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THE ROLE OF ESG FACTORS IN CREATING CORPORATE VALUE: EVIDENCE FROM POLISH PUBLIC COMPANIES[1]

Summary

Purpose | The study aims to examine the role of environmental, social, and governance (ESG) factors in creating corporate value for companies listed on the Warsaw Stock Exchange (WSE). The study investigates the impact of ESG performance on firm valuation, focusing on the individual effects of the three pillars, and assessing their influence on the enterprise value to EBITDA ratio.

Research method | The research employs a pooled ordinary least squares (OLS) regression analysis to test the relationship between ESG scores and firm value. A sample of 42 public companies is analysed with the use of data from the LSEG database.

Results | The results show that ESG scores, particularly in the governance pillar, have a negative or insignificant impact on the valuation of Polish companies. The overall ESG score negatively correlates with the EV/EBITDA ratio, suggesting that ESG factors are not yet fully integrated into the strategic objectives of Polish companies. Furthermore, governance practices were found to have a significant negative effect on firm value, while environmental and social factors were largely insignificant.

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Originality/value/implications/recommendations | The findings suggest that while ESG reporting is gaining interest, its financial benefits are not yet evident in Poland. Future research should focus on sector-specific ESG analysis and explore the role of stakeholder engagement in enhancing the financial impact of sustainability initiatives.

Keywords: ESG, corporate value, Warsaw Stock Exchange, non-financial disclosure, sustainability, Polish companies, regression analysis

JEL classification: G30, M14, Q56, O16

1. Introduction

In recent years, Environmental, Social, and Governance (ESG) factors have emerged as critical indicators of a company's long-term sustainability and ability to address global challenges such as climate change, social inequality and governance reforms. ESG reporting has become a key component of corporate disclosures, driven by frameworks such as the United Nations' Sustainable Development Goals (SDGs) and the European Union's Green Deal. Companies with strong ESG performance are often perceived to benefit from the enhanced capital access, reduced risk profiles, and improved reputations among stakeholders. As reported by Friede et al. [2015], most studies find a positive relationship between ESG and corporate financial performance.

Despite growing interest in ESG across Europe, Poland has been slower in adopting these practices. The implementation of the European Union's Directive 2014/95/EU, which requires large public-interest entities to disclose non-financial information, marked a turning point. Yet, ESG adoption among Polish companies, particularly small and medium enterprises (SMEs), remains limited, largely due to a lack of awareness and resources. Many Polish business leaders have yet to fully recognise the potential benefits of ESG disclosure.

This study aims to address the gap in understanding the impact of ESG factors on the valuation of Polish companies. By examining firms listed on the Warsaw Stock Exchange (WSE), the research explores how ESG scores influence corporate performance over time. Covering the period from 2008 to 2021, the analysis provides a comprehensive view of ESG integration in Poland.

The key research question is: To what extent does ESG performance affect the market value of Polish companies? This study hypothesises that ESG reporting positively influences the value of WSE-listed firms over the long term, reflecting global trends where ESG performance is increasingly linked to financial success. By focusing on the underrepresented Central and Eastern European context, this research contributes to a broader understanding of ESG's role in creating corporate value across diverse economic environments.

2. Theoretical background of ESG, literature review and hypotheses development

The concept of ESG factors has evolved from voluntary corporate social responsibility initiatives to integral components of corporate strategy. Driven by global sustainability frameworks, such as the United Nations SDGs, ESG practices have become essential for businesses aiming to align their operations with stakeholder expectations and regulatory standards. The theoretical foundation for ESG's influence on corporate performance can be traced to shareholder and stakeholder theories. Shareholder theory [Friedman, 2007] suggests that a company's primary obligation is to maximise shareholder wealth, whereas stakeholder theory [Freeman, 1984] asserts that companies should account for the interests of all stakeholders, including employees, communities, and the environment. This broader approach aligns with the concept that effective ESG management can affect long-term value creation.

In recent years, the regulatory framework related to ESG has evolved significantly in the European Union. One of the key developments is the adoption of the *Corporate Sustainability Reporting Directive* (CSRD) [Directive (EU) 2022/2464], which replaced the earlier *Non-Financial Reporting Directive* (NFRD) [Directive (EU) 2014/95]. Under CSRD, companies are now required to report according to the *European Sustainability Reporting Standards* (ESRS), applicable from 2024. Additionally, the introduced "*Omnibus*" package simplified ESG reporting requirements for SMEs and non-listed companies [European Commission, 2025], which are already binding for Polish enterprises.

