THE EFFECT OF ESG, COST OF CAPITAL, AND WOMAN BOARD ON INDONESIA FIRM PERFORMANCE

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Abstract: In this study, the primary objective is to examine the influence of ESG (Environmental, Social, and Governance), cost of capital, and woman board on firm performance of Indonesian companies. The OLS (Ordinary Least Square) approach is used in this study to examine how ESG, cost of capital and woman board affect firm performance, which is assessed through the measurement of Return on Assets (ROA). The companies listed in the Thomson Reuters database with an observation period between 2020 until 2022 make up this study’s population, and sample data was acquired through the application of purposive sampling method, totaling 117 samples. According to the research results, it is inferred that ROA is impacted significantly negative by ESG; cost of capital and woman board give such a significant and positive influence toward ROA. The unique feature of this research is its focus on a developing country, particularly Indonesia, in contrast to prior research that primarily focused on developed countries like Hong Kong.

Keywords: ESG, Cost of Capital, Woman Board, Firm Performance

INTRODUCTION

In modern times, as ecological challenges become more urgent, social inequalities deepen, and ethical demands in business become higher, attention to “ESG” has increased in the minds of business entities, investors, and the general public. The existence of the United Nations Development Program (UNDP) published by the United Nations (UN) also increases encouragement for the global community to start efforts to realize the Sustainable Development Goals (SDGs) in 2030 (Nations, 2015), which is based on stakeholder theory, Companies are expected not only to carry out their operations efficiently, but are also obliged to produce positive impacts on society and the surrounding environment (Ansoff, 1965). Companies are required to provide a comprehensive overview of their corporate responsibility practices and procedures. The practice of sustainability reporting has become a more common practice among companies as a result of maximizing the role of ESG and the concept of accountability in improving market transparency and trust between companies and stakeholders (Mion & Adaui, 2019). Companies that actively manage ESG sustainability will gain benefits in the form of superior shared values, both for the business world and society (Taliento et.al., 2019). A company can increase its economic value, that is, reduce costs, by reducing negative external factors with waste reduction. The integration of ESG in corporate management allows companies to develop competitive advantages, improve operational efficiency and reputation, and reduce waste, so that companies can increase shared value and performance (Porter & Kramer, 2011). In addition, companies that
implement ESG can attract more investors, because investors believe that sustainability will guarantee a level of return on assets commensurate with the risk (Ferriani & Natoli, 2021). These two things clearly show that ESG reflects the company's ability to support Sustainable Development Goals (SDGs) and improve firm performance. Firm performance can be described as all actions carried out by a company to achieve its goals during a certain period of time. There are various methods that can be used to assess the performance of a company. One general approach that is often used is to look at profitability ratios (Wahyuni et al., 2019). Therefore, in measuring financial performance, this study uses one of the profitability ratios, namely ROA (Return on Assets).

Another component that could influence a firm's performance is the cost of capital, which is a crucial component in determining financing strategies and decision making. Cost of capital is also a major determining factor for a company's growth, profitability and survival because it reflects the level of profit anticipated by investors in return for the use of their capital in the company and is used to evaluate the feasibility of investment projects, determine the optimal capital structure, and assess the financial risks involved in the company's operations. A high cost of capital can hinder a company's ability to produce returns significant enough to cover its capital cost while a low cost can increase potential profitability. A good company will minimize capital costs to generate healthy income for equity shareholders, which, in turn, will reflect the performance of a company (Onwe et al., 2020). Jensen & Meckling (1976) agency theory supports this theory by stating that financing with greater levels of debt can reduce a company's performance. This happens to be outcomes of profitable businesses' ability to finance new initiatives with retained outcomes compared toward taking on additional debt or stock. In addition, increasing a company's debt level can result in increased distress costs, and thereby reduce the benefits of the tax shield, which as a result will reduce company profits and impact worse company performance (Ibrahim et al., 2021).

The final factor that influences company performance, which will also be discussed along with other factors in this research, is the woman board. Over the last few decades, the role of women in the business realm has experienced significant progress (Brahma et al., 2021). In an effort to achieve gender equality and respond to society's increasing demand for diversification, companies globally are increasingly realizing the importance of the involvement of women in a firm’s strategic decision-making. According to agency theory, the board takes a crucial decision in the governance framework that reduces agency conflicts between investors and owners, because female boards tend to reduce the risk of these agency problems by increasing the dynamics and efficiency of the board (Fama et al., 1983). Presence and participation of female councilors has also been shown to show better performance because female councilors allocate greater effort in monitoring responsibilities (Adams & Ferreira, 2008). Three times as many economic gains are reported by companies with 40% or more female boards as by those with at least 20% female boards. This increase is the result of the involvement of women on the board who are able to create diverse experiences and also perspectives to process of decision making as they spend more time with the company, resulting in richer and more accurate discussions in developing more optimal business strategies (Sattar et al., 2022).

