

The Effects of ESG on Firm Performance and Firm Value: A Study of Indonesian and Malaysian Listed Companies

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Abstract

The effect of ESG on a company's firm value and financial performance is a well-researched and controversial topic in academic research, as many authors conclude different results in their studies. Previous studies suggest that ESG positively affects firm value or financial performance. In contrast, some studies suggest the opposite, while others also indicate that only specific factors within ESG, such as environmental, social, and governance, significantly affect a company's value and financial performance. To contribute to current literature in the field and to resolve the dispute in controversial results, this study aims to assess the significance of ESG on firm value and financial performance of Indonesian and/or Malaysian public-listed companies, to deduce whether ESG has a positive or negative effect of firm value and financial performance, and to determine which individual factors of ESG has the most effect to the overall ESG score of each Indonesian and/or Malaysian public-listed companies. As there has been limited research on the topic in Indonesia and Malaysia, the author uses PLS-SEM to analyze the effects of ESG scores on firm value and financial performance of 10 Indonesian public-listed companies and 15 Malaysian public-listed companies using available financial and ESG scoring data from YahooFinance during the 3rd quarter of the 2022 year. The PLS-SEM study suggests that ESG has a significant positive effect on financial performance (proxied using ROA or Return of Assets), while ESG has no significant but positive effect on firm value (proxied using Tobin's Q value). In addition, factor analysis of the PLS-SEM model shows that from the three pillars of ESG, only social and governance scores correlate with the overall ESG score.

Keywords: ESG; Financial performance; Firm value.

A. INTRODUCTION

ESG factors are essential for a firm's stock performance, whether through its value or financial performance. ESG factors have been studied numerous times to have mixed effects on firm value where it can be positively correlated (Giannopoulos et al., 2022), negatively correlated (Naeem & Çankaya, 2022), and no effects (Budsaratragoon & Jitmaneeroj, 2021) on different cases. Additionally, many studies have evaluated that financial performance is significantly affected by ESG factors, whether positive (Lopez-Toro et al., 2021) or negative (Giannopoulos et al., 2022). Importantly, companies and mutual funds implementing ESG into their investment considerations have less risk as they improve stakeholder relations (Saci, Jasimuddin, and Hasan, 2022).

Environmental, Social, and Governance (ESG) measures are the environmental, social, and governance issues that influence companies' investment decisions (Armstrong, 2020). ESG measures have become widely used to evaluate a public-listed company as they are relevant to investment performance and ethical considerations (Amel-Zadeh & Serafeim, 2018). In addition, the writer considers ESG an important topic to investigate due to the increasing implementations by countries that force companies to publish their ESG reports. This is shown in how the World Economic Forum (2022) reported that over 120 global companies, such as Schneider, Philips, and SABIC, have implemented ESG reporting in addition to a report by worldfavor.com (2022) saying that 25 countries around the world including China, US, UK, Malaysia, Canada, and New Zealand that has mandated ESG reporting. This shows the increasing relevance of ESG as many nations and global companies have started to adopt ESG reporting, and investors have started using ESG to select companies to invest in.

According to the (World Bank, 2022), Indonesia is considered a middle-income country and possibly one where pollution is most severe (Fuller et al., 2022). Indonesia is currently ranked 164th in Yale's Environmental

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Performance Index in 2022 and the 3rd lowest among all G-20 countries. The country is also ranked 62nd among 167 countries in the 2021 Legatum Prosperity Index, where they are specifically weak in living standards and personal freedom. Despite low rankings in environmental and several social factors, ESG investing in Indonesia is already trusted and implemented by retail and institutional investors and is only awaiting more active efforts by regulators (Tamara & Budiman, 2022). Sustainability and ESG have been a priority in several of Indonesia's plans, such as the Green Taxonomy launched in 2022 (IFLR, 2022), and the IDX (Indonesia Stock Exchange) having joined the SSE (Sustainable Stock Exchanges) and have started creating ESG indices, as well as women empowerment on the board of IDX (IDX, 2021).

In addition, Malaysia, a neighbor to Indonesia, is currently classified as a middle-income country by the World Bank (2022). According to the Sustainable Development Report 2022, Malaysia is ranked 72nd from 163 UN member countries in achieving the Sustainable Development Goals, while Indonesia is ranked 82nd. Despite ranking admirably at 42nd out of 167 countries in the Legatum Prosperity Index, Malaysia is also ranked 130th out of 180 countries (Yale Environmental Performance Index, 2022), indicating that the country has one of the weaker environmental and social indexes. Malaysia has already implemented and promoted ESG-investing principles early since 2004. Large funds such as Khazanah have implemented an ESG-focused investment strategy since 2004, while the Malaysian Investment Development Agency (Mida), Malaysia's principal investment promotion agency, has promoted ESG-driven investments (TheStar, 2022). Despite being geographical neighbors, both have started promoting ESG at different times, with Malaysia promoting ESG-investing principles early in 2014, while Indonesia has just started promoting it in recent years through Green Taxonomy and joining the Sustainable Stock Exchanges. As such, this study will understand whether there are differences between the state of ESG ratings of public companies and whether it affects firm value and financial performance in both countries.