In developed markets, empirical studies frequently find a positive relationship between ESG performance and financial outcomes, particularly in terms of access to capital [Khan et al., 2024; Newton et al., 2023] and cost reduction [Asimakopoulos et al. 2023; Fu, Li, 2023; Sharfman, Fernando, 2008; Wagner, 2010]. Friede et al. [2015] provide an extensive meta-analysis, reporting that most studies link strong ESG practices to the improved corporate financial performance. Chen et al. [2023] similarly highlight that companies excelling in ESG tend to demonstrate higher profitability, especially in industries exposed to environmental risks. However, the impact of ESG factors on financial performance in emerging markets, including Poland, is less clear, as the integration of ESG in corporate practices is relatively recent.

A growing body of literature explores the specific effects of each ESG component on firm value. The environmental pillar is primarily concerned with risk management related to regulatory compliance and operational efficiency, which can influence a company's cost structure [Khan et al., 2024; Ting et al., 2020]. In high-risk industries, environmentally responsible practices may reduce the cost of capital by mitigating environmental risk [Ng & Rezaee, 2015]. In Poland, however, the evidence of such a financial impact is limited, as many Polish firms are still in the early stages of integrating environmental practices.

The social component of ESG includes workforce diversity, employee rights, and community engagement. Bae et al. [2011] found that positive employee relations contribute to lower financial risk, supporting the notion that social factors enhance corporate reputation and stability. Hamrouni et al. [2020] further suggest that firms with strong social practices may experience lower borrowing costs, as lenders view them as less risky. Despite these benefits, Polish firms often lag in social ESG implementation, partly due to a lack of regulatory pressures and lower consumer demand for socially responsible practices.

Governance has been widely examined in relation to firm performance. Effective governance, such as transparent decision-making and robust board structures, has been shown to reduce risks related to mismanagement and fraud, enhancing investor confidence [Serafeim, 2020; Drempetic et al., 2020].

Governance reforms in Poland, however, are sometimes perceived as compliance-oriented rather than value-driven, which could explain the mixed impact of governance on the firm value. This raises the question of whether the current state of ESG in Polish companies meaningfully contributes to corporate value, as the influence of each pillar may differ from that in more mature markets [Bilyay-Erdogan, Öztürkkal, 2023].

Based on these insights, we hypothesise that:

H1: There is a positive relationship between the overall ESG score and firm value.

H2: Environmental performance positively impacts firm value.

H3: Social performance positively impacts firm value.

H4: Governance performance positively impacts firm value.

Verifying these hypotheses will help achieve the study's main objective which is to understand the impact of ESG practices on corporate value in Poland.

3. Data characteristics and methodology

The primary data for this study was obtained from the LSEG database[2], a comprehensive source for financial and non-financial information on global companies, including ESG scores. The database contains detailed ESG metrics that span the three key pillars: environmental performance (ENV), social responsibility (SOC), and governance practices (GOV). For this research, the study focuses on a sample of 42 public companies listed on the Warsaw Stock Exchange (WSE), covering the period from 2008 to 2021. This time frame was selected because 2008 marks the earliest availability of ESG data for Polish companies, coinciding with the growing international emphasis on sustainability and responsible investing.

The sample selection focused on Polish companies listed on the WSE with consistent ESG reporting during the observation period. Companies without

[2] The data was obtained from LSEG Workspace service (formerly Refinitiv) based on a cooperation agreement signed by the University of Gdańsk and the LSEG company.

structured ESG disclosures or adequate financial data were excluded, leaving a final sample of 42 out of the initial 441 companies, after excluding 399 firms with missing ESG scores. This subset reflects firms that engage in ESG disclosure, either voluntarily or in response to regulatory requirements. The data includes various industries, with the largest representation from the financial sector, which has historically been more advanced in ESG reporting. Other sectors include basic materials, energy, technology, and consumer non-cyclicals. Table 1 below provides a breakdown of the sample by industry, classified according to the Thomson Reuters Business Classification (TRBC) system, which offers a general description of industry categories.

