Do Environmental, Social, and Governance (ESG) Factors Affect Firm Value in Indonesia's Environmentally Sensitive Industries?

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A R T I C L E   I N F O

A B S T R A C T

This study aims to analyze the influence of Environmental, Social, and Governance (ESG) performance on company value proxied by the Price to Earnings Ratio (PER), especially in industries that are sensitive to environmental issues in Indonesia. Using five years of panel data and panel regression, the study evaluated the impact of each ESG pillar separately or in combination on company value. The results of the study show that the overall ESG score has a positive and significant effect on PER. Among the three pillars, the Social aspect (SOC) had the strongest and most significant influence, followed by the positive but insignificant Environmental aspect (ENV), while the Governance aspect (GOV) showed no significant influence. These findings indicate that investors in environmentally sensitive sectors respond most strongly to social and environmental performance as they are perceived to reflect risk management and long-term operational sustainability. This research refers to three main theories: Stakeholder Theory which emphasizes the importance of social and environmental engagement; Shareholder Theory that sees ESG as a signal of company quality; and Legitimacy Theory which highlights ESG as a tool to gain social legitimacy. The practical implications of these findings are the importance of companies strengthening their commitment to social and environmental pillars strategically, investors to consider ESG aspects in decision-making, and regulators to improve the standards and credibility of ESG disclosures in Indonesia

A B S T R A K

Penelitian ini bertujuan untuk menganalisis pengaruh kinerja Environmental, Social, and Governance (ESG) terhadap nilai perusahaan yang diproksikan dengan Price to Earnings Ratio (PER), khususnya pada industri yang sensitif terhadap isu lingkungan di Indonesia. Menggunakan data panel selama lima tahun dan regresi panel, studi ini mengevaluasi dampak masing-masing pilar ESG secara terpisah maupun gabungan terhadap nilai perusahaan. Hasil penelitian menunjukkan bahwa skor ESG secara keseluruhan berpengaruh positif dan signifikan terhadap PER. Di antara ketiga pilar, aspek Sosial (SOC) memiliki pengaruh paling kuat dan signifikan, diikuti oleh aspek Lingkungan (ENV) yang positif namun tidak signifikan, sementara aspek Tata Kelola (GOV) tidak menunjukkan pengaruh yang berarti. Temuan ini mengindikasikan bahwa investor di sektor sensitif lingkungan merespons paling kuat terhadap kinerja sosial dan lingkungan karena dianggap mencerminkan pengelolaan risiko dan keberlanjutan operasional jangka panjang. Penelitian ini mengacu pada tiga teori utama: Teori Pemangku Kepentingan yang menekankan pentingnya keterlibatan sosial dan lingkungan; Teori Pemegang Saham yang melihat ESG sebagai sinyal kualitas perusahaan; serta Teori Legitimasi yang menyoroti ESG sebagai alat untuk memperoleh legitimasi sosial. Implikasi praktis dari temuan ini adalah pentingnya perusahaan memperkuat komitmen terhadap pilar sosial dan lingkungan secara strategis, investor untuk mempertimbangkan aspek ESG dalam pengambilan keputusan, dan regulator untuk meningkatkan standar serta kredibilitas pengungkapan ESG di Indonesia.

INTRODUCTION

Indonesia, a nation endowed with abundant natural resources, continues to face a

significant paradox: fostering economic growth while mitigating environmental degradation. Industries such as palm oil, mining, forestry, energy, and chemicals have long been key pillars of Indonesia's economy. According to data from The Observatory of Economic Complexity (2023), coal briquettes, palm oil, and ferroalloys constitute a substantial portion of the country's exports, largely directed toward China, the United States, and India. However, this economic structure presents ecological trade-offs, as dependence on resource-intensive sectors contributes to deforestation, greenhouse gas emissions, and biodiversity loss.

Companies operating in environmentally sensitive industries are increasingly compelled to adopt robust environmental management systems due to regulatory obligations and heightened social expectations. Such firms face stricter environmental standards and greater scrutiny from both government and the public (Miralles-Quirós et al., 2018). As a result, sustainability practices are no longer optional but essential for maintaining license to operate, safeguarding stakeholder trust, and ensuring long-term competitiveness. In this context, Environmental, Social, and Governance (ESG) performance has emerged as a critical measure of corporate responsibility and resilience.

To encourage sustainable business practices, the Indonesian government has introduced pivotal frameworks, including the Financial Services Authority Regulation (POJK) No. 51/2017 on Sustainable Finance and the Carbon Tax Policy enacted in 2022. These policies demonstrate the country's alignment with global sustainability trends and provide an institutional foundation for ESG adoption. Companies that embrace ESG reporting frameworks may strengthen investor confidence, mitigate regulatory risks, and enhance global market access in an era where sustainable credentials are increasingly valued.

Empirical research suggests that higher ESG performance is positively associated with financial outcomes, such as reduced cost of capital, operational efficiency, and improved market valuation (Friede et al., 2015; Kim & Koo, 2023). Recent studies further demonstrate that ESG leaders often enjoy stronger innovation capacity and risk management, resulting in long-term value creation (Velte, 2023; Albuquerque et al., 2020). Importantly, ESG integration is also perceived to lower systematic risk, providing greater financial stability for firms exposed to volatile commodity cycles—an especially relevant issue for Indonesia's resource-based economy.