This study will contribute by advancing knowledge regarding the issues of ESG within the stock market between Malaysia and Indonesia, which are currently lacking, to understand whether there are differences or similarities in the research results between the two countries. This study will also revisit and add to the numerous studies that have been controversial in their results of whether ESG factors improve firm value and performance. The research questions are set in the form of:

1. Does ESG significantly affect the firm value of Indonesian public-listed companies?
2. Does ESG significantly affect the firm value of Malaysian public-listed companies?
3. Does ESG significantly affect the financial performance of Indonesian public-listed companies?
4. Does ESG significantly affect the financial performance of Malaysian public-listed companies?
5. Do Environmental, Social, and Governance as individual factors significantly affect Indonesian public-listed companies' firm value and financial performance?
6. Do Environmental, Social, and Governance as individual factors significantly affect Malaysian public-listed companies' firm value and financial performance?

This research aims to: 1) assess the significance of ESG towards firm value and financial performance of Indonesian public-listed companies; 2) assess the significance of ESG towards firm value and financial performance of Malaysian public-listed companies; 3) to deduce whether ESG has a positive or negative impact on firm value and performance of Indonesian public-listed companies; 4) to deduce whether ESG has a positive or negative impact on firm value and performance of Malaysian public-listed companies; 5) to determine which individual ESG factors are most affecting the total score of ESG of Indonesian public-listed companies; and 6) to determine which individual ESG factors are most affecting the total score of ESG of Malaysian public-listed companies.

B. LITERATURE REVIEW

ESG and its Relevance in Recent Years

ESG has become more relevant recently as in 2015, more than 190 countries have adopted the 2030 UN agenda for sustainable development (European Banking Authority, 2021). ESG comprises three factors or indicators: environmental, social, and governance. For environmental issues, this factor mainly focuses on the company's effects on climate change, biodiversity, deforestation, and circular economy as examples. For the social factor, examples of issues for this indicator are human rights, decent work, diversity, equity, and inclusion in the work environment. Lastly, for the government indicator, issues such as board structure, management remuneration, and political engagement are what companies must consider (United Nations PRI, 2019).

In recent years, increased ESG research has covered various aspects of companies and businesses. Several researches focus on the impact of ESG on firm value, which is typically shown through Tobin's Q value or stock returns (Aydoğmuş, Gülay and Ergun, 2022). Several other researchers instead discuss the effects of ESG on a firm's financial and fundamental performance (Buallay, 2019; Zheng, Muhammad Usman, and Chen, 2022). In addition, several past researchers have researched CSR or Corporate Social Responsibility, a measure of ESG (Tsai and Wu, 2022; Saci, Jasimuddin, and Hasan, 2022; Ghardallou and Alessa, 2022).

As the effects of ESG on firm value and financial performance are the most prominent research the author has found with controversial results, the author chooses the two variables as the independent variables of this study. Tobin's Q is often used as a proxy for a firm's value and will be used as a measure for firm value in this study (Oxelheim and Randøy, 2001; Fahlenbrach and Stulz, 2007; Shin and Stulz, 2000). For financial performance, ROA (Hwang, Kim, and Jung, 2021; Djanegara, Sutarti, and Dewo, 2022) is often used as a proxy of financial performance.

Effects of ESG rating of a company on their firm value

There have been numerous studies about the effects of ESG on the value or valuation of a firm. Certain research by Giannopoulos et al. (2022) investigated the effects of ESG disclosure on firm value through Tobin's Q and financial performance through ROA. This study was done on a sample of Norwegian public-listed companies from 2010 to 2019. The analysis done through panel data regression indicates that ESG positively affects firm value, which is explained by the concept of Tobin's Q as a proxy for long-term growth and performance. The research suggests that higher ESG will provide long-term growth for a company, thus increasing the firm value. A separate study by Lopez-Toro et al. (2021) on "Influence of ESGC Indicators on Financial Performance of Listed Pharmaceutical Companies" supports the previous study that ESG and Tobin's Q, a proxy for firm value, have a significant positive correlation. The research was done on pharmaceutical companies listed in the Nasdaq US Smart Pharmaceuticals Index, composed of 30 international companies. The study uses ESG data from 2018 and financial performance data, which consists of ROE, ROA, and Tobin's Q, from 2019, as there is a time-lapse between ESG and financial performance indicators. The result, analyzed using PLS-SEM (Partial least squares structural equation modeling), shows that ESG positively affects firm value.