TABLE 1
Composition of the sample by industry

Industry	Number of companies	Percentage of sample	Number of observations
Financials	12	29%	1.316
Basic Materials	6	14%	569
Technology	5	12%	501
Energy	4	10%	418
Consumer Non-Cyclicals	4	10%	367
Industrials	4	10%	369
Utilities	3	7%	320
Consumer Cyclicals	3	7%	215
Real Estate	1	2%	117
Total	42	100%	4.192

Source: the authors' own elaboration based on LSEG database.

The data collected from these companies includes both their financial performance and ESG scores. The ESG data is divided into three categories (environmental, social, and governance) and aggregated into a composite score (ESG), which serves as the primary independent variable in this study. The dependent variable, used to measure firm value, is the EV/EBITDA (Enterprise

Value to Earnings Before Interest, Taxes, Depreciation, and Amortization) ratio, which is a commonly used metric for company valuation, especially in capital-intensive industries.

The ESG scores used in this research provide detailed assessments of companies' performance across environmental, social, and governance dimensions. The ESG scores are calculated based on publicly available data, including annual reports, stock exchange filings, and company websites, as well as information from third-party sources such as the media and non-governmental organizations (NGOs). The ESG score is a weighted average of the three ESG pillars (ENV, SOC, and GOV) and it is adjusted for industry-specific factors to ensure comparability across different sectors.

Refinitiv's ESG score is a percentile rank from 0 to 100, classified into letter grades: A for scores above 75 (excellent ESG performance and high transparency), B for scores between 50 and 75 (good ESG performance and above-average transparency), C for scores between 25 and 50 (satisfactory ESG performance and moderate transparency), and D for scores below 25 (poor ESG performance and insufficient transparency). In this study, the companies in the sample generally fall into the C category, reflecting satisfactory ESG performance but indicating room for improvement, particularly in the areas of transparency and non-financial disclosure.

To assess the impact of ESG performance on corporate value, this study employs a pooled ordinary least squares (OLS) regression model. The dependent variable is EV/EBITDA, which serves as a proxy for company value. The independent variables include the overall ESG score (ESG) as well as the individual scores for each pillar: environmental (ENV), social (SOC), and governance (GOV). Additionally, several control variables are included to account for other factors that may influence firm value, such as:

- Company size (SIZE): Measured as the natural logarithm of total assets.
- Return on equity (ROE): A profitability metric to capture financial performance.
- Leverage (LEV): Measured as the total debt-to-total assets ratio.
- Company age (AGE): The number of years since the company's incorporation.

- Industry dummy variable (FIN): A dummy variable indicating whether the firm belongs to the financial industry.
- COVID dummy variable (COV): A dummy variable for the year 2020, representing the economic impact of the COVID-19 pandemic.

The choice of explanatory and control variables was based on previous literature examining the relationship between ESG performance and firm value. These factors are commonly used in panel regressions as determinants of firm valuation, e.g. Gompers et al. [2003], Fatemi et al. [2018], Friede et al. [2015]. The variables were selected to control for structural and financial factors that may confound the impact of ESG scores on enterprise value. The baseline regression model (1) for testing the impact of overall ESG performance on firm value is as follows:

Model (1):

$$EVEBITDAit = \beta 0 + \beta 1ESGi,t + \beta 2ROEi,t + \beta 3LEVi,t + \beta 4SIZEi,t + \beta 5AGEi,t + \beta 6FINt + \beta 7COVt + \varepsilon t,$$

where:
β_0 – constant term,
β_{1-7} – variable coefficients,
ε_t – error term,
i – company,
t – year.

Additionally, separate models (2)–(4) are constructed to analyse the effect of each ESG component (ENV, SOC, GOV) on firm value:

Model (2):

$$EVEBITDAit = \beta 0 + \beta 1ENVi,t + \beta 2ROEi,t + \beta 3LEVi,t + \beta 4SIZEi,t + \beta 5AGEi,t + \beta 6FINt + \beta 7COVt + \varepsilon t,$$

Model (3):

$$EVEBITDAit = \beta 0 + \beta 1SOCi,t + \beta 2ROEi,t + \beta 3LEVi,t + \beta 4SIZEi,t + \beta 5AGEi,t + \beta 6FINt + \beta 7COVt + \varepsilon t,$$

Model (4):

$$EVEBITDAit = \beta 0 + \beta 1GOVi,t + \beta 2ROEi,t + \beta 3LEVi,t + \beta 4SIZEi,t + \beta 5AGEi,t + \beta 6FINt + \beta 7COVt + \varepsilon t.$$

These models aim to capture the specific impact of each ESG pillar, along with the overall ESG performance, on firm valuation on the Polish market.