Nevertheless, the influence of ESG on firm valuation in environmentally sensitive sectors remains contested, and this tension can be understood through competing theoretical perspectives. Stakeholder theory argues that ESG initiatives enhance firm value by addressing the needs of a broad set of stakeholders, ranging from communities and regulators to employees and investors. By proactively engaging with social and environmental concerns, firms can secure legitimacy, avoid costly conflicts, and build reputational capital (Freeman, 1984; Khan et al., 2016). In the Indonesian context, where industries such as palm oil and mining are frequent targets of international environmental campaigns, stakeholder theory implies that ESG performance is not merely reputational but instrumental for maintaining market access and legitimacy in global value chains. Accordingly, this theoretical lens suggests that ESG contributes positively to firm valuation by reducing non-financial risks and strengthening stakeholder trust. In contrast, shareholder theory posits that a firm's primary obligation is to maximize shareholder wealth, and from this perspective ESG practices may be perceived as costly diversions of resources (Friedman, 1970). Firms in resource-intensive sectors in Indonesia often operate under significant financial and operational pressures, and allocating capital to ESG programs—such as sustainable certification, emissions reduction

technologies, or community development initiatives—may diminish short-term profitability. In this view, ESG is seen less as a source of long-term value and more as an additional compliance burden that reduces financial performance.

This research therefore seeks to examine whether ESG performance enhances or diminishes firm valuation in Indonesia's environmentally sensitive industries. By analyzing 18 firms across key high-impact sectors listed on the Indonesia Stock Exchange (IDX), the study aims to provide evidence on whether the stakeholder-oriented perspective of ESG as a driver of long-term value creation holds true in the Indonesian context, or whether shareholder-oriented concerns about cost burdens and reduced profitability better explain firm outcomes. In doing so, the study contributes to theoretical debates on ESG and offers practical insights for regulators, investors, and corporate leaders navigating the intersection of sustainability and financial performance in emerging economies.

RESEARCH METHOD

This study adopts a quantitative explanatory research design to evaluate the relationship between ESG (Environmental, Social, and Governance) performance and firm valuation in environmentally sensitive industries in Indonesia. The research employs a deductive approach, aiming to test pre-established hypotheses derived from stakeholder theory, shareholder theory, and strategic management frameworks (Figure 1). Data analysis was performed using panel regression models to explore the effect of total ESG scores and individual ESG dimensions (Environmental, Social, Governance) on firm valuation, measured by Price-to-Earnings (P/E) ratio. Furthermore, the role of firm size as a moderating variable was also assessed.
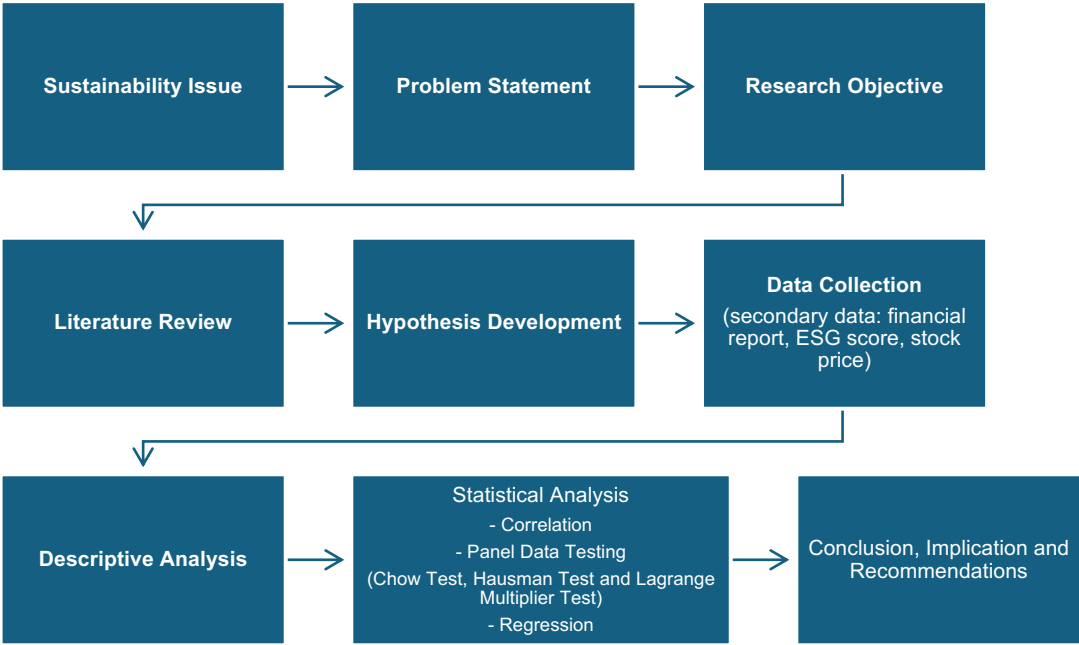
The data collection process relied on secondary sources, focusing on companies listed on the Indonesia Stock Exchange (IDX) that were classified as environmentally sensitive industries according to S&P Capital IQ. The Refinitiv ESG score database was used to extract total ESG and subcomponent scores (E, S, G) from 2019 to 2023. To assess firm valuation, the study used annual P/E ratios from 2020 to 2024, employing a lagging model that assumes ESG implementation influences firm performance with a one-year delay. Financial data such as total assets and market capitalization were retrieved from S&P Capital IQ and IDX filings, with all monetary values standardized into Indonesian Rupiah (IDR) using Bank Indonesia exchange rates.
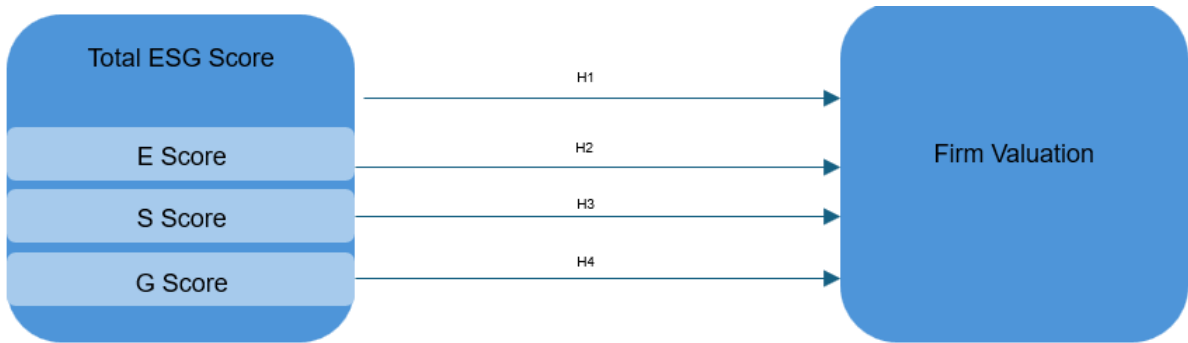
Figure 1. Conceptual Framework