Alternatively, several research studies suggest no significant or negative correlation between ESG and firm value. Research on ESG and stock returns shows no significant relationship between the two variables (Trisnowati et al., 2022). This research focused on 26 companies from the Indonesia Stock Exchange from 2015 to 2020. Using stepwise regression and panel data regression, they concluded that ESG does not affect the stock returns of the 26 Indonesian companies. Naeem and Cankaya (2021), in their study of ESG performance on ROE, ROA, and Tobin's Q, figured out that ESG performance and Tobin's Q have a negative relationship. Their research using Thomson Reuters Asset4 ESG data and financial data of 192 companies from the year 2008-2018 and analyzed using regression analysis indicates that ESG negatively affects Tobin's Q.

From the previous studies conducted by researchers, there have been contradictory findings. Research suggests that ESG affects firm value, while some indicate no significant effects or even have a negative correlation. The literature review on ESG and firm value has caused the author to reach Hypothesis 1 (H1): ESG significantly positively affects Tobin's Q of Indonesian and Malaysian companies. Tobin's Q is often used as a proxy for firm value, so it measures firm value as an independent variable. For additional thought, the stakeholder theory detailed by Freeman in 1984 has been studied numerous times as a research subject between stakeholder satisfaction and firm performance. This theory has also been studied to have a positive effect on firm value as the firm's brand is enhanced. In addition, as the subjects of the study are Indonesian and Malaysian companies, the hypothesis will also be fragmented into Hypothesis 1a and Hypothesis 1b. Hypothesis 1a (H1a): ESG significantly positively affects Tobin's Q of Indonesian companies. Hypothesis 1b (H1b): ESG significantly positively affects Tobin's Q of Malaysian companies.

Effects of ESG rating of a company on its financial performance

As for a firm's financial performance, the effects of ESG have also been heavily researched in various studies. One study by (Kim and Zhichuan, 2021) on 4708 global companies from 1991 to 2013

shows that ESG indicators positively impact corporate profitability and financial performance. Their regression and correlation analysis study suggests that the overall ESG score, extracted from MSCI ESG Ratings, has a significant positive correlation with financial performance. Secondly, Pulino et al. (2022) investigated the context of 263 Italian-listed companies from different industries, in which the research suggests that ESG has a positive correlation with firm performance, which is identified by using ROA and EBIT as proxies. Interestingly, ESG is also studied to reduce risk and reduce loss of financial performance, as research suggests that ESG activities cause companies to experience a smaller decline in ROA compared to companies without ESG activities (Hwang et al., 2021). This suggests that the stakeholder theory is in play, where the performance of ESG affects the companies' stakeholders, such as shareholders, employees, government, and customers, which they then reward the company with better financial performance (Aydoğmuş, Gülay and Ergun, 2022).

On the other hand, several researchers also argue the opposite: that there is a negative correlation or effects of ESG on financial performance. Similar to how they concluded that ESG and firm value have a negative correlation, Naeem and Cankaya (2021) argue that there are mixed results for different financial indicators. Their research argues that ESG has a positive impact on ROE while it has negative effects on ROA. This is because ESG costs negatively affect their pre-tax operating profit while contributing positively to after-tax profits for shareholders. (Giannopoulos et al., 2022) also researched the impact of ESG on both Tobin's Q and ROA. Despite a positive impact on Tobin's Q, the research suggests that ROA is negatively affected by ESG. The research suggests that ROA is a proxy for short-term financial performance and that ESG has negative effects on short-term financial performance but positive effects on long-term growth.

Similar to the impact of ESG on firm value, there are various controversial conclusions and discussions about whether ESG truly impacts financial performance negatively or positively. Due to the controversial nature of results thus far, the author tests Hypothesis 2 (H2): ESG significantly affects the ROA of Indonesians and Malaysians. As various literature often use ROA as a proxy for financial performance, the hypothesis is tested using ROA as a dependent variable measuring financial performance. In addition, a company's financial performance is used as the previously mentioned stakeholder theory has been studied that fulfilling stakeholder's needs will ultimately increase a firm's financial performance (Budaratagoon et al., 2021). Similarly to H1, the hypothesis will be fragmented into Hypothesis 2a and Hypothesis 2b. Hypothesis 2a (H2a): ESG significantly affects Indonesian companies' ROA. Hypothesis 2b (H2b): ESG significantly affects the ROA of Malaysian companies.

Effects of individual ESG factors on firm value and financial performance

In certain contexts, not all ESG affects firm value or financial performance; instead, it is due to only several or single factors of environment, social, or governance. Firstly, the environmental factor of ESG is highly important in the sustainability of the company, and there have been past research studies focusing on this aspect and its effects on firm value and profitability. Studies show that the environmental performance of a company has a positive effect on firm value; however, the amount of disclosure of environmental impact information has a negative effect on firm value (Nur Utomo et al., 2020). Research by (Pulino et al., 2022) supports this statement by concluding that ESG has a negative impact on ROA, which is caused by higher capital investment in business operations in order to run a more sustainable business.