This study was conducted to explain further questions related to ESG, cost of capital, and woman boards. Based on previous research by Chung et al. (2023) with
research objects of companies in Hong Kong, found a positive association between the total ESG score and the financial performance of the company. The findings indicate that when Return on Assets (ROA) is applied as the dependent variable, both the environmental and social subscores have a substantial impact. Interestingly, study by Junius et al. (2020) shows that there are varied results regarding the influence of ESG toward performance of firm. Junius et al. (2020) found evidence that firm performance is not significantly impacted by ESG scores, due to ESG scores not being part of the company. Meanwhile, in research related to capital costs, Ibrahim et al. (2021) found that listed non-financial companies in Nigeria have demonstrated a significant and also negative influence of their cost of capital. In the context of women boards, differences in research outcomes were also discovered. According to research by Brahma et al., (2021), taking more women to be part of the board significantly improves the success of the organization. Meanwhile, another view came in research conducted by Mahyuni & Rahmawati (2022) on three business sectors listed on the Indonesia Stock Exchange (BEI) in 2018, which found that women's participation on the boards of directors and commissioners had a negative impact on firm performance.

This study differs significantly compared to earlier studies. First, this research was conducted in a developing country that has not yet fully prioritized environmental, social, and governance (ESG). This refers to suggestions in research by Alsayegh et al. (2020), who stated that there is a lack of study on the ESG influence toward firm performance in Asian countries, and this is urgently needed. Second, this research also examines the influence of ESG together with capital cost and woman board on firm performance. Therefore, based on the inconsistency of previous research results with existing theories and phenomena and differences, researchers want to conduct a study with the title "The Influence of ESG, Cost of Capital, and Woman Board toward Firm Performance in Indonesian Companies listed on the BEI in 2020-2022". It is believed that this study will help to answer existing questions about the impact of ESG, cost of capital, and female boards on the performance of Indonesian public enterprises.

The Influence of ESG on Firm Performance

According to (Porter & Kramer, 2011), a company can increase its economic value by reducing negative external factors by integrating ESG into company management. Investors believe that the existence of sustainable practices will guarantee a level of return on assets commensurate with the risk, which makes companies that implement ESG attract more investors (Ferriani & Natoli, 2021). The explanation above clearly shows that ESG reflects a firm’s ability to support Sustainable Development Goals (SDGs) and improve company performance. Therefore, the testing hypothesis may be written as follows:

$H_{A1}$: ESG has a positive and significant influence toward firm performance

The Influence of Cost of Capital on Firm Performance

Cost of capital used to assess the feasibility of investment projects, determine the optimal capital structure, and assess the financial risks involved in business operations. Cost of capital also shows the rate of return expected by investors in return for using their capital on the company. In other words, as a company's cost of capital rises, so does the company's capacity to create returns substantial enough to offset the cost of
capital (Onwe et al., 2020). Therefore, the testing hypothesis may be written as follows:

\[ H_{A2} : \text{Cost of Capital has a negative and significant influence toward firm performance} \]

**The influence of the Woman Board on Firm Performance**

In an effort to achieve gender equality, companies have attempted to implement women's board roles in the business world in recent decades (Brahma et al., 2021). Female councilors show better presence and participation on committees. As well as making more efforts to be responsible for their work (Adams & Ferreira, 2008). Companies that have a female board presence of at least 40% or more are known to have three times greater economic benefits compared to companies that have a female board presence of at least 20% in the board structure. This may occur because female boards spend more time with the company and bring different perspectives and experiences to decision making (Sattar et al., 2022). Therefore, the testing hypothesis may be written as follows:

\[ H_{A3} : \text{Woman board has a positive and significant influence toward firm performance} \]

Apart from the three hypotheses above, this research also tests the effect of three independent variables (ESG, COC, and Woman Board) simultaneously on firm performance (ROA), which can be formulated as the hypothesis below:

\[ H_{A4} : \text{ESG, Cost of Capital, and woman board simultaneously influence firm performance} \]