Descriptive statistics, correlation tests, and panel data regression techniques were applied to evaluate the relationship between ESG and firm value. Figure 2 (Research Design)

presents the step-by-step framework of the study, encompassing theory foundation, hypothesis development, data sourcing, and model estimation. This study examines 18 firms from environmentally sensitive sectors listed on the Indonesia Stock Exchange (IDX), selected through purposive sampling to ensure relevance to industries with the greatest sustainability impact, such as palm oil, mining, energy, and chemicals. The use of a one-year lag between ESG disclosure and firm valuation is justified both economically and statistically: ESG initiatives generally take time to be reflected in financial markets, and lagging helps reduce simultaneity bias by allowing for investor response and valuation adjustments. However, the small sample size limits statistical power and generalizability, making results more sensitive to firm-specific variations. Despite this limitation, the analysis offers valuable early evidence on ESG–valuation dynamics in Indonesia, where ESG disclosure remains relatively limited.

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Figure 2. Research Design

It is hypothesized that a firm's total ESG (Environmental, Social, and Governance) score may influence its market valuation. Prior empirical findings have produced mixed results, particularly when comparing environmentally sensitive industries in both developing and developed economies. This leads to the formulation of the following primary hypothesis: **H1:** The total ESG score has a significant effect on firm valuation.

Further, several studies suggest that the individual components of ESG may exhibit distinct and sometimes offsetting effects on firm value (Nofsinger et al., 2019). These findings justify testing the effect of each ESG component independently. **H2:** The environmental (E) score significantly affects firm valuation. For example, Chong and Loh (2023) demonstrated that in the palm oil sector including firms in Indonesia strong environmental performance and disclosure tend to enhance market perception, thereby boosting stock value. Similarly, Fikru et al. (2024) found that in mining and energy sectors, the environmental dimension is prioritized due to its relevance to carbon emissions, climate change, and biodiversity. **H3:** The social (S) score significantly affects firm valuation.

In Indonesia, firms in sensitive industries often face social issues, including land disputes, community protests, and labor conflicts. This supports Baldini et al. (2018), who observed that firms in emerging markets disclose more on social aspects, which are more relatable to public and regulatory expectations. **H4:** The governance (G) score significantly affects firm valuation. Governance practices, such as board composition and audit structures, are often limited to compliance is less exposed, making their influence less direct and more abstract compared to environmental or social factors.

To ensure statistical robustness, several diagnostic and selection tests were employed, including the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test to determine the most appropriate regression model (Common Effects, Fixed Effects, or Random Effects). In cases of multicollinearity, correlation values exceeding 0.9 prompted variable re-specification or logarithmic transformation. Key control variables include firm size (measured by natural log of total assets), leverage ratios (DAR and DER), and market capitalization. The relationship between ESG performance and P/E ratio was tested using interaction terms to explore the moderating effect of firm size on ESG's influence. All statistical analyses were conducted using EViews and follow best practices in empirical finance research. The variables used in the analysis are divided into three, which are dependent, independent and control variables with the following details (Table 1):

Table 1. Variables Explanation

Variable	Symbol	Description
Dependent Variable		
Firm Value	P/E	Price-to-Earnings Ratio, which is a ratio that shows how much investors are willing to pay for each dollar of the company's net income. This ratio is often used to assess whether a stock is overvalued or undervalued.
Independent Variable		
ESG Performance	ESG	ESG Score as assessed by Revinitif
Environment	ENV	Environmental Score as assessed by Revinitif
Social	SOC	Social Score as assessed by Revinitif
Government	GOV	Governance Score as assessed by Revinitif
Control Variable		
Firm Size	ASSETS	The total of all company assets, reflecting the scale of operations.
Market Cap	MCAP	The total market value of a company's shares (share price × number of shares outstanding). Generally used for public companies.
Debt to Asset Ratio	BUT	How much of the asset comes from debt
Debt to Equity Ratio	THE	How much debt compared to own capital

The model is constructed to test each hypothesis by linking ESG performance to firm

valuation, with stakeholder theory predicting a positive effect and shareholder theory suggesting a potential cost burden. Control variables such as firm size, leverage, and profitability are included to reduce bias. Robustness is checked using GLS to address heteroskedasticity, GMM to mitigate endogeneity, and cross-sector tests to capture industry-specific differences. Nonetheless, the relatively low adjusted R² indicates that ESG and firm-level controls explain only part of valuation outcomes, implying that external and firm-specific factors remain influential and limiting the explanatory power of the model.

Results and Discussion
Result

The descriptive analysis provides an overview of key variables including ESG performance, firm valuation, firm size, and leverage across the 18 environmentally sensitive companies under study. Descriptive Statistics, the average Price-to-Earnings (P/E) ratio across firms is 20.53, with a wide standard deviation (30.01), indicating substantial variability in valuation. The P/E ratio ranges from 1.27 to 239.87, reflecting heterogeneity across sectors and possible influence from ESG factors and external market conditions. Skewness and kurtosis values reveal the presence of outliers, particularly among companies in coal and mining sectors. This dispersion suggests that ESG-related risks and opportunities may be differently priced by investors across industries. Companies in industries with sustainability-aligned products, such as nickel and gold, tend to have higher P/E ratios than those reliant on fossil fuels. Table 2 shows all samples used in this study.