4. Results and discussion

The results of the four regression models designed to test the relationship between ESG performance and the market value of companies listed on the WSE are summarised in Table 2. The presented models are final versions selected after testing various specifications using both fixed and random effects estimators. Model selection was based on the Hausman test and information criteria. Multicollinearity diagnostics led to the exclusion of highly correlated controls in alternative model versions.

TABLE 2
Regression results

Independent variable, statistics	Model			
	(1)	(2)	(3)	(4)
Constant	18.126** (17.288)	19.982*** (6.986)	21.716*** (6.809)	19.233*** (6.586)
ESG	-0.036* (0.050)	–	–	–
ENV	–	-0.016 (0.015)	–	–
SOC	–	–	-0.009 (0.017)	–
GOV	–	–	–	-0.036** (0.016)
LEV	8.582*** (7.361)	8.164*** (2.242)	8.391*** (2.244)	8.686*** (2.229)

Independent variable, statistics	Model			
	(1)	(2)	(3)	(4)
ROE	5.217*** (2.730)	4.773** (1.964)	4.841** (1.964)	4.827** (1.949)
AGE	0.008 (0.201)	-0.022 (0.085)	-0.038 (0.090)	-0.066 (0.075)
SIZE	-0.505* (0.719)	-0.597** (0.293)	-0.673** (0.284)	-0.495* (0.285)
FIN	4.071*** (1.450)	3.956*** (0.825)	4.064*** (0.819)	4.255*** (0.817)
COV	0.144 (1.110)	0.062 (1.001)	0.060 (1.003)	0.147 (0.996)
Adjusted R^2	0.094	0.089	0.087	0.101
No. Observations	327	327	327	327
Joint test on regressors	7.085 [0.420]	4.469 [0.724]	6.276 0.507953	5.672 [0.579]
Breusch–Pagan test	315.5 [0.000]	315.3 [0.000]	318.8 [0.000]	320.3 [0.000]
Hausman test	7.654 [0.265]	6.448 [0.375]	6.883 [0.332]	7.236 [0.300]

notes: standard errors in parentheses: * – $p < 0.1$; ** – $p < 0.05$; *** – $p < 0.01$

Source: the authors' own elaboration based on LSEG database.

To assess the robustness of the regression models and the appropriateness of the panel data approach, several statistical tests were conducted. The Breusch-Pagan Lagrange Multiplier test strongly rejected the null hypothesis of no panel effect ($p < 0.0001$), confirming the necessity of using panel estimators. The Hausman test indicated that the random effects specification is appropriate (p-values ranging from 0.26 to 0.37 across models), supporting the consistency of GLS estimates. All models were estimated using Generalized Least Squares (GLS) with robust HAC standard errors. Additionally, joint significance tests on the regressors did not confirm overall model significance, which is consistent with the lack of strong explanatory power of ESG components in the sample.

The results from the regression analysis reveal several important insights into the relationship between ESG performance and firm value for Polish companies. Contrary to expectations, the overall ESG score as well as its individual components (ENV, SOC, GOV) generally do not have a significant positive impact on the EV/EBITDA multiple. In fact, some of the coefficients indicate a negative relationship, challenging the widely held belief that ESG performance universally enhances firm value.

In model (1), the coefficient for the overall ESG score is negative and significant at the 10% level. The result suggests that – contrary to the initial hypothesis (H1) – ESG performance has a negative impact on the value of companies listed on the WSE. This finding diverges from most studies conducted in more mature markets, where ESG is generally seen as a value-enhancing factor [Friede et al., 2015; Fatemi et al., 2018]. One possible explanation for this result is that ESG reporting in Poland is still in its developmental stages, and many companies are struggling to implement meaningful sustainability initiatives. As a result, ESG disclosures may not yet translate into tangible financial benefits for these firms.