**METHODS**

The influence of independent variable toward dependent variable is examined in this study by using Ordinary Least Square (OLS) method. In this research, secondary data from Thomson Reuters database (Refinitiv Eikon) was used as a data source, with companies registered in BEI along the years of 2020 to 2022 as the research population. The sample was chosen deliberately (purposive sampling) based on certain criteria or considerations. Table 1 displays the criteria used to select samples in this study.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies registered on (BEI) which have collaborated with the Thomson Reuters Database (Refinitiv Eikon) which have ESG scores in 2020-2022</td>
<td>858</td>
</tr>
<tr>
<td>Companies that do not have ESG score data between 2020-2022</td>
<td>(775)</td>
</tr>
<tr>
<td>Companies that do not have woman board data between 2020-2022</td>
<td>(44)</td>
</tr>
<tr>
<td>Total companies taken as samples</td>
<td>39</td>
</tr>
<tr>
<td>The total number of companies taken as samples is multiplied by 3 periods</td>
<td>117</td>
</tr>
</tbody>
</table>

Source: SPSS Output (2023)

There are three independent variables in this research, namely Environmental, Social, and Governance (ESG), capital cost, and woman board. Apart from that, there is
one dependent variable, namely firm performance. Firm performance is the result of operational activities carried out by utilizing existing resources. One way a company reveals its performance is by analyzing the ratios in its financial reports. For example, a company can measure whether its financial performance by analyzing ROA. Thus, in this study, ROA is used as an indicator to assess firm performance, which can be formulated as follows (Buallay et al., 2020):

\[
ROA = \frac{Net\ Income}{Total\ Assets}
\]

Environmental, Social, and Governance (ESG) is measured by calculations using the following formula (Husada & Handayani, 2021):

\[
ESG = \frac{ESG\ Disclosure}{Maximum\ Disclosure} \times 100\%
\]

In this research, the Weighted Average Cost of Capital (WACC) is used to measure the independent variable cost of capital. When a company wants to determine COC, it needs to use metrics that include COEC and Cost of Debt Capital (CODC). Therefore, WACC can be used as a proxy for COC because WACC takes into account both COEC and CODC (Ibrahim et al., 2021), which can be formulated as follows:

\[
WACC = W_D \times K_D (1 - T) + W_E \times K_E
\]

The Woman Board variable is calculated by differentiating the number of women on board of commissioners by the entire members of board, which can be formulated as follows (Zahid et al., 2020):

\[
Woman\ Board = \frac{Number\ of\ Female\ Commissioner}{Number\ of\ Board\ Commissioner}
\]

Based on the variables used, the research conceptual framework can be illustrated in Figure 1 as follows:

Multiple regression is applied as a method in empirical analysis. The following is a regression model that has been developed based on the variables used in this study.
LnY = β0 + β1X1 + β2X2 + β3X3 + ε

Where:
X1 = Environmental, Social, and Governance (ESG)
X2 = Cost of Capital (COC)
X3 = Woman Board
LnY = Firm performance (ROA)
β0 = Constant
ε = Error

This method is expected to provide a thorough defining of the interaction between ESG, cost of capital, and female board members on business performance.

RESULTS AND DISCUSSION

Table 2 describes a total sample of 85 observations along the years of 2020-2022 period which were applied to test the influence of ESG_SCORE, COC_WACC, and WOMAN_BOARD on company performance (LN_ROA). The statistics displayed include the minimum, mean, maximum, and also values of standard deviation for every variable. The minimum value of LN_ROA is -0.09, the maximum is 2.60, the average is 1.5477, and the standard deviation is 0.61098. The ESG_SCORE minimum is 17.31, the maximum is 88.10, mean is 57.5276, and the standard deviation is 16.59268. The minimum of COC_WACC is 0.0526, the maximum is 0.1204, mean is 0.085148, and the standard deviation is 0.0158329. The minimum of WOMAN_BOARD is 6.67, the maximum is 62.50, mean is 22.1351, and the standard deviation value is 13.15197.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean.</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESG_SCORE</td>
<td>85</td>
<td>17.31</td>
<td>88.10</td>
<td>57.5276</td>
<td>16.59268</td>
</tr>
<tr>
<td>COC_WACC</td>
<td>85</td>
<td>0.0526</td>
<td>0.1204</td>
<td>0.085148</td>
<td>0.0158329</td>
</tr>
<tr>
<td>WOMAN_BOARD</td>
<td>85</td>
<td>6.67</td>
<td>62.50</td>
<td>22.1351</td>
<td>13.15197</td>
</tr>
<tr>
<td>LN_ROA</td>
<td>85</td>
<td>-0.09</td>
<td>2.60</td>
<td>1.5477</td>
<td>0.61098</td>
</tr>
<tr>
<td>Valid N (Listwise)</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Descriptive Statistics

