ESG Risk Determinant Factors: Study on Indonesia Listed Firm
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ABSTRACT
Companies worldwide are now looking at long-term and sustainable development in environmental, social, and governance issues in addition to short-term earnings. This paradigm change occurred in Indonesia as well. Companies listed on the Indonesian stock exchange are increasingly vying to establish sustainable operations because they understand the value of ESG considerations. However, what is the factors that determine the ESG risk rating? The purpose of this research is to determine what factors influence ESG risk. Based on the data that has been obtained, the researchers tested the data using PLS-SEM with Warppls 8.0. Then the following results were obtained: institutional investor structure has a negative effect on ESG risk; firm performance, firm size, and leverage have a positive influence on ESG risk; and lastly, firm performance can be a moderating variable of the relationship between institutional investor structure and ESG risk.

Keyword: ESG, Firm performance, institutional investor structure, firm size, leverage

How to Cite:
INTRODUCTION

As environmental degradation increases due to the surge in human activities, companies carrying out their business will inevitably face problems related to their environmental records, social responsibility, and governance practices (Kusuma & Koesrindartoto, 2014; Sustainalytics, 2022). It is due to a shift in business orientation not only to generate profits but also to be responsible to their stakeholders to create a sustainable business of activities carried out by the company (Cucari et al., 2018; Hidayat et al., 2021).

Environmental, social, and governance (ESG) factors measure corporate responsibility and sustainability. Third parties generally carry out measurements, and the results of ESG measurements are often used as a reference by investors where many companies will pay more to invest in companies that have a higher ESG score compared to other companies in the same industry (Czerwińska & Kaźmierkiewicz, 2015). ESG is an indicator of how well management manages risk and company performance. In the ESG, environmental indicators include climate change, global warming caused by pollution, energy and water use, and waste. Social indicators include human rights, gender balance, poverty, access to health facilities; governance indicators such as corruption, bribery, and shareholder protection (Al Farooque et al., 2022; Czerwińska & Kaźmierkiewicz, 2015).

In agency theory, shareholders have a vital role in determining the direction of company policy. Mahoney & Mahoney (2021) explained that the relationship between owners and managers is different because now, share institutions and individuals control ownership through companies such as pension fund managers, investment managers, mutual funds, and bank trust accounts. Although in the name of "company," the company consists of many individual investors. Many individual investors encourage their funds to be invested in companies with good ESG scores. Besides that, Mahoney & Mahoney (2021) argues that investing in companies that disclose their ESG is less conflicting because it aligns with the goal of many investors, namely social benefits.

With institutional investors as proxies over individual investors, the supervisory and control role is enhanced because institutional investors may have a significant enough investment in the firm to make monitoring economically feasible and worthwhile (Maulana, 2020; Mahoney and Mahoney, 2021; Maulana, Wildan, and Andriani, 2021).

In previous studies, investors do not always positively influence ESG. As in research by Yadav (2020), institutional investors have a negative effect on the social aspects of ESG; investors with proxies from mutual funds positively influence the social and governance aspects of ESG; while foreign investors do not influence all aspects of ESG. In another study, Benz et al. (2020) confirmed that investors or company owners can positively influence corporate responsibility performance.

On the other hand, in ESG research, researchers have debated factors about the relationship between ESG and company performance. The relationship between the two did not reach consensus among researchers, as negative in Horvathova (2010) and positive in Ge & Liu (2015), so one question arises, will companies that have good ESG improve company performance or, on the contrary, companies that have good company performance will have good ESG performance? (Chams et al., 2021; Peloza, 2009). These questions need to be answered to find the factors that affect ESG.
In addition to company performance, company size and leverage also have a very vital role in ESG. In previous studies, these two variables were only used as control variables (Alareni and Hamdan, 2020; Sharma, Panday, and Dangwal, 2020), even though both are factors that determine the magnitude of their influence on the company's ESG score. As a larger company, the company will have a greater risk of the performance of its corporate responsibilities. Meanwhile, according to agency theory, leverage can reduce moral hazards in corporate management (Jensen, 1986).