Table 2. Final Sample

| No.	Company	Ticker ID	Industry Classification
1	PT Astra Agro Lestari Tbk	AALI. JK	Agricultural Products and Services
2	PT Alamtri Resources Indonesia Tbk	ADRO. JK	Coal and Consumable Fuels
3	PT AKR Corporindo Tbk	AKRA. JK	Oil and Gas Storage and Transportation
4	PT Aneka Tambang Tbk	ANTM. JK	Gold
5	PT Astra International Tbk	ASII. JK	Industrial Conglomerates
6	PT Bumi Resources Tbk	EARTH. JK	Coal and Consumable Fuels
7	PT Charoen Pokphand Indonesia Tbk	CPIN. JK	Agricultural Products and Services
8	PT Vale Indonesia Tbk	INCO. JK	Diversified Metals and Mining
9	PT Indah Kiat Pulp & Paper Tbk	INKP. JK	Paper Products
10	PT Indocement Tunggal Prakarsa Tbk	INTP. JK	Construction Materials
11	PT Indo Tambangraya Megah Tbk	ITMG. JK	Coal and Consumable Fuels
12	PT Jasa Marga (Persero) Tbk	JSMR. JK	Highways and Railtracks
13	PT Perusahaan Gas Negara Tbk	PGAS. JK	Gas Utilities
14	PT Bukit Asam Tbk	PTBA. JK	Coal and Consumable Fuels
15	Copyright © 2019 Copyright © 2019 Copyright © 2019 Copyright	PWON. JK	Diversified Real Estate Activities
16	PT Semen Indonesia (Persero) Tbk	SMGR. JK	Construction Materials
17	PT Pabrik Kertas Tjiwi Kimia Tbk	TKIM. JK	Paper Products
18	PT United Tractors Tbk	UNTR. JK	Coal and Consumable Fuels

The total ESG score (ESG_1), representing an aggregate of the Environmental (E), Social (S), and Governance (G) dimensions, has a mean of 52.47 and median of 53.37. The distribution is relatively normal, with minimal skewness and kurtosis values (–0.14 and 2.08, respectively).

This figure suggest consistency in ESG disclosure practices across companies, although a few firms scored below 10, indicating minimal ESG engagement. Notably, firms such as INCO and ANTM involved in nickel and gold mining reported consistently higher ESG scores, aligning with their strategic positioning in clean energy supply chains. Conversely, CPIN, a poultry and agriculture firm, exhibited low ESG scores, particularly in environmental aspects. This performance gap underscores sectoral disparities in ESG prioritization and implementation. Figure 3 shows Average ESG Score Trends by Industry.
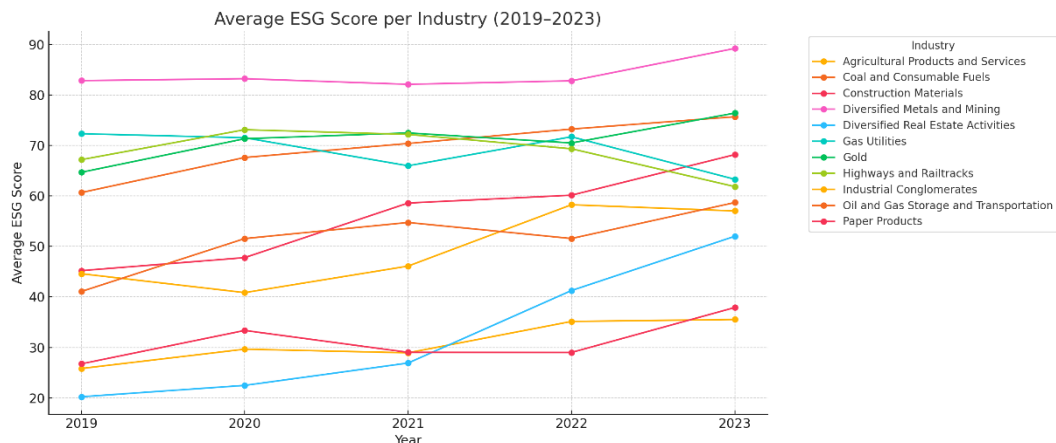
Figure 3. Average ESG Score Trends by Industry
Source: Refinitiv and Author analysis (2025)