Meanwhile, for the social factor of ESG, (Budaratagoon and Jitmaneroj, 2021) researched emerging-market countries in the Asia Pacific region from the year 2010 to 2019, where the researchers discuss ESG having a significant and positive impact on the stock value of a firm. External CSR that involves improving the natural environment, community development, and consumer well-being will increase the market value of the firm (Yoon and Chung, 2018). The social aspect is also seen to have a positive significant impact on stock value in the Asian-Pacific region (Budaratagoon & Jitmaneroj, 2021).

Lastly, as the last factor of ESG to consider, governance also has varying effects on stock value when taken from different contexts. Indonesia publishes the CGPI (Corporate Governance Perception Index), where the company with the highest score is awarded by the IICG (Indonesia Institute of Corporate Governance). Despite its seemingly prestigious status, awards from the IICG scored through the CGPI have a negative impact on ROA. At the same time, other corporate governance factors, such as the size

of the board of commissioners and board of directors in the company, have significantly and positively affected the ROA of companies (Limijaya et al., 2020). However, another research on Indonesian banks indicates that the number of directors and commissioners has negative effects on ROA, while governance effectiveness, a GCG assessment of bank governance, has positive effects on ROA.

Hypotheses to be Tested in Analysis

1. Hypothesis 1 (H1): ESG affects Tobin's Q of Indonesian and Malaysian companies
 - a. Hypothesis 1a (H1a): ESG affects Tobin Q of Indonesian companies
 - b. Hypothesis 1b (H1b): ESG affects Tobin's Q of Malaysian companies
2. Hypothesis 2 (H2): ESG affects the ROA of Indonesian and Malaysian companies
 - a. Hypothesis 2a (H2a): ESG affects the ROA of Indonesian companies
 - b. Hypothesis 2b (H2b): ESG affects the ROA of Malaysian companies

Conceptual Framework

The following conceptual framework shown in Figure 1 is conceptualized in order to answer the research questions and objectives set out at the introduction of this research.

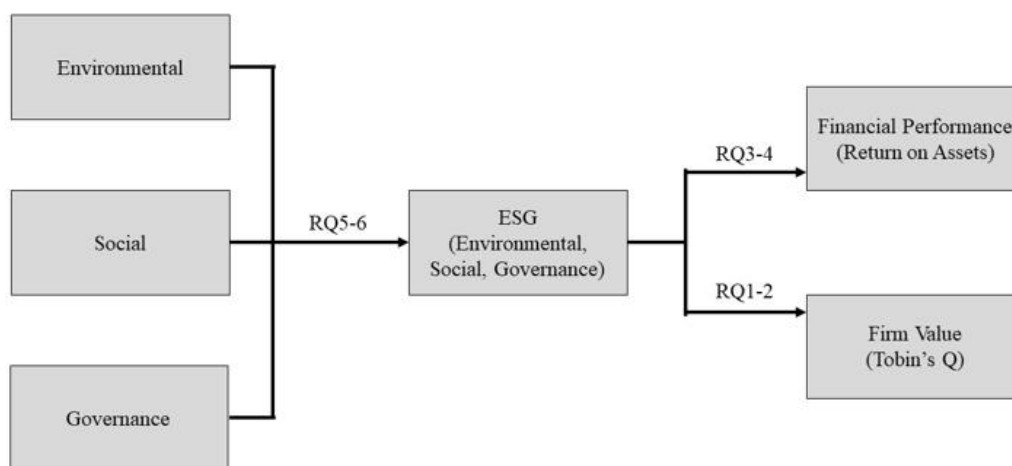


Figure 1. Conceptual Framework

C. RESEARCH METHODS

Samples and Variables

We analyze our samples by using data from the year 2022. Our ESG data are obtained for the year 2022, and we used financial data from the 3Q 2022. We use the 2022 timeframe for the ESG data as it is the only available time frame from Yahoo Finance, which is the source the writer used. In total, there are around 1,771 public-listed companies in Indonesia and Malaysia combined. After screening for companies with available ESG data, there is a final number of 30 public-listed companies and 60 firm-year samples to be used.

The independent variables of this study are ESG scores, which are further divided into three pillars: Environmental, Social, and Governance. The ESG scores are retrieved from Yahoo Finance, which is obtained from Sustainalytics ESG research data. The total ESG score is calculated on a 0-100 scale where the score is worse the higher it gets. This indicates that a company with an ESG score of 12 is better than a company with an ESG score of 20. There are a total of 30 companies with available ESG data, 11 of which are from Indonesia and 19 from Malaysia. After filtering for outliers in the data, there are a total of 25 companies, with ten from Indonesia and 15 from Malaysia.