This study seeks to provide a different view from previous research; this study uses a rating from Sustainalytics, which is based on how well the company's ESG risk management is (Sustainalytics, 2022). Then this study explains that the role of shareholders in overseeing the company's ESG will be in line with the company's efforts to achieve its performance. In other words, the company's performance will moderate the relationship between shareholders and ESG performance. That way, we will understand what factors affect a company's ESG performance. The existence of this research will help stakeholders to manage ESG risk. This study used firm size and leverage as control variables to provide better analysis results.

LITERATURE REVIEW

Environment, Social, and Governance

The ESG concept is a corporate strategy that emphasizes the corporate governance structure and environmental and social impacts of the company's products (Schanzenbach & Sitkoff, 2020). Peng & Isa (2020) explained that ESG covers various company activities related to environmental issues, social relations, and corporate governance so that the company is run with the principle of sustainability. The environmental aspect (E) is closely related to the use of resources, emissions, and innovation. One example is the approach companies take in managing waste, recycling, and the greenhouse gas emissions they generate from their production activities, climate change, and other environmental impacts arising from their daily operations. The social aspect (S) relates to the company's relationship with the workforce, the community's interests, and the company's responsibility to the community regarding the products they produce. The social aspect speaks volumes about how companies generate trust and loyalty from stakeholders such as governments, customers, and society. The governance aspect (G) is closely related to the company's management to ensure the welfare of management and shareholders. The governance aspect includes the implementation of good corporate governance that ensures equal treatment among stakeholders. The effectiveness of governance has an integral dimension with social and environmental aspects because, through good governance, the company can ensure the achievement of corporate responsibility through the daily decisions the company. The governance aspect (G) is closely related to the company's management to ensure the welfare of management and shareholders. The governance aspect includes the implementation of good corporate governance that ensures equal treatment among stakeholders. The effectiveness of governance has an integral dimension with social and environmental aspects because, through good governance, the company can ensure the achievement of corporate responsibility through the daily decisions the company. The governance aspect (G) is closely related to the company's management to ensure the welfare of management and shareholders. The governance aspect includes the implementation of good corporate governance that ensures equal treatment among stakeholders. The effectiveness of governance has an integral dimension with social and environmental aspects because, through
good governance, the company can ensure the achievement of corporate responsibility through the daily decisions the company.

In reality, ESG has measurement ambiguities. This ambiguity arises because there are many companies that measure ESG in the world, even in Cornell (2021) there are 70 ESG rater companies that provide ESG measurement services, of course not including banks, government organizations and research organizations that also measure ESG with their own methods. However, of the many differences, there are two main dichotomies that companies and researchers refer to when measuring ESG. Either they are measuring by performance or by risk. Performance measurement shows how much the company respects ESG issues. On the other hand, measurement by risk measures how much ESG a company is likely to have a negative impact on the environment, social and governance.

ESG risk is a concern for investors because it is closely related to the sustainability of the company. This attention is shown by how companies are now trying to mitigate risk factors from ESG. Of course, these efforts cannot be separated from the reason why ESG risk has a huge contribution to the sustainability of the company. Companies that have high-risk factors tend to have low financial stability which could harm the company's sustainability. From this, we can say that companies that have high ESG will find it difficult to manage the company to get profits (Cohen, 2022). Investors now believe that company that investing their resources into ESG risk management can increase the chances of sustainability (Cohen, 2023). Cohen (2023) stated that we are entering a new financial market era where investors will encourage action to mitigate ESG risk.

Agency theory

Agency theory is often used in the corporate governance and finance literature. Agency theory focuses on the relationship between shareholders and company managers or the relationship between principals and agents. This theory argues that there is a possibility that managers do not always manage companies based on the interests of shareholders; managers may run the company to achieve their personal goals or objectives (Jensen & Meckling, 1976).

Opportunistic relationships that company managers for their interests carry out cause agency conflicts, and overcoming them will require agency costs. According to agency theory, managers can gain monetary or non-monetary benefits from creating less profitable projects for shareholders, but these activities can add value to them as individuals. One way to limit and correct the opportunistic actions of managers is to increase the company's debt to a certain level limit so that managers make the best decisions to improve company performance (Ellili, 2020). The financial model from this theory considers debt as an instrument that allows companies to reduce managerial discretion and moral hazard. In addition, debt plays a vital role in reducing free cash flow in the company and investing in unprofitable projects so that it will be optimal for companies to issue more debt to reduce managerial discretion (Jensen, 1986).

