1080/20430795.2021.1929807

EU. (2014). Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups. Official Journal of the European Union.
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0095&from=EN

EU Commission. (2023). *Corporate sustainability reporting.*
https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

Ferrell, O. C., Gonzalez-Padron, T. L., Hult, G. T. M., & Maignan, I. (2010). From market orientation to stakeholder orientation. *Journal of Public Policy and Marketing, 29*(1), 93–96.
https://doi.org/10.1509/jppm.29.1.93

Flower, J. (2015). The international integrated reporting council: A story of failure. *Critical Perspectives on Accounting. 27*(1), 1-17.
https://doi.org/10.1016/j.cpa.2014.07.002

Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment, 5*(4), 210–233.
https://doi.org/10.1080/20430795.2015.1118917

Galletta, S., Mazzù, S., & Naciti, V. (2022). Research in international business and finance a bibliometric analysis of ESG performance in the banking industry: From the current status to future directions. *Research in International Business and Finance, 62*.
https://doi.org/10.1016/j.ribaf.2022.101684

Gardiner, L., Rubbens, C., & Bonfiglioli, E. (2003). Research: Big business, big responsibilities. *Corporate Governance: The International Journal of Business in Society, 3*(3), 67-77.
https://doi.org/10.1108/14720700310483451

Gutiérrez-Ponce, H., & Wibowo, S. A. (2024). Do sustainability practices contribute to the financial performance of banks? An analysis of banks in Southeast Asia. *Corporate Social Responsibility and Environmental Management, 31*(2), 1418-1432.
https://doi.org/10.1002/csr.2641

Gutierrez-Ponce, H., Arimany-serrat, N., & Chamizo-gonzalez, J. (2022). Environmental, social and governance information disclosure strategy of the ten Main Spanish listed companies. *Quality Innovation Prosperity, 26*(3), 88–111.
https://doi.org/10.12776/QIP.V26I3.1766

Hinson, R., Boateng, R., & Madichie, N. (2010). Corporate social responsibility activity reportage on bank websites in Ghana. *International Journal of Bank Marketing, 28*(7), 498-518.
https://doi.org/10.1108/02652321011085176

IIRC. (2013). *The International <IR> Framework*.
https://www.integratedreporting.org/wp-content/uploads/2015/03/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf

Khlif, H., Hussainey, K., & Achek, I. (2015). The effect of national culture on the association between profitability and corporate social and environmental disclosure: A meta-analysis. *Meditari Accountancy Research, 23*(3), 296–321.
https://doi.org/10.1108/MEDAR-12-2014-0064

KPMG. (2022). *Big shifts, small steps: Survey of Sustainability Reporting 2022.*
https://assets.kpmg.com/content/dam/kpmg/se/pdf/komm/2022/Global-Survey-of-Sustainability-Reporting-2022.pdf

Landi, G., & Sciarelli, M. (2019). Towards a more ethical market: the impact of ESG rating on corporate financial performance, *Social Re-*

sponsibility Journal, 15(1), 11-27. https://doi.org/10.1108/SRJ-11-2017-0254

Line, M., & Braun, R. (2007). *Baseline study on CSR practices in the new EU member states and candidate countries.* http://www.cbcsr.mk/Upload/Content/Documents/BASELINE_STUDY_ON.pdf

Manes-Rossi, F., Tiron-Tudor, A., Nicolò, G., & Zanellato, G. (2018). Ensuring more sustainable reporting in Europe using non-financial disclosure – De facto and de jure evidence. *Sustainability, 10*(4). https://doi.org/10.3390/su10041162

McWilliams, A., Siegel, D. & Wright, P., (2006). Corporate Social Responsibility: Strategic Implications. *Journal of Management Studies, 43*(1), 1-18. https://doi.org/10.1111/j.1467-6486.2006.00580.x

Mrsik, J., & Kostovski, N. (2015). Environmental and Social Responsibility Reporting. Do Macedonian companies disclose those information and how? *Timisoara Journal of Economics and Business, 8*(2), 220-231. https://doi.org/10.1515/tjeb-2015-0016

MSE. (2022). *ESG reporting Guidelines.* https://www.mse.mk/Repository/%D0%9A%D0%BE%D0%B4%D0%B5%D0%BA%D1%81/Vodic%20ESG%20izvestuvanje.pdf