Model (2) examines the relationship between environmental performance (ENV) and firm value. Like the other ESG components, the environmental score has a negative, although statistically insignificant, effect on the EV/EBITDA ratio. This contradicts the hypothesis (H2) that good environmental performance should increase firm value. A potential explanation for this result is that environmental initiatives in Poland, especially in heavy industries, are viewed as costly and not necessarily beneficial to a company's overall financial performance. Moreover, investors on the Polish market may still prioritise short-term financial gains over long-term sustainability considerations, particularly in industries like energy and manufacturing. In contrast to our findings, studies from Western Europe suggest a stronger link between environmental practices and firm value. For example, Hart and Ahuja [1996] found that emission reductions are associated with improved profitability.

In model (3), the social performance score (SOC) has no significant effect on firm value. This suggests that social initiatives, such as community engagement or workforce diversity, do not significantly influence the EV/EBITDA multiple in the Polish context. This finding rejects the hypothesis (H3) that strong social performance positively impacts firm value, which diverges from evidence e.g. from the US and UK. Edmans [2011] found that companies with high employee satisfaction significantly outperform peers in terms of stock returns. Moreover, Krüger [2015] demonstrated that negative social events trigger sharp declines in firm value. A possible reason is that Polish consumers and investors may not yet fully recognise or reward companies for their social contributions, particularly in comparison to their environmental or governance efforts. Furthermore, social initiatives in Poland are often underdeveloped or poorly communicated, reducing their impact on the company's financial outcomes.

Model (4) tests the impact of corporate governance (GOV) on firm value. The regression results show a negative and statistically significant relationship at the 5% level, indicating that governance practices, as currently implemented by Polish companies, do not enhance firm value. This result contradicts the hypothesis (H4) that good governance should lead to better financial performance. However, it aligns with the findings of previous studies which suggest that corporate governance reforms in Poland are often seen as bureaucratic and inefficient rather than value-creating. In a system in which major shareholders and state ownership play a dominant role, corporate governance may be more about compliance than improving the quality of management or enhancing market performance. Prior research shows governance as a critical value driver in developed markets. Gompers et al. [2003] constructed a governance index for US firms and found that firms with stronger shareholder rights outperformed peers. In a European context, Bauer et al. [2004] found that good governance is associated with higher firm valuation and lower capital costs.

The control variables in the models generally perform as expected. The leverage (LEV) variable consistently shows a positive and highly significant effect on firm value across all models, indicating that higher levels of debt are associated with higher EV/EBITDA ratios. This suggests that firms with more debt tend to have higher enterprise values relative to their earnings, likely due to the capital-intensive nature of many of the companies in the sample.

Similarly, return on equity (ROE) is positively correlated with firm value, which aligns with the expectation that more profitable companies will have higher valuation multiples. The company size (SIZE) variable, measured as the natural logarithm of total assets, has a negative but significant effect on firm value, suggesting that smaller companies in the sample may be valued more favourably relative to their larger counterparts. This is consistent with the previous findings that smaller firms, particularly in emerging markets, tend to exhibit higher growth potential and therefore higher valuation multiples.

Finally, the COVID-19 dummy variable shows no significant effect on firm value, indicating that the economic disruptions caused by the pandemic did not have a uniform impact on the companies in the sample.

In summary, the regression results did not confirm statistically significant relationships between ESG components and firm value in the Polish context. Unlike in mature markets, where ESG performance is often positively correlated with valuation, our findings suggest limited or no such effect during the analysed period. The results of this study challenge the assumption that ESG performance is universally beneficial to corporate valuation. In the context of Polish companies listed on the WSE, ESG factors – particularly governance – do not appear to enhance firm value in the way that they do in more developed markets. These findings may reflect the relatively early stage of ESG integration in Poland, where companies are still adapting to new reporting requirements and stakeholders do not yet fully appreciate the benefits of sustainability initiatives. It is also possible that in the Polish context, ESG reporting increases compliance costs without delivering sufficient reputational or market-related benefits to offset those expenses, especially in industries where ESG awareness remains low.