Normality test in this research used One-Sample Kolmogorov Smirnov normality test. Based on a sample of 117 data, the Asymp Sig value was obtained, equal to 0 < α. This finding suggests that the data is not normally having distributed. As a result, an outlier test was performed to eliminate data with extreme values. After outliers were performed, the data that previously amounted to 117 samples was reduced to 85 data samples with an Asymp. Sig equal to 0.200. This suggests that the 85 data samples are distributed normally. Furthermore, in multicollinearity testing, Tolerance was sequentially

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obtained at 0.919; 0.961; and 0.941 which indicates that Tolerance > 0.1. VIF (Variance Inflator Factor) value is respectively obtained at 1.088; 1.040; and 1.062 which are < 10. Multicollinearity testing with a value of Tolerance > 0.1 and a VIF value < 10 suggests that the independent variables are free from multicollinearity. The heteroscedasticity test in Table 3 shows the significance level for each variable is more than 0.05 (α = 5%). Based on this results, it is possible to conclude that the regression model used in this research does not exhibit heteroscedasticity. In the autocorrelation test, the Asymp Sig value was obtained 0.586 which is greater than 0.05 (α = 5%). This result suggests that there is no indication of autocorrelation in this model.

### Table 3. Classical Assumption Test

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>LN_ROA</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
<td>VIF</td>
<td>Sig.</td>
</tr>
<tr>
<td>ESG_SCORE</td>
<td>0.919</td>
<td>1.088</td>
<td>0.784</td>
</tr>
<tr>
<td>COC_WACC</td>
<td>0.961</td>
<td>1.040</td>
<td>0.524</td>
</tr>
<tr>
<td>WOMAN_BOARD</td>
<td>0.941</td>
<td>1.062</td>
<td>0.234</td>
</tr>
<tr>
<td>Sig. (1-Sample KS)</td>
<td></td>
<td></td>
<td>0.200</td>
</tr>
<tr>
<td>Sig. (Test Runs)</td>
<td></td>
<td></td>
<td>0.586</td>
</tr>
</tbody>
</table>

Source: SPSS Output (2023)

Table 4 reveals that the regression model in this study results value of an Adjusted R Square of 0.238, or 23.8%. This result shows that the independent variable may explain 23.8% of dependent variable’s variation, whereas the rest 76.2% is defined by other factors outside of regression model.

### Table 4. Simultaneous Coefficient of Determination

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.266</td>
<td>0.238</td>
<td>0.53322</td>
</tr>
</tbody>
</table>

Source: SPSS Output (2023)

Referring to Table 5, it can be seen that the ESG_SCORE variable in the regression model of this research has a significance level of 0.012, COC_WACC has a significance level of 0.014, and WOMAN_BOARD has a significance level of 0.0008. The significance level of the three independent variables is smaller or less than the predetermined significance level, namely 0.05, so it can be concluded that the variables ESG_SCORE, COC_WACC, and WOMAN_BOARD partially influence the dependent variable. Table 5 also reports the results of OLS regression test, which was used to determine the influence of ESG_SCORE, COC_WACC, and WOMAN_BOARD on
company performance as measured using LN_ROA. The following is the regression model formed in the research:

\[
\text{LnY} = 1.017 - 0.009X1 + 9.266X2 + 0.012X3 + \varepsilon
\]

**Table 5. T-Test**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>LN_ROA</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients B</td>
<td>t</td>
<td>Sig.</td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.017</td>
<td>2.373</td>
<td>0.020</td>
</tr>
<tr>
<td>ESG_SCORE</td>
<td>-0.009</td>
<td>-2.576</td>
<td>0.012</td>
</tr>
<tr>
<td>COC_WACC</td>
<td>9.266</td>
<td>2.504</td>
<td>0.014</td>
</tr>
<tr>
<td>WOMAN_BOARD</td>
<td>0.012</td>
<td>2.735</td>
<td>0.008</td>
</tr>
</tbody>
</table>

Source: SPSS Output (2023)

Table 6 shows that the significance level of the regression model in the research is 0.000 or less than 0.05. As a result, it can be inferred that the independent variables consisting of ESG_SCORE, COC_WACC, and WOMAN_BOARD values influence the dependent variable firm performance or LN_ROA simultaneously or simultaneously. Therefore, hypothesis 4 in this study is accepted.