The Environmental score (ENV_1) shows substantial variability, with values ranging from 0 to 91.64. The average score of 48.70 suggests moderate environmental disclosure, while the minimum score of zero, attributed to CPIN, reflects a complete lack of environmental reporting in early observation years. This result highlights that while certain firms demonstrate strong environmental accountability, others have yet to engage meaningfully with ESG frameworks. The standard deviation of 22.81 and a left-skewed distribution confirm heterogeneity in environmental performance. Industries tied to fossil fuels and heavy manufacturing tend to score lower, despite regulatory pressure, due to legacy practices and high carbon intensity. Firms in renewable-oriented sectors show a clear upward trend in environmental scoring over the 10-year period. Figure 4 shows Average Environment Score Trends by Industry.
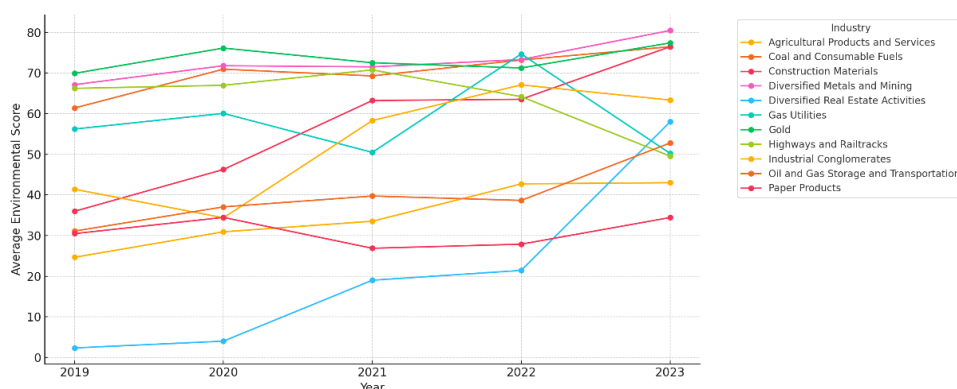
Figure 4. Average Environment Score Trends by Industry
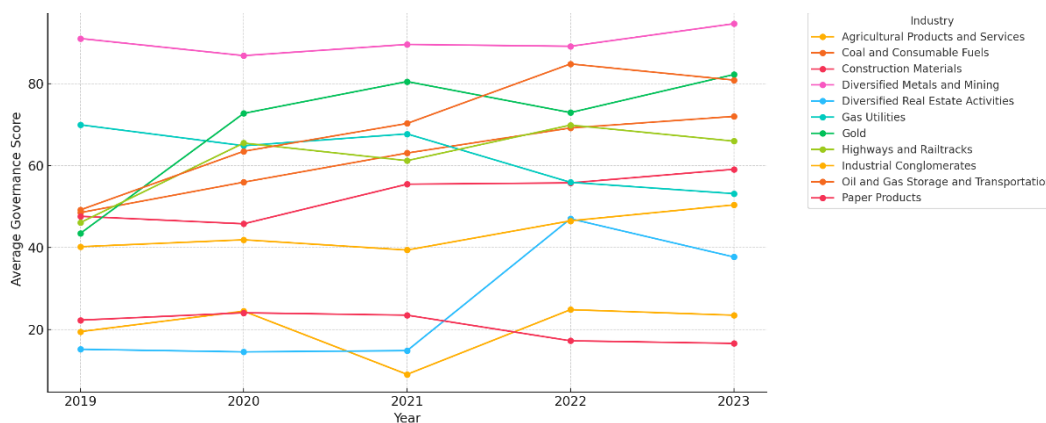**Source: Refinitiv and Author analysis (2025)**

The Social score (SOC_1) records the highest mean among ESG dimensions at 58.33,

indicating relatively stronger performance in labor rights, community engagement, and diversity initiatives. However, high standard deviation and minimum values below 6 highlight persistent gaps. Several firms excel in social disclosure due to proactive community development and employee welfare programs, often in response to labor union advocacy and social license-to-operate pressures. For instance, construction and basic materials companies have increased social investments to mitigate community opposition. Conversely, agricultural and mining firms face reputational risk due to labor rights concerns and land use conflicts. These findings suggest that while social criteria are more readily adopted than environmental metrics, their impact remains uneven. Figure 5 shows Average Social Score Trends by Industry.
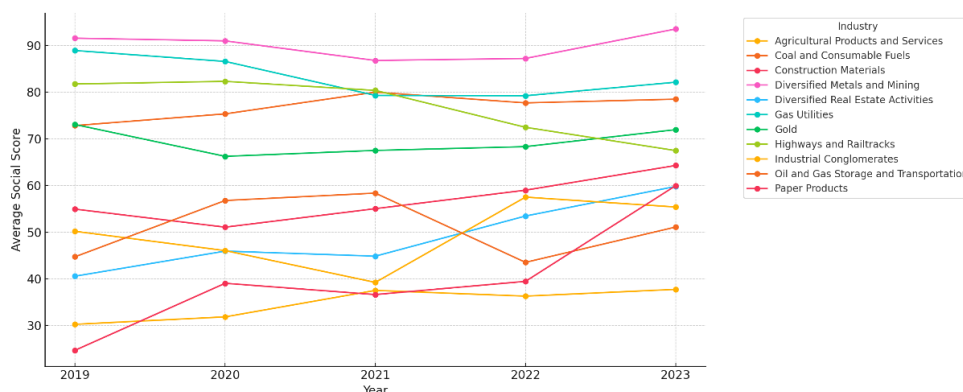
Figure 5. Average Social Score Trends by Industry
Source: Refinitiv and Author analysis (2025)

Governance scores (GOV_1) display a mean of 49.88, suggesting moderate adherence to corporate governance standards such as board independence, anti-corruption policies, and disclosure transparency. Governance is a critical ESG dimension influencing investor trust and regulatory compliance, especially in publicly listed firms. However, skewness near zero and a standard deviation of 24.35 indicate variation in governance maturity among the firms. Companies with international shareholders and external audits tend to report higher governance scores, as observed in INKP and PGAS. In contrast, state-owned enterprises and smaller firms exhibit governance challenges, often due to outdated policies or insufficient compliance mechanisms. Weak governance can undermine the credibility of ESG commitments across other pillars. Figure 6 shows Average Governance Score Trends by Industry.

Figure 6. Average Governance Score Trends by Industry
Source: Refinitiv and Author analysis (2025)

Correlation analysis was performed to test the relationships between independent variables to avoid multicollinearity. The test results show that several variables such as ESG_1, ENV_1, SOC_1, and GOV_1 are highly correlated with each other because they are components of ESG scores. Correlation is also high between control variables such as SIZ, REV, and MC as they all represent the size of the company, as well as between DAR and DER which reflect the level of leverage. However, since no correlation exceeds the 0.8 threshold, the entire control variable can still be used in the regression model.

Next, a panel model selection test was conducted to determine the best model between CEM, FEM, and REM. The results of the Chow test suggest the selection of FEM over CEM, but the Hausman test shows that REM is more precise than FEM, and the LM test also supports REM over CEM. Thus, the Random Effect Model (REM) was chosen as the most suitable panel regression model for the entire hypothesis. However, in the H1 model, CEM was chosen because the three tests stated that this model was the most appropriate, although adjustments had to be made due to the presence of heteroscedasticity symptoms.