The negative or insignificant relationship between ESG scores and firm value could also be a result of "greenwashing" – the practice of companies exaggerating their sustainability efforts to appear more responsible than they are. If stakeholders perceive ESG reporting as superficial or misleading, it may fail to deliver the expected financial benefits. Additionally, the lack of consistent ESG standards in Poland means that companies are not yet held to the same level of scrutiny as their Western European counterparts, further diluting the impact of ESG on firm value.

5. Conclusions and implications

This study investigated the relationship between ESG factors and corporate value for Polish companies listed on the WSE. Using data from the Refinitiv Eikon database, we conducted a regression analysis on a sample of 42 public companies from 2008 to 2021, focusing on how ESG scores and their individual components (environmental, social, and governance) affect firm value, measured by the EV/EBITDA ratio.

The results challenge the prevailing assumption that ESG performance universally enhances corporate value. Contrary to the hypotheses, ESG scores, particularly governance, had a negative or insignificant impact on firm value in the Polish market. Specifically, the overall ESGC score was found to negatively correlate with firm value, suggesting that Polish companies may not yet fully integrate ESG into their strategic priorities, or that stakeholders, including investors, are not yet rewarding these efforts. Additionally, governance practices showed a significant negative effect, while environmental and social components were found to be statistically insignificant.

These findings highlight that the relatively early stage of ESG integration in Poland may explain why ESG efforts have not yet translated into higher firm value. ESG reporting in Polish companies may still be seen primarily as a compliance exercise rather than a tool for creating long-term value. To fully benefit from ESG initiatives, companies need to embed sustainability and governance deeply into their business strategies rather than viewing them as peripheral concerns.

The negative impact of governance on firm value suggests that governance reforms in Poland may still be perceived as ineffective or overly bureaucratic. This reflects findings from other emerging markets, where governance reforms are often focused on compliance rather than enhancing corporate performance. Companies in Poland must prioritise transparent and accountable governance structures that genuinely improve decision-making and risk management.

Another important implication is that stakeholders in Poland, including investors and consumers, may not yet fully recognise the value of ESG practices. To maximise the potential benefits of ESG, companies need to actively engage with their stakeholders, clearly demonstrating the long-term financial and social benefits of their ESG initiatives. Improved transparency in ESG reporting, coupled with a clear communication strategy, could enhance the impact of these initiatives on firm value.

A potential risk in the current ESG landscape concerns greenwashing, in which companies overstate their sustainability efforts to create a more favourable public image. This can undermine the credibility of ESG practices and diminish their financial benefits. For companies to avoid this, their ESG initiatives must align with genuine long-term sustainability goals, focusing on real improvements rather than on superficial disclosures. While unified ESG standards were previously missing in Poland, the recent implementation of EU regulations such as CSRD and ESRS has introduced binding and standardised ESG reporting requirements for Polish enterprises.

Additionally, sector-specific insights are essential for understanding the varying impacts of ESG across different industries. Future research should explore how ESG factors affect sectors differently, particularly in highly regulated industries like energy or manufacturing, in which environmental performance may have a more significant impact on firm value than in less regulated sectors such as technology or finance.

There are several limitations to this study that should be addressed in future research. One important limitation of the study concerns the size and structure of the sample. Due to the availability of the consistent ESG data over the 2008–2021 period, only 42 publicly listed Polish companies were included. This represents a small fraction of the Warsaw Stock Exchange, and the sample is not fully representative across all industry sectors. Consequently, the results should be interpreted with caution and considered exploratory in nature.

Furthermore, while the Refinitiv Eikon database provides comprehensive ESG scores, these may not capture all dimensions of a company's sustainability efforts. Future studies could benefit from incorporating additional data sources or alternative valuation metrics, such as Tobin's Q or market capitalisation, to gain a more complete understanding of ESG's impact on firm performance.

Another important limitation of this study is its timeframe, which covers the period from 2008 to 2021. In the last three to four years (2022–2025), there has been a significant increase in ESG awareness, in regulatory enforcement, and in the corporate engagement across Europe. These changes may have a considerable impact on ESG-related practices and should be considered in future research.

Overall, this study provides insights into the relationship between ESG factors and corporate value in Poland, contributing to the broader body of research on ESG in emerging markets. While ESG practices are becoming more noticeable globally, their impact on financial performance in Poland remains limited, indicating that further efforts are needed to align sustainability with value creation in this market.

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