Stakeholder Theory

Any group or individual that can influence or be influenced by an organization can be said to be a stakeholder. Stakeholders include suppliers, customers, shareholders, employees, communities, government, media, etc. In stakeholder theory, managers have an obligation to serve stakeholders (Maulana & Haryadi, 2022). Often, stakeholder theory is juxtaposed with shareholder theory, that managers have a fiduciary obligation to act in the interests of
shareholders. A stakeholder is a development of shareholder theory that managers may have broader obligations than those stated in traditional economic theory (Freeman, 2015). Stakeholder theory was developed with the aim that company policies and strategies can run more effectively and efficiently by meeting the needs of all parties (Freeman, Phillips, and Sisodia, 2020).

Legitimacy theory

In legitimacy theory, it is stated that the company will die if it cannot maintain the social contract (Rankin et al., 2018). Legitimacy theory illustrates that society is formed by mutually binding agreements and runs collectively, manifested as expectations and obligations (Saraswati & Lestari, 2021). Furthermore, Saraswati & Lestari explained that the social contract held by the community regarding the company, the company should run its business must have sustainability. Therefore, the company's responsibility is not only limited to shareholders but also to the environment, society, and workforce (Saraswati & Lestari, 2021).

Company performance

Company performance is generally measured by financial performance and firm value (Hidayat, Maulana, and Andriani, 2021). The financial performance is measured by the Return On Assets (ROA) indicator. Return On Asset is a profitability ratio that measures the company's ability to generate profits by optimizing the use of company assets as a profitability ratio.

Company value is an essential factor of the company that comes from the company's ability to create user confidence in the information signaled by the company to stakeholders. A good company will be reflected in the high value of the company because many people will pay more for a company that they think has the potential to provide significant returns (Karina & Setiadi, 2020).

Hypothesis Development

Influence of Institutional Investors on ESG Risk

Institutional investors with large enough shares can easily supervise and have an essential role in the company (Buchanan, Cao, and Chen, 2018). With the increasing role of institutional investors, institutional investors have left the old relationship between owners and managers of the company to be a functional relationship in every company decision and are trying to reduce agency conflict in the company (Martínez-Ferrero & Lozano, 2021; Maulana et al., 2022). Institutional investors have strong incentives to monitor, voice their opinions on the company's strategic decision making and leave the company (Yadav, 2020). Therefore, institutional investors can monitor that companies carry out ESG risk management well, so I draw the hypothesis:

H1: The structure of institutional investors has a negative effect on ESG risk

The influence of company performance on ESG Risk

In Chams et al. (2021), a business oriented toward corporate sustainability and corporate responsibility is a "luxury." It takes a certain level of "financial freedom" for companies to be able to invest their funds in ESG. On the other hand, companies with financial difficulties will have problems when they have to focus on many stakeholders at once, so they
will be more oriented towards financial gain and fulfilling their responsibilities to shareholders. Judging from the slack resource theory, Ortas et al. (2015) explained that the company's performance will encourage companies to invest their resources in ESG. The relation with ESG risk is that companies with good performance will pay attention to good ESG risk management. This is in line with the wishes of shareholders, where shareholders will supervise their companies so that they run the company responsibly; the company's good performance can be a catalyst for good supervision in accordance with the expectations of shareholders.

H2: Company performance has a negative effect on ESG risk

H3: Corporate Financial Performance can moderate Institutional Investor Relations with ESG Risk

Effect of Firm Size on ESG Risk

The bigger the company, the greater the responsibility that the company must fulfill. The size of the company will invite greater attention from the public, government, and other stakeholders, so companies need to pay greater attention than companies with smaller sizes (Artiach et al., 2010). The company's size determines the number of products from its operations to produce more other environmental impacts. Then the hypothesis that is formulated is:

H4: Firm size has a negative effect on ESG risk

Effect of Leverage on ESG Risk

Leverage is one indicator that shows the amount of debt in the company's capital structure. Debt holders have a great interest in the company, and companies tend to pay greater attention to debt holders than to other weaker stakeholders such as employees, society, and other communities (Artiach et al., 2010). The existence of the debt is also valuable for limiting company managers in making decisions that are not profitable for the company and minimizing agency conflicts. On the other hand, unmanaged obligations can harm the company and cause conflict between the company and its stakeholders.