The dependent variables that will be analyzed are firm values and firm performance. The firm value will be characterized by Tobin's Q, which is done by dividing the market equity value of the company by the book equity value of the company. Firm performance will be represented by Return on Assets (ROA).

ROA is the ratio of the net income divided by the total assets of the company. The raw data of market equity value, book equity value, net profit, and total assets are retrieved from Yahoo Finance. The author manually calculates ROA and Tobin's Q.

Analysis Method

To study the relationship between the independent variables and dependent variables, the author uses PLS-SEM to do the analysis. Partial Least Squares-Structural Equation Modeling is a structural equation modeling that allows analysis emphasizing the prediction of causal relationships between the dependent and independent variables. PLS-SEM was previously used by (Lopez-Toro et al., 2021) to analyze ESG and controversies on indicators of the financial performance of global pharmaceutical companies. This research is applicable for the use of PLS-SEM due to a small sample size of 25 companies, many independent variables that are represented by the three pillars of ESG, and the study contains one or more formatively measured constructs in the form of ESG as the independent variable which are made up of the three pillars (SmartPLS, 2023).

Three analyses will be done using PLS-SEM. The first will be analyzed using data from only 10 Indonesian companies. The second analysis only uses the data from 15 Malaysian companies. At the same time, the last analysis will be done on all 25 companies as a whole. This is done in order to answer research questions RQ1, RQ2, RQ3, and RQ4 separately. This will also help in testing the hypothesis for H1a, H1b, H2a, and H2b. After preliminary considerations, the proposed model is built and shown in Figure 2. The outer model consists of the three pillars as indicators for the formative construct of ESG as a latent variable. In turn, ESG as a latent variable is in the inner model connected to the two independent variables: ROA and Tobin's Q ratio (TQR). For simplicity, this study will abbreviate terms used for the variables.

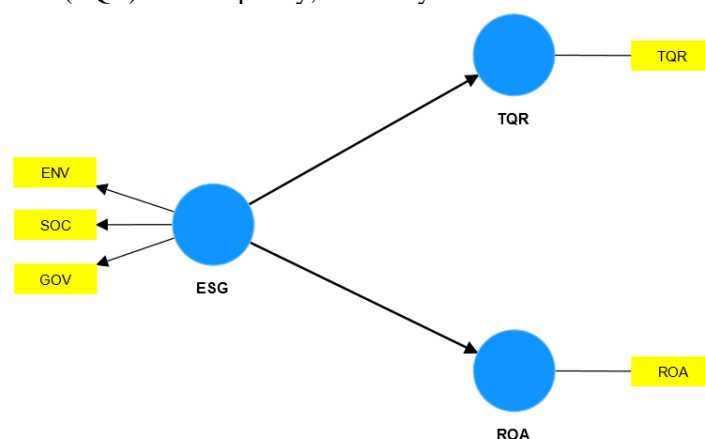


Figure 2. Proposed PLS-SEM Model

There are two steps to analyzing using PLS-SEM, the first being measurement model assessment. Measurement model assessment consists of robustness checks such as factor loading of the outer model of the three pillars of ESG and checking for reliability using composite reliability and Cronbach's alpha (Hair et al., 2018). The robustness checks for the measurement model are done to ensure the reliability and validity of the outer model itself. Factor loadings are the correlation coefficient of the latent variable and its indicators and are assessed to be generally acceptable at >0.7 (Vinzi et al., 2010). Although weak loadings below 0.7 are frequently observed in empirical studies, indicators should be eliminated if their loadings are <0.4 (Vinzi et al., 2010, cited Hulland, 1999). For composite reliability, the generally accepted values are between 0.6 - 0.7 and great if above 0.8, while it is not acceptable above 0.95 as it may indicate redundancy (Ursachi et al., 2015). The acceptable values for Cronbach's alpha also range around 0.6 - 0.8 are acceptable (Daud et al., 2018). In addition to that, Average Variance Extracted is "The AVE estimate is the average amount of variation that a latent construct is able to explain in the observed variables to which it is theoretically related" (Farrell, 2010). The acceptable threshold for AVE is at values above 0.5 (Henseler et al., 2009). In addition to that, there must be checks of discriminant validity through the use of the heterotrait-monotrait (HTMT) ratio, which measures whether variables that

are not supposed to be related are unrelated or related (Nikolopoulou, 2022). The acceptable threshold for the HTMT ratio is 0.9, which shows that values above 0.9 are unacceptable (Ab Hamid et al., 2017).