To overcome heteroscedasticity in the **H1** model, the Weighted Least Square (WLS) method is used. The regression results showed that the previous year's ESG score (ESG_1) had a positive and significant effect on the company's value as measured by the P/E ratio. An Adjusted R-squared value of 34.27% indicates that there are many other factors that affect P/E, which is common in studies in developing countries. These findings are in line with stakeholder theory (Freeman, 1984) and previous studies that emphasize the importance of ESG, especially in environmentally sensitive industrial sectors such as mining and energy.

The **H2** model examines the effect of the previous year's environmental score (ENV_1) on the value of the proxied company through the Price-to-Earnings (P/E) ratio. The Environmental pillar is relevant because companies in sectors such as mining, energy, oil and gas, as well as pulp and paper have high exposure to environmental issues such as biodiversity, carbon emissions, and climate change.

The panel regression model used is the Common Effect Model (CEM), based on the results of the Chow (Prob. 0.2063), Hausman (Prob. 0.3230), and LM (Prob. 0.9629) tests, all of which show that CEM is the most appropriate model. The heteroscedasticity test showed symptoms of heteroscedasticity ($p < 0.05$), so a retest was carried out using the Weighted Least Squares (WLS) method.

The results of the WLS regression showed that ENV_1 had a positive coefficient for PER, but it was not statistically significant ($p = 0.2845$). Thus, theoretically there is a tendency that environmental performance supports an increase in the value of the company, but in the context of the Indonesian capital market, this influence is not yet strong enough to be significantly detected.

These findings are in line with studies by Nollet et al. (2016) and Semenova & Hassel (2019) which found that the Environmental pillar is often insignificant to a company's valuation, especially in developing countries and resource-based sectors. This can be explained through Stakeholder Theory and Shareholder Theory, where environmental performance is considered important for long-term legitimacy and sustainability, but has not been fully appreciated by the market.

In the Indonesian context, ESG reporting, especially ENV, is more often implemented as a formal obligation than a strategic initiative. This is supported by Legitimacy Theory, where companies report environmental aspects as a form of fulfilling social legitimacy and

operational licensing, including through the PROPER program by the Ministry of Environment and Forestry. While this increases institutional credibility, its impact on market perception has not been strong enough to significantly increase the company's valuation.

The **H3** model examines the effect of the previous year's social score (SOC_1) on the company's value (PER). This pillar includes aspects of human resource development, social inclusion, corporate social responsibility (CSR), and access to health services. Social aspects are particularly relevant, especially in environmentally sensitive sectors because the potential for social conflicts can have a direct impact on the sustainability of company operations.

As in H2, the model used is CEM, based on the results of the Chow (p = 0.0981), Hausman (p = 0.6075), and LM (p = 0.3120) tests. The heteroscedasticity test again showed symptoms of heteroscedasticity (p < 0.05), so regression was carried out using the WLS method. The results of the WLS regression showed that SOC_1 had a positive and significant effect on the PER with a p-value of 0.0043 at a significance level of 1%. A coefficient of 0.252552 shows that an increase in social scores significantly increases the company's valuation.

These findings support the view that the social dimension of ESG has an important role in shaping investor perceptions and the long-term sustainability of companies. Good social performance reduces social risks, strengthens relationships with stakeholders, and improves the company's reputation in the eyes of the public and capital markets. In the context of emerging markets such as Indonesia, the social aspect of ESG seems to be more "visible" and appreciated by investors than the environmental aspect.

The **H4** model aims to test the effect of the previous year's Governance Score (GOV_1) on the value of the company proxied by the Price to Earnings (P/E) ratio. This governance pillar includes aspects of business ethics, regulatory compliance, corruption and instability risks, and information transparency.

This model was analyzed using a panel regression approach with the Fixed Effect Model (FEM) as the most suitable model. The selection of FEM was based on the results of the Chow test (p = 0.0064) and the Hausman test (p = 0.0073), both of which showed significance at the 5% level (p < 0.05), whereas the LM test was not required. After determining the appropriate model, classical assumption testing is performed, including heteroscedasticity tests. However, the results of partial testing of the main independent variable, namely the GOV_1 score, showed a negative coefficient of -0.240829 and were not statistically significant (p = 0.0664). This indicates that the company's governance performance in the previous year has a negative influence that is not significant on the company's value (P/E ratio).

The Adjusted R-squared value of this model is 55.71%, indicating that the model is able to account for about 55.71% variation in the company's value, which is a moderate but reasonable achievement in the context of panel research in developing countries, where many external factors also influence the company's valuation, such as macroeconomic conditions and regulatory policies.

After testing each individual pillar with a different equation, the next step was to include all the variables, the three pillars, in one regression equation including the control variables. This exercise was conducted to assess the relative influence of the individual pillar in combination, testing whether there was a change in the direction of the relationship or the level of significance. To find out how much influence it has, the analysis is done using the following equation:

$$PER_{i,t} = \beta_0 + \beta_1\,ENV\_1_{i,\,t-1} + \beta_2\,SOC\_1_{i,\,t-1} + \beta_3\,GOV\_1_{i,\,t-1} + \beta_4\,SIZ_{i,t} + \beta_5\,REV_{i,t} + \beta_6\,MC_{i,t} + \beta_7\,DAR_{i,t} + \beta_8\,DER_{i,t} + \varepsilon_i$$

The equation is tested using a panel regression approach, and as previously explained, the model test results cannot show the optimal model, so the model used uses the same model as H1, which is CEM. The results of this research stated consistent with each individual pillar's separation equation that ENV is positive but statistically insignificant, SOC is positive and statistically significant, and GOV shows a negative relationship.

In all equations in the control variable in the form of SIZ, it always has a negative coefficient on the P/E ratio, which can mean that companies with large assets, especially in large companies engaged in environmentally sensitive sectors, are considered to be at the point of stagnant growth, slow innovation and more easily exposed so that more regulatory pressure and great reputational risk.