H5: Leverage has a positive effect on ESG risk

RESEARCH METHOD

Types of research

This research is a causal quantitative study because it examines the causal relationship between the variables in the study. This study aims to prove that institutional investors, company performance, company size, and leverage can be determinants of ESG risk. For proof, these variables will be tested with SEM-PLS.

Independent Variable

The independent variables in this study are institutional investor structure variables with indicators of percentage of institutional investors and total institutional holders which will be symbolized by OWNS; Company performance with indicators of return on assets and Tobin's Q and will be symbolized by CFP; the size of the company which is measured by the
natural logarithm of total assets and will be denoted by SIZE; leverage is measured by total debt divided by total assets and will be denoted by LEVERAGE. This ownership data was obtained from Yahoo Finance which was accessed in August. Financial data is also obtained from Yahoo Finance, and the data used is financial data for 2021.

**Dependent Variable**

The dependent variable of this study is ESG risk. ESG risk scores were obtained by researchers on the website [www.sustainalytic.com](http://www.sustainalytic.com). The score represents how heavily the company owns the ESG risk. Aggregate ESG performance includes a company's level of preparedness, disclosure, and controversy involvement across all three ESG themes, symbolized by ESG_RISK.

**Population and Sample**

The population used in this study are Indonesian companies listed on the Indonesian stock exchange in 2022. Then the sample used is selected with the criteria of companies that have disclosures on the Sustainalytics website.

**Analysis Techniques**

The data that has been obtained according to the criteria will be analyzed with descriptive statistics and tested by PLS-SEM with the help of the WarpPLS 8.0 application. The data that has been collected will be tested for Goodness fit model, multicollinearity using VIF (Variance Inflation factor) values, outer model, inner model and hypothesis testing using PLS. The latent variable model used in this study is formative because the indicators used are observable data (Solimun, Fernandes, and Nurjannah, 2017). The equation of the research model used is:

$$ESGRISK = CFP + OWNS + LEV + SIZE + CFP*OWNS + e$$

**RESULT AND DISCUSSION**

**Results**

Descriptive statistics will provide an overview of the data from the variables used in this study. Of the 790 companies, 99 have ESG risk disclosures in sustainability, as presented in table 1.

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>ESG risk rating</td>
</tr>
<tr>
<td>Firm Size</td>
</tr>
<tr>
<td>Return on Assets</td>
</tr>
</tbody>
</table>
Table 2 explains that the statistical model used in this study is good because the average path coefficient, average R-squared, average adjusted R-squared, average block VIF, and average full collinearity VIF are ideal (Kock, 2022).

<table>
<thead>
<tr>
<th>General Result</th>
<th>Condition</th>
<th>Result</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average path coefficient (APC)</strong></td>
<td>Good if P-value &lt; 0.05</td>
<td>0.246, P=0.003</td>
<td>Well</td>
</tr>
<tr>
<td><strong>Average R-squared (ARS)</strong></td>
<td>Good if P-value &lt; 0.05</td>
<td>0.272, P=0.001</td>
<td>Well</td>
</tr>
<tr>
<td><strong>Average adjusted R-squared (AARS)</strong></td>
<td>Good if P-value &lt; 0.05</td>
<td>0.233, P=0.004</td>
<td>Well</td>
</tr>
<tr>
<td><strong>Average block VIF (AVIF)</strong></td>
<td>Acceptable if &lt;= 5, ideally &lt;= 3.3</td>
<td>1.474</td>
<td>Ideal</td>
</tr>
<tr>
<td><strong>Average full collinearity VIF (AFVIF)</strong></td>
<td>Acceptable if &lt;= 5, ideally &lt;= 3.3</td>
<td>1.436</td>
<td>Ideal</td>
</tr>
</tbody>
</table>