Secondly, the structural model focuses on the quality of the inner model of the PLS-SEM. The structural model focuses on the predictive accuracy and explanatory power of the inner model (Hair et al., 2018). Before moving to assess the structural model, VIF (Variance Inflation Factor) must be run and checked in order to signal if there are any major collinearity issues where the independent variables could be affected by other independent variables making up the latent variable. The unacceptable threshold for VIF is at values above 5 (Hair et al., 2018). R2 values indicate explanatory power, how much of an endogenous variable is explained by the exogenous variable. R2 is on a scale of 0 to 1, where values of 0.26, 0.13, and 0.0196 are described as large, medium, and small effect sizes, respectively (Cohen, 1988). In addition, f^2 is a measure of change in R2 when an independent variable is removed. f^2 is also on a scale of 0 to 1, where values of 0.35, 0.15, and 0.02 show large, medium, and small effect sizes, respectively (Cohen, 1988).

Lastly, the significance of the effects of the exogenous variable, ESG, will be put up against the endogenous variables of ROE, ROA, and Tobin's Q by using a p-value with 0.05 significance to evaluate whether the hypotheses are rejected or accepted. For this step, the study uses bootstrapping from the SmartPLS 4.0.8.9 software. Bootstrapping is a statistical method of generating subsamples from the available data in order to estimate the path coefficients and model of PLS-SEM. This method does resampling with replacement, which involves selecting random cases in the original sample data (Statistics Solutions, 2021). Generally, the more subsamples are generated, the better reliability the results will yield. The typical number of subsamples generated is about 10,000 (SmartPLS 4, 2022). Each subsample will be analyzed for the correlation coefficient of the path (e.g., ESG > ROA, ESG > TQR). After the analysis of each subsample, the average and standard deviation of the coefficients will be calculated in order to obtain the T-statistics value, which can then be used to assess the p-value and significance with a 95% confidence interval (5% confidence level).

D. RESULTS AND ANALYSIS

Descriptive Analysis

Descriptive analysis is the first part of analyzing the variables. Descriptive analysis is a simple summary of a dataset that is broken down into measures of central tendency and spread of the data (investopedia.com, 2022). The measures included in descriptive analysis are mean, median, max, min, standard deviation, excess kurtosis, and skewness. Table 1. below shows a descriptive analysis of the dataset used, which is done through SmartPLS4:

Table 1. Descriptive Analysis

Name	n	Type	Mean	Median	Min	Max	Std Dev.	Excess Kurtosis	Skewness
IDENV	10	MET	85.16	83.60	77.00	94.50	6.26	-1.38	0.36
IDSOC	10	MET	86.62	87.60	79.80	94.30	3.68	1.24	0.28
IDGOV	10	MET	92.51	93.20	88.80	94.30	1.59	1.59	-1.31
IDTQR	10	MET	1.91	1.84	0.58	3.94	1.14	-1.00	0.62
IDROA	10	MET	8.29	8.37	3.55	13.57	3.47	-1.20	0.01
MYENV	15	MET	89.97	90.80	76.20	98.30	6.23	-0.19	-0.70
MYSOC	15	MET	90.43	90.20	85.30	98.80	3.80	-0.40	0.57
MYGOV	15	MET	92.63	92.80	88.10	95.50	1.99	0.75	-0.96
MYTQR	15	MET	1.76	1.40	0.32	4.26	1.08	0.41	0.98
MYROA	15	MET	4.38	3.61	-0.25	15.23	4.09	1.77	1.24
COENV	25	MET	88.05	88.90	76.20	98.30	6.67	-1.19	-0.24
COSOC	25	MET	88.90	88.10	79.80	98.80	4.19	0.14	0.31
COGOV	25	MET	92.58	92.80	88.10	95.50	1.84	0.66	-0.98

Name	n	Type	Mean	Median	Min	Max	Std Dev.	Excess Kurtosis	Skewness
COTQR	25	MET	1.82	1.48	0.32	4.26	1.11	-0.43	0.78
COROA	25	MET	5.95	4.56	-0.25	15.23	4.30	-0.58	0.47

Source: research data, 2023

The table above shows ten measurements for descriptive analysis. The first column, "Name," shows the name used for the indicators, where ENV = Environmental, SOC = Social, GOV = Governance, TQR = Tobin's Q Ratio, and ROA = Return on Asset. The two letters after each indicator show the country where ID = Indonesia, MY = Malaysia, and CO = Combined. The column "n" shows the number of cases or samples of each indicator. For indicators with ID and MY, they are 10 and 15, respectively, as there are 10 companies from Indonesia and 15 companies from Malaysia, while there are 25 for CO, as it is a combined number of cases from both countries. The column "Type" shows the type of data for each indicator, where all of the indicators are MET or metric data type as the data are quantitative. Column "Mean" is the average value of the data of each indicator, while column "Median" is the middle value of the data. Columns "Min" and "Max" show the minimum and maximum values of the dataset, respectively. Std Dev. or Standard Deviation is the amount of variation or dispersion of the data from the mean.