MSE. (2024). *Structure of index MBI10.* https://www.mse.mk/en/content/13/3/2010/structure-of-index-mbi10

Nirino, N., Santoro, G., Miglietta, N., & Quaglia, R. (2021). Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices. *Technological Forecasting and Social Change, 162.* https://doi.org/10.1016/j.techfore.2020.120341

Rahi, A. F., Johansson, J., Blomkvist, M., & Hartwig, F. (2024). Corporate sustainability and financial performance: A hybrid literature review. *Corporate Social Responsibility and Environmental Management, 31*(2), 801-815. https://doi.org/10.1002/csr.2600

Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics, 88*(2), 351–366. https://doi.org/10.1007/s10551-008-9968-9

Sancak, I. E. (2023). Change management in sustainability transformation: A model for business organizations. *Journal of Environmental Management, 330.* https://doi.org/10.1016/j.jenvman.2022.117165

Saygili, S., Arslan, S., & Birkan, O. A. (2022). ESG practices and corporate financial performance: Evidence from Borsa Istanbul. *Borsa Istanbul Review, 22*(3), 525-533. https://doi.org/10.1016/j.bir.2021.07.001

Servaes, H., & Tamayo, A. (2013). The Impact of Corporate Social Responsibility on Firm Value: The Role of Customer Awareness. *Management Science, 59*(5), 1045–1061. https://www.jstor.org/stable/23443926

Severo, E. A., de Guimarães, J. C. F., & Dorion, E. C. H. (2017). Cleaner production and environmental management as sustainable product innovation antecedents: A survey in Brazilian industries. *Journal of Cleaner Production, 142*(1), 87-97. https://doi.org/10.1016/j.jclepro.2016.06.090

Sierra-Garcia, L., Garcia-Benau, M. A., & Bollas-Araya, H. M. (2018), Empirical Analysis of Non-Financial Reporting by Spanish Companies. *Administrative Sciences, 8*(3). https://doi.org/10.3390/admsci8030029

Stamenkova, J. (2011). CSR in Macedonia: Country Report. *European Company Law, 8*(2-3), 123-127. https://ssrn.com/abstract=1774805

Ştefănescu, C. A., Tiron-Tudor, A., & Moise, E. M. M. (2021). EU Non-Financial Reporting Research – Insights, Gaps, Patterns and Future Agenda. Journal of Business Economics and Management, 22(1), 257-276. https://doi.org/10.3846/jbem.2020.13479

Sweeney, L., & Coughlan, J. (2008). Do different industries report corporate social responsibility differently? An investigation through the lens of stakeholder theory. *Journal of Marketing Communications, 14*(2), 113–124. https://doi.org/10.1080/13527260701856657

Trpeska, M., Tocev, T., Dionisijev, I., & Malchev, B. (2021). Banks' Corporate Social Responsibility (CSR) Disclosure and Their Role in the Betterment of Society in The Republic of North Macedonia. *Facta Universitatis Series: Economics*

and Organization, 18(4), 325-339. https://doi.org/10.22190/FUEO210628023T

Unique National Electronic Register of Regulations of the Republic of North Macedonia. (2024). *Предлог-закон за изменување и дополнување на Законот за сметководствените работи* [Proposal for the Law on Amendments and Supplements to the Law on Accounting]. https://ener.gov.mk/Default.aspx?item=pub_regulation&subitem=view_reg_detail&itemid=84281

Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility, 8*(2), 169-178. https://doi.org/10.1108/JGR-11-2016-0029

Whelan, T., Atz, U., & Clark, C. (2021). *ESG and Financial Performance: Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015-2020.* https://sri360.com/wp-content/uploads/2022/10/NYU-RAM_ESG-Paper_2021-2.pdf

Worcester, R. (2009). Reflections on corporate reputations. *Management Decision, 47*(4), 573-589, https://doi.org/10.1108/00251740910959422

Youssef, J., & Diab, S. (2021). Does quality of governance contribute to the heterogeneity in happiness levels across MENA countries? *Journal of Business and Socio-Economic Development, 1*(1), 87–101. https://doi.org/10.1108/jbsed-03-2021-0027