Source: data, 2022

In Kock (2015), for assessing the outer model on the latent variable, the manifest variable must be significantly less than 0.05 and have a variance inflation factor of less than 3.3. In this study, all manifest variables were significant, with p-value <0.05 and VIF less than 3.3, as shown in table 3.
Table 3. Outer Model Evaluation

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicators</th>
<th>P value</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG_RISK</td>
<td>ESG_RIS</td>
<td>&lt;0.001</td>
<td>0</td>
</tr>
<tr>
<td>FIRMSIZE</td>
<td>FIRMSIZE</td>
<td>&lt;0.001</td>
<td>0</td>
</tr>
<tr>
<td>OWNS</td>
<td>Institute</td>
<td>&lt;0.001</td>
<td>1.794</td>
</tr>
<tr>
<td></td>
<td>INSTOL</td>
<td>&lt;0.001</td>
<td>1.794</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>Leverage</td>
<td>&lt;0.001</td>
<td>0</td>
</tr>
<tr>
<td>CFP</td>
<td>TobinQ</td>
<td>&lt;0.001</td>
<td>1.032</td>
</tr>
<tr>
<td>CFP*OWNERS</td>
<td>CFP*OWNNS</td>
<td>&lt;0.001</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: data, 2022

Hair et al. (2019) describe R2 to assess the model's predictive power, and Q2 indicates the magnitude of the model's accuracy. Furthermore, Hair et al. explain that if the R2 value is 0.75, 0.50, and 0.25, it can be said that the model is substantial, moderate, and weak. In this study, R2 0.272 is classified as weak, but in the context of certain disciplines, even though the value is only 0.10, R2 can still be said to be satisfactory (Hair et al., 2019). Q2 If the value is more than 0, 0.025 and 0.50 depict small, medium, and large predictive accuracy. In table 4 the model that tests ESG_RISK has a Q2 of 0.23 which means the prediction accuracy of the PLS path model is medium.

Table 4. Inner Model Evaluation

<table>
<thead>
<tr>
<th>Variable</th>
<th>R-squared</th>
<th>Q-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG_RISK</td>
<td>0.272</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Source: data, 2022

Table 5 describes hypothesis testing. In table 5, H1, H3, H4, and H5 are accepted, while H2 is rejected. FIRMSIZE had a positive effect on ESGRISK with a path coefficient of 0.216. OWNS is proven to have a negative effect on ESGRISK with a path coefficient of -0.25. LEVERAGE is proven to have a positive effect on ESGRISK with a path coefficient of 0.201. CFP is proven to have a positive effect on ESGRISK with a path coefficient of 0.137. Finally, in this study, CFP*OWNERS has a significance of <0.001, meaning that CFP can be a moderating variable in the relationship between OWNS and ESGRISK. (Baron & Kenny, 1986).
Table 5. Hypothesis testing

<table>
<thead>
<tr>
<th>Variables Tested</th>
<th>Path Coef.</th>
<th>P-Value</th>
<th>Interpretation Direction</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG_RISK ← FIRMSIZE</td>
<td>0.216</td>
<td>0.012*</td>
<td>Positive</td>
<td>Received</td>
</tr>
<tr>
<td>ESG_RISK OWNS</td>
<td>-0.25</td>
<td>0.005***</td>
<td>Negative</td>
<td>Received</td>
</tr>
<tr>
<td>ESG_RISK LEVERAGE</td>
<td>0.201</td>
<td>0.019**</td>
<td>Positive</td>
<td>Received</td>
</tr>
<tr>
<td>ESG_RISK CFP</td>
<td>0.137</td>
<td>0.08*</td>
<td>Positive</td>
<td>Rejected</td>
</tr>
<tr>
<td>ESG_RISK CFP*OWNS</td>
<td>-0.424</td>
<td>&lt;0.001***</td>
<td>Negative</td>
<td>Received</td>
</tr>
</tbody>
</table>

. *, **, *** represent significance level at p < 0.10 (weakly significant), p < 0.05 (moderately significant) and p 0.01 (highly significant) respectively.