In relation to leverage, a positive relationship is proven in mostly models, indicating that in companies operating in environmentally sensitive industries, debt is a positive sign rather than a risk. The market might perceive that debt would be used to finance ESG transformation and expansion into renewable energy or green technology. This may increase future earnings expectations and positively affect the company's valuation. In accordance with the Trade-Off and Free Cash Flow theories, well-managed leverage can provide a positive signal to investors, thus reflected in a higher P/E ratio.

These findings suggest that investors tend to respond negatively to companies that explicitly state a commitment to good governance practices. This does not necessarily contradict *Stakeholder Theory* (Friedman, 1970), but reflects the reality of the Indonesian market which tends to view the governance aspect as something homogeneous, formalistic, and limited to compliance with minimum regulations.

In contrast to the more concrete and direct impact social pillars, indicators in the governance pillar such as the number of independent commissioners, audit committees, and GCG reporting tend to be symbolic and follow minimum regulations from the IDX and OJK. Investors also do not see this aspect of governance as a differentiator of company value, as seen in the social pillar.

This finding is in line with the research of Jo & Harjoto (2011) who stated that in environmentally and socially sensitive industries, stakeholder involvement has more value in market valuation than governance practices alone. This is also confirmed by Baldini et al. (2018), who found that in developing countries, corporate governance metrics are a weak predictor of market valuation due to uniform compliance structures.

From the perspective *of Legitimacy Theory*, disclosure of governance without real implementation can raise skepticism among investors and negatively impact market perception (Michelon et al., 2015). Meanwhile, according to *Shareholder Theory*, effective governance should be able to reduce agency conflicts and align the interests of management with shareholders. However, the homogeneity of governance quality between companies makes governance scores lose their differentiation and are only considered symbolic.

Comparative Analysis Between ESG Pillars

From the overall hypothesis test, all ESG pillars showed a positive relationship with company value, except for the Governance pillar which actually showed a negative direction even though it was not significant. A comparison between the three pillars reveals that:

- The Social Pillar (SOC) is the main driver of company value, with the largest coefficient and significance at the level of 1%. Aspects such as the protection of workers' rights, occupational safety, relations with the community, and CSR are highly preferred by

investors.
- The Environmental Pillar (ENV) has a positive but insignificant influence. This reflects the perception that companies with high environmental scores demonstrate a long-term commitment to sustainability and readiness to face regulatory burdens.
- The Governance Pillar (GOV) has a negative and insignificant coefficient, indicating that governance practices in the Indonesian market have not been a strong signal to investors due to the lack of differentiation and its internal and unverified nature.

Theoretically, the social pillar is in line with *Stakeholder Theory* which emphasizes that the management of corporate social relations has a positive impact on long-term value. It is also consistent with *the Legitimacy Theory*, where a good social reputation enhances the operational legitimacy of a company, especially in industries prone to social conflict. Table 3 shows the results of the hypothesis test comparison and Figure 7 shows the Comparison of ESG Pillar Coefficients P/E Ratio.

Table 3. Comparation Result

Pillars	p-value	Empirical Result	Reject Ho	Interpretation
ESG	(p=0.01)	+. significant	Reject H_0	Overall ESG Score has significant impact on firm value
E	(p=0.28)	+, not significant	Not rejected	Environmental Score impacted firm value, but statistically insignificant
S	(p=0.004)	+, significant	Reject H_0	Social Score is the has significant impact for firm value
G	(p=0.066)	Not significant	Not rejected	The governance pillar has no statistical effect

Theoretically, these findings are in line with *Stakeholder Theory* which states that good management of social relations by companies has a positive impact on long-term value. In addition, these results are also consistent with *the Legitimacy Theory* in the *framework of the Shareholder View*, where the social pillar (SOC) reflects managerial capabilities and social reputation as visible to the public. In the context of an industry prone to social conflict, the social dimension is crucial to gain "operational legitimacy".

The environmental pillar (ENV) also showed a positive influence although it was not statistically significant. Companies with high environmental scores are considered to demonstrate a commitment to sustainability and readiness to face regulatory burdens, such as emission standards, waste disposal, and sustainable supply chain challenges globally. In the perspective *of Stakeholder Theory*, ENV reflects concern for the public interest related to environmental damage. Meanwhile, in *Legitimacy Theory*, good environmental performance increases social acceptance, including from international stakeholders.

In contrast, the governance pillar (GOV) shows a negative and insignificant relationship to the company's value. This indicates that good corporate governance practices have not had a real differentiating effect in the Indonesian market. Most likely, this is due to the application of GCG which tends to be uniform and formalistic due to the same minimum regulations (POJK, IDX). For investors, governance signals are considered less verifiable and too internal, so they do not directly build social legitimacy as described in *Stakeholder* and *Legitimacy Theory*.

Discussion

The results of this study indicate that overall, ESG scores have a positive and significant influence on firm value, as measured through the Price to Earnings (PER) ratio. A positive coefficient (+0.272) with a significance level of p = 0.01 suggests that the Indonesian market is beginning to appreciate corporate sustainability practices. This finding highlights that ESG is no longer merely symbolic, but is increasingly regarded by investors as a signal of operational quality and effective risk management, particularly in environmentally sensitive sectors. These results resonate with recent evidence in Indonesia showing that ESG literacy among local investors is rising, thereby strengthening the link between sustainability performance and market valuation (Rahmaniati & Ekawati, 2024).

Among the three ESG pillars, the social dimension (S) emerges as the most influential, with a positive coefficient (+0.253) and high statistical significance (p = 0.004). This underscores that social concerns—ranging from labor conditions and community relations to land conflicts and CSR programs—are particularly salient for investors. In industries such as coal mining, palm oil, and metal extraction, which operate in close proximity to local or indigenous communities, strong social performance is perceived as a mechanism to reduce operational risks and safeguard corporate reputation. These findings are consistent with Possebon et al. (2024) and Lins et al. (2017), who argue that robust social strategies enhance perceptions of corporate stability and resilience.