Biography

Todor Tocev is a PhD candidate at Ss. Cyril and Methodius University in Skopje, Faculty of Economics-Skopje, and works as a teaching and research assistant in the Department of Accounting and Auditing. His research interests focus on the digital transformation of accounting processes, accounting information systems, and sustainability reporting. He has published papers in several reputable journals, including the Journal of Accounting and Management Information Systems, Journal of Accounting Finance and Auditing Studies, Audit Financiar, Economy Business and Development: An International Journal, Journal of Public Administration Finance and Law, and Facta Universitatis Series: Economics and Organization, among other international journals.

Ivan Dionisijev is a PhD candidate at Ss. Cyril and Methodius University in Skopje, Faculty of Economics-Skopje, where he also works as a teaching and research assistant in the Department of Accounting and Auditing. With over six years of experience as a junior auditor at the State Audit Office of R.N. Macedonia, Ivan has expertise in auditing the economy, budget users, individual users, and trading companies. His research interests are primarily in public-sector asset management, state audit, commercial audit, and internal audit. He has published papers in several reputable journals, including the Journal of Public Budgeting, Audit Financiar, Journal of Accounting Finance and Auditing Studies, Economy Business and Development: An International Journal, Journal of Public Administration Finance and Law, and Facta Universitatis Series: Economics and Organization, among other international journals.

Bojan Malchev holds an MSc in Accounting and is currently pursuing a PhD at the Faculty of Economics, Ss. Cyril and Methodius University in Skopje. He serves as a Research and Teaching Assistant at the same faculty. His areas of expertise include Principles of Accounting, Management Accounting, and Financial Statement Analysis. Bojan has authored and co-authored over 20 publications, which have been featured in various esteemed journals such as the Journal of Accounting and Management Information Systems, the International Journal of Banking, Risk and Insurance, Economy Business and Development: An International Journal, Zeszyty Teoretyczne Rachunkowości, Facta Universitatis Series: Economics and Organization, Lex Localic, etc. and is an active participant in conferences in the country and abroad.

Холистичка процјена перформанси: Истраживање о односу између извјештавања о одрживости и финансијских перформанси компанија МБИ10 у Републици Северној Македонији

Тодор Тоцев, Иван Дионисијев, Бојан Малчев

Ss. Cyril and Methodius University in Skopje, Faculty of Economics-Skopje, Goce Delchev 9V, 1000 Skopje, R.N. Macedonia

Кључне ријечи:

извјештавање о одрживости, ESG индекс, финансијске перформансе (FP), MBI10
JEL Classification: G30, M14, Q56

САЖЕТАК

Комплексна интеракција између индикатора одрживости и финансијских перформанси обликује отпорност компаније и стварање дугорочне вриједности, водећи ка одрживој будућности у глобалном пословном свијету. Овај рад покушава да истражи однос између извјештавања о одрживости, мјереног кроз ESG индекс (ESGIn), и финансијских перформанси (FP) високо рангираних компанија које су котиране на Македонској берзи и дио су индекса MBI10. Кроз анализу десет високо рангираних компанија, укључујући пет банака и пет компанија из реалног сектора, у периоду од 11 година (2013-2023), истраживање открива занимљиве увиде у комплексни однос између напора у одрживости и финансијског успјеха. При анализи целокупног узорка, генерално није уочена значајна корелација између ESGIn и FP, осим умјерене позитивне корелације између ESGIn и показатеља ROE. Додатне анализе специфичне за секторе откривају различите обрасце у секторима. У случају компанија из реалног сектора, постоји умјерена позитивна корелација између ESGIn и показатеља ROA и ROE, док у финансијском сектору (банке) постоји слаба позитивна корелација између ESGIn и показатеља ROA и ROE и слаба негативна корелација између ESGIn и YPS. Анализа није открила корелацију између ESGIn и YPS. Ови резултати имају импликације на стратешко доношење одлука на македонском тржишту и шире, истичући потребу за прилагођеним приступима ради ефикасног интегрисања пракси одрживости. Студија доприноси текућем дијалогу о односу између индикатора одрживости и FP, пружајући основу за даља истраживања и практичне примјере.