Excess kurtosis" column shows the shape of the distribution of the data. Negative values of excess kurtosis show platykurtic distribution, where the distribution line is flatter than the normal distribution. Meanwhile, positive excess kurtosis shows the leptokurtic distribution, where the dataset is distributed more around the mean instead. The "Skewness" column shows which side the distribution skew toward. A positive value of skewness shows that the distribution is gathered to the left tail of the distribution. At the same time, negative skew indicates that the dataset is skewed towards the left tail of the distribution.

Measurement Model

The measurement model is the first step of PLS-SEM, which is done through robustness and reliability measurements of the outer model. Measurements included in the measurement model are factor loadings, Cronbach's alpha, composite reliability, Heterotrait-monotrait, and Fornell-Larcker. Table 2 shows the initial calculations for Factor Loadings, Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE):

Table 2. Initial Calculations For Factor Loadings, CA, CR, and AVE

Name	Loadings > 0.7			CA > 0.6	CR > 0.6	AVE > 0.5
	IDESG	MYESG	COESG			
IDESG	-	-	-	0.658	0.776	0.585
IDENV	0.488	-	-	-	-	-
IDSOC	0.908	-	-	-	-	-
IDGOV	0.832	-	-	-	-	-
MYESG	-	-	-	-0.757	0.723	0.644
MYENV	-	-0.807	-	-	-	-
MYSOC	-	0.785	-	-	-	-
MYGOV	-	0.814	-	-	-	-
COESG	-	-	-	0.238	0.505	0.337
COENV	-	-	-0.571	-	-	-
COSOC	-	-	0.578	-	-	-
COGOV	-	-	0.884	-	-	-

Source: research data, 2023

The table above shows that the initial calculations show factor loadings, Cronbach's alpha (CA), composite reliability (CR), and Average Variance Extracted (AVE). Values of Factor Loadings show the correlation and relatedness between the ESG construct and each of the indicators, which are ENV, SOC, and GOV. For example, a 0.488 factor loading between IDENV and IDESG shows that the correlation coefficient between IDENV and IDESG is a positive correlation. Values above 0.7 are considered good as ESG constructs, and each pillar is, in theory, related to each other. As all ENV indicators are below the

good value threshold of 0.7 ($IDENV = 0.488$, $MYENV = -0.807$, $COENV = -0.571$), all ENV items are removed as a variable for ESG and now only comprises of SOC and GOV indicators.

Values in columns CA and CR show the internal consistency, which measures how the three indicators of ENV, SOC, and GOV are closely related. CA and CR values closer to 1 show that when scores for ENV are high, scores for SOC and GOV also tend to be high. For AVE, the value shows how much variance of the construct is explained by the indicators. In the context of IDESG as an example, an AVE value of 0.585 shows that, on average, 58.5% of the variance is explained by ENV, SOC, and GOV. Figure 3 shows the updated PLS-SEM model after removing the ENV pillar, which is shown below.

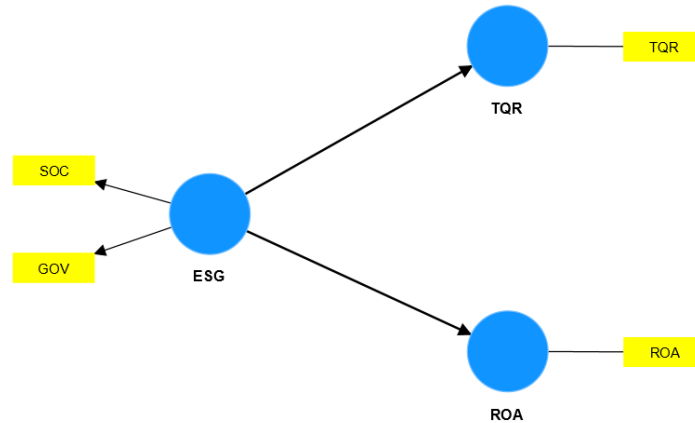


Figure 3. PLS-SEM Model After Removing ENV Item

Table 3 below shows the calculations for factor loadings, CA, CR, and AVE after removing the ENV pillar as an indicator for ESG. This means that the indicators used for ESG are only SOC and GOV.

Table 3. Calculations for Factor Loading, CA, CR, and AVE After Removing ENV Item

Name	Loadings > 0.7			CA > 0.6	CR > 0.6	AVE > 0.5
	IDESG	MYESG	COESG			
IDESG	-	-	-	0.71	0.717	0.774
IDSOC	0.896	-	-	-	-	-
IDGOV	0.864	-	-	-	-	-
MYESG	-	-	-	0.617	0.617	0.723
MYSOC	-	0.848	-	-	-	-
MYGOV	-	0.853	-	-	-	-
COESG	-	-	-	0.614	0.792	0.705
COSOC	-	-	0.733	-	-	-
COGOV	-	-	0.935	-	-	-

Source: research data, 2023

After removing the item ENV from the construct of ESG from all the analyses, all three reliability measurements of CA, CR, and AVE of each analysis are above the acceptable thresholds. In addition, all factor loadings are above the acceptable threshold of 0.7, and hence, the outer model is valid and reliable. Continuation of the measurement model, Table 5 below shows the matrix table for HTMT (Heterotrait-Monotrait) analysis and Fornell-Larcker.