The environmental pillar (E) also shows a positive coefficient (+0.093), but the relationship is not statistically significant (p = 0.28). While this suggests that the market is starting to recognize environmental efforts, the lack of significance reflects contextual barriers in Indonesia. Environmental reporting remains underdeveloped, often criticized as symbolic or "greenwashing," with limited transparency and credibility (Michelon et al., 2015; Volz, 2015). In addition, compliance with environmental regulations such as PROPER and POJK 51/2017 tends to be formalistic, focusing on meeting reporting requirements rather than demonstrating substantive performance. These contextual limitations weaken the signaling effect of environmental practices on firm valuation.

In contrast, the governance pillar (G) demonstrates a negative coefficient (–0.241), suggesting that formal governance structures such as board composition or audit committees are not yet valued as differentiators in investment decisions. This may be explained by the homogeneity of governance practices in Indonesia, where many firms adopt similar governance mechanisms primarily to satisfy regulatory requirements. As a result, governance data lacks depth and reliability, diminishing its usefulness as an indicator of firm quality. Governance appears to matter only in crisis contexts—such as scandals or compliance breaches—rather than as a proactive marker of superior management quality (Khan et al., 2015). This highlights the importance of strengthening governance disclosures, particularly around board diversity, ESG oversight, and independent monitoring mechanisms, to ensure governance becomes a more meaningful signal for investors.

Taken together, these findings are broadly consistent with Stakeholder Theory (Freeman, 1984), which emphasizes the need to address the interests of diverse stakeholders, as ESG performance in high-impact sectors signals resilience and operational quality. They also resonate with Legitimacy Theory (Suchman, 1995), as ESG provides firms with a means to secure social approval in sectors under intense public and regulatory scrutiny. However, the findings partially diverge from Shareholder Theory expectations. While ESG initiatives are sometimes viewed as cost burdens, the positive association with firm value in this study

suggests that investors in Indonesia are increasingly treating ESG as a tool for long-term resilience and shareholder value creation (Mariappanadar, 2024). The divergence between theoretical predictions and empirical results can be attributed to contextual realities such as weak governance data, formalistic compliance cultures, and uneven ESG disclosure quality, which moderate how ESG is interpreted in emerging markets.

The novelty of this study lies in being the first empirical analysis to investigate the relationship between ESG performance and firm value in Indonesia's environmentally sensitive industries using panel data of ESG scores and the PER ratio. By focusing on sectors such as mining, palm oil, and energy, this research contributes new insights to the global ESG literature by showing how sustainability signals are interpreted in emerging markets characterized by regulatory formalism, contested legitimacy, and evolving investor awareness. The results extend prior findings largely based on developed markets, thereby enriching cross-country comparisons of ESG valuation effects.

Despite these contributions, several limitations must be acknowledged. First, the sample is relatively small (18 firms), which limits statistical power and generalizability. Second, ESG disclosure in Indonesia is uneven and often symbolic, raising concerns about data reliability and the risk of greenwashing. Third, the study relies on a one-year lag structure to reduce endogeneity, but the time horizon may be insufficient to capture long-term sustainability effects. Fourth, the relatively low adjusted R^2 values suggest that firm valuation is influenced by many other unobserved factors, such as global commodity cycles or macroeconomic conditions, which were not modeled here.

These limitations suggest important directions for future research. Subsequent studies could expand the sample size, extend the time period, or include cross-country comparisons to strengthen external validity. Future research could also incorporate mediating variables such as corporate reputation or investor perception, which may help explain how ESG signals are transmitted into firm value. Methodologically, the use of non-parametric techniques or log-transformed models could help mitigate statistical biases and better capture nonlinear ESG–valuation relationships. Such refinements would not only deepen understanding of ESG dynamics in Indonesia but also enhance the global ESG literature by integrating perspectives from emerging markets.

Conclusion

This study shows that the overall ESG score has a positive and significant effect on company value (measured by Price to Earning Ratio) in environmentally sensitive industries in Indonesia. The social pillar is the most significant contributor in driving company value, as aspects such as community relations, social responsibility, and land conflicts greatly influence the perception of risk and company reputation. Meanwhile, the environmental pillar showed a positive but insignificant influence, which is most likely due to the weak credible environmental reporting practices in Indonesia. Instead, the governance pillar shows a negative influence, which indicates that formal mechanisms have not become a strategic differentiator in investor assessments, and are still dominated by symbolic compliance. Theoretically, these results support Stakeholder Theory, Shareholder Theory, and Legitimacy Theory, which emphasize the importance of companies responding to the interests of the wider community and using ESG as a tool to build social legitimacy and market resilience.

Suggestion:

The next research suggestions are as follows:

- Companies need to make the social aspect a strategic priority, not just a CSR formality. Comprehensive ESG integration must be carried out so that governance becomes substantial. Transparency and consistency of ESG reporting are also important for building long-term credibility.
- Governments need to strengthen the implementation of environmental policies and improve ESG reporting standards, for example by encouraging carbon disclosure and monitoring of climate risks.
- Regulators (OJK/IDX) should review their GCG reporting approach to emphasize quality over formality, and encourage substantial governance practices such as board diversity and anti-corruption transparency.
- Investors are advised to pay attention to ESG credibility, even if the market has not yet fully appreciated it, because in the long run, compliance with ESG principles will protect the company's value.
- Researchers are further advised to expand the model with mediating or interaction variables such as business risk, financial performance, and investor perception. Replication in other sectors or other developing countries is also necessary. The use of logarithmic transformations or non-parametric methods is also recommended to address potential statistical bias.

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