Source: data, 2022

Discussion

Based on the test results, the influence of institutional investor structure on ESG risk has a path coefficient of -0.25 with a p-value of 0.005, which means that the active role of institutional investors in monitoring company policies to pay attention to stakeholder interests is proven to be effective. Institutional investors have greater power to influence managers' policies. This power allows institutional investors to force managers to invest company resources into ESG risk control. The active role of institutional investors is needed, because managers face the dilemma of seeking profits through business, while investing in ESG can increase company costs, which will be a barrier for managers to generate profits. Active participation of institutional investors forces managers to inevitably focus on ESG risk.
Institutional investors can effectively exercise their voting rights and provide resolutions regarding the company's performance in the financial dimension and including environmental, social, and environmental aspects (Majoch, Gifford, and Hoepner, 2014). It can be said that the greater the percentage of ownership and total institutional shareholders, the better the control over the company in controlling environmental, social, and governance risks will be. This result differs from Lavin & Montecinos-Pearce (2021), who found no significant effect between ownership structure and ESG disclosure. Nevertheless, the result of Martínez-Ferrero & Lozano (2021) in contrast, in his research that looked for a nonlinear relationship between ownership and ESG, it was found that ownership at a lower level of ownership will have better ESG performance.

The company's performance positively influences ESG risk with a path coefficient of 0.137 and p-value of 0.08, with a significant level of 10% (weak). The results show that as the company's performance increases, the ESG risk will increase. Julian & Ofori-Dankwa (2013) found the same thing where companies that have better profitability turned out to have a negative influence on the performance of corporate responsibility. This result is not as expected by researchers, where researchers expect that when a company is able to generate profits well, the company will have more resources to pay attention to other aspects besides material benefits, such as ESG. In the context of this study, where ESG disclosure is based on company risk, the positive influence of company performance on ESG risk is because, in the company's efforts to generate corporate profits, companies need to risk themselves on ESG problems. Companies need to exploit all available resources to generate profits.

Then in testing the moderating role of firm performance in the relationship between institutional investor structure and ESG risk, the researchers found exciting findings where the path coefficient is -0.424 and p-value <0.001, or it can be said that firm performance can be a moderating variable. This finding indicates that the supervisory role of the owner of the company will be catalyzed when the company also has the capital or financial freedom to invest in ESG risk. The role of moderation can be illustrated in Figure 2.

![Picture 2. Modration Test](source: data, 2020)

Firm size positively affects ESG risk with a path coefficient of 0.216 with a p-value of 0.012. This finding illustrates that the more significant the company, the greater the ESG risk. So this is different from the research D'Amico et al. (2016), where the size of the company positively affects the quality of corporate responsibility disclosure. So it can be said that
companies that have grown will not necessarily be increasingly responsible for their social responsibilities as described in the theory of legitimacy.

Leverage, in this study, was found to have a positive effect on ESG risk with a path coefficient of 0.201 and a p-value of 0.019, which means that companies with greater leverage will have more significant environmental, social, and governance risks. This research is in line with Alam et al. (2022), who found that companies with high leverage tend to be weak in their ESG aspects. The disadvantage of having debt makes the company have more constraints in investing its resources to build sustainable businesses.

CONCLUSION

This paper examines the factors that influence the ESG risk of companies in Indonesia. In this study, it was found that institutional investors have a negative effect on ESG risk, firm performance has a positive influence on ESG risk, firm performance can be a moderating variable of institutional investor relations with ESG risk, and firm size and leverage have a positive influence on ESG risk.

This finding confirms that the greater the structure of the institutional investors, the more control the company will pay to environmental, social, and governance. With a better institutional investor structure, the company avoids agency costs arising from poor management of the ESG dimension. Although the company's performance positively influences ESG, its existence can be a catalyst for the influence of institutional investor structure, indicating that institutional investors need the availability of resources. From this, a company needs to have a very diverse institutional investor structure, not owned by one or two very influential companies.

Then, the size of the company, it is inevitable that a larger company will have a greater risk. Therefore, managers must pay attention to their policies so that the company minimizes the negative impact on the environment. According to this paper, one approach is managing a firm's leverage.

REFERENCES