**Table 6. F-Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>9.761</td>
<td>0.000b</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: SPSS Output (2023)

**Discussion**

**The Influence of ESG on Firm Performance**

The data processed in this study shows that ESG influences company performance negatively, hence hypothesis 1 is rejected. This finding is in contrast to the study conducted by Chung et al. (2023) and stakeholders theory which states that companies not only have a responsibility to carry out their operations efficiently, but also are demanded to have a beneficial influence toward society and the surrounding environment in order for businesses to gain competitive advantages, improve operational efficiency and reputation, and minimize waste, so that companies can improve shared values and performance (Porter & Kramer., 2011). The negative influence of ESG on firm performance can be explained by investors’ perceptions of ESG expenditures in the
context of time and also money invested in activities of ESG are not resulting in an increase in the company's revenue or profits and may be considered to interfere with the management of its core business (Bodhanwala & Bodhanwala, 2022). Companies must carry out operations in accordance with ESG principles which can involve additional costs to ensure compliance with regulations and sustainability standards, so companies need to change their business processes, adopt new technology, or provide employee training to meet ESG requirements which can result in costs that affect firm performance.

The Influence of Cost of Capital on Firm Performance

Results in this research shows that the cost of capital influences firm performance positively and significantly. Thus, hypothesis 2 in this study is not accepted. This result is consistent with previous research by Ritonga et al. (2021), in contrast to the research by Ibrahim et al. (2021) and agency theory which states that financing with a greater level of debt can reduce the performance of a company. The positive influence of cost of capital on Return on Assets can be explained by theory by Ritonga et al. (2021) which states that increasing company funding using debt will improve financial performance because efficient capital costs can create an optimal capital structure, which can increase the company's financial efficiency. Efficient use of funding sources can reduce interest costs and other financial burdens, increase net profit margins, and ultimately support the growth of Return on Assets.

The Influence of the Woman Board on Firm Performance

The data processed in this research shows that woman boards influence firm performance positively and significantly. Thus, hypothesis 3 in this study is accepted. These refinements are consistent with previous research by Sattar et al. (2021) and also Brahma et al. (2021) which states that the presence of women in the board can increase financial performance. The positive influence of the woman board on Return on Assets is because their presence allows them to have significant managerial power, better information, and time to influence decision making, resulting in a beneficial impact on firm performance. is because the women presence in the board of directors let them to have significant management power, greater information, and more time to influence decision making, resulting in improved firm performance (Brahma et al., 2021).

CONCLUSION

There is found a negative and also significant influence of ESG toward performance of firm. The main reason behind this result is that there is still perception that spending costs on ESG activities cannot directly increase the profits obtained so that additional costs for ESG can reduce profits. Meanwhile, the cost of capital and woman board give such a positive and also significant impact on firm performance. Cost of capital can influence firm’s performance positively because an increasing debt funding can increase the company's financial efficiency due to optimal capital costs. Woman boards can influence financial performance positively because the women presence in the board of directors drives them to have significant management power, greater information, and more time to influence decision making, resulting in improved firm performance.

In this research, several limitations were found. First, this research was carried out
in Indonesia, a developing country that has yet to fully apply ESG in its businesses. Second, cross-section data is used as data for this research so the research data is limited to 2020 to 2022 only, so research over a longer time span is needed. In addition, this research data may be biased because of the sampling based on the Refinitiv Database, which only includes partnered companies. Therefore, future studies must analyze more using wider data so that the results gained are more dependable.

This study provides implications for investors and company owners to be able to research and encourage companies to integrate ESG as part of company performance considering the possibility of benefits arising from the implementation of ESG. This research can provide insight into the extent to which companies can optimize the use of their capital. The results obtained in this research regarding the cost of capital provide implications for stakeholders that if a higher cost of capital is not balanced with an equivalent or higher ROA level, it can indicate that the company is inefficient in allocating its capital. Apart from that, this research also has implications for stakeholders and government institutions to establish laws that regulate women's involvement in business and protect women's rights as a form of equality and justice.

REFERENCES