Table 4. Heterotrait-Monotrait Ratio Matrix

	IDESG	IDROA	IDTQR
IDESG	-	-	-
IDROA	0.823	-	-
IDTQR	0.468	0.618	-

	MYESG	MYROA	MYTQR
MYESG	-	-	-
MYROA	0.727	-	-
MYTQR	0.233	0.407	-
	COESG	COROA	COTQR
COESG	-	-	-
COROA	0.508	-	-
COTQR	0.310	0.462	-

Source: research data, 2023

The above table shows an HTMT ratio matrix where the acceptable threshold is 0.9. HTMT shows the collinearity between 2 variables in the model where HTMT is a value between 0 and 1. For example, the relationship between MYESG and MYROA is 0.727, which means that the two variables are consistent 72.7% of the time, where the closer the value gets to 1, the more consistent and redundant the two variables become. As none of the values above are over 0.9, there are no problems with discriminant validity. As all validity and robustness measurements show no problem, the dataset can be reliably used for PLS-SEM in the structural model.

Structural Model

The structural model in PLS-SEM "tests all the hypothetical dependencies based on path analysis" (Fan et al., 2016). The measurements for this include VIF, R², f², and p-value with a significance value of 0.05. Table 5 shows the calculations for VIF, R², and f².

Table 5. Calculations of VIF, R², and f²

Name	VIF < 5	R ²	f ²
IDSOC	1.433	-	-
IDGOV	1.433	-	-
IDROA	-	0.486	0.945
IDTQR	-	0.154	0.182
MYSOC	1.249	-	-
MYGOV	1.249	-	-
MYROA	-	0.325	0.482
MYTQR	-	0.034	0.035
COSOC	1.244	-	-
COGOV	1.244	-	-
COROA	-	0.174	0.210
COTQR	-	0.078	0.085

Source: research data, 2023

In the table above, three measurements are shown: VIF, R², and f². VIF, or Variance Inflation Factor, measures the amount of multicollinearity, which is when multiple independent variables are correlated in a model. VIF values are at a minimum of 1, at which point the independent variables are not correlated (investopedia.com, 2023). The higher the value of VIF, the higher the correlations are between the independent variables. As the VIF for all independent variables in each analysis is below 1.5, the independent variables have limited correlation with each other. For R², the values show the effect size of the independent variable (ESG) on the dependent variable. For example, in the context of MYROA in the table above, it has an R² value of 0.325, which means that 32.5% MYROA is able to be explained by MYESG, and it has a large effect size on MYROA (Cohen, 1988). Meanwhile, f² shows how much R² will change when an independent variable is removed.

From the above, SOC and GOV indicators for all the analyses have acceptable VIF values, which are below the threshold of 5. For the calculations of R², ESG is analyzed to have a large effect size on IDROA (0.486) and MYROA (0.325), a medium effect size on COROA (0.174) and IDTQR (0.154), while it has a small effect size on MYTQR (0.034) and COTQR (0.078). For the calculations of f², the removals of exogenous variables are analyzed to be expected to have a large effect size for IDROA (0.945) and MYROA (0.482), a medium effect size for IDTQR (0.182) and COROA (0.210), while having small effect size for MYTQR (0.035) and COTQR (0.085). Table 6 below shows the results of the p-value significance test and the result of hypothesis testing.

Table 6: Calculations for p-value significance

	Hypothesis	Path Coefficients	Std. Dev.	t-statistics	p-value	Significance
H1a	IDESG > IDTQR	0.392	0.258	1.521	0.128	NS
H2a	IDESG > IDROA	0.697	0.133	5.234	0.000	S
H1b	MYESG > MYTQR	0.184	0.245	0.753	0.451	NS
H2b	MYESG > MYROA	0.570	0.185	3.076	0.002	S
H1	COESG > COTQR	0.280	0.172	1.629	0.103	NS
H2	COESG > COROA	0.417	0.181	2.301	0.021	S

Source: research data, 2023

The table above shows the analysis for p-value significance calculations. Path Coefficients show the coefficient of the original samples (number of samples shown in n in Table 1) between the exogenous (e.g., IDESG) and endogenous (e.g., IDROA, IDTQR) variables. The higher the path coefficient, the higher the correlations are between the exogenous and endogenous variables. All the path coefficients show positive path coefficients, which indicate that if the value of the exogenous variable is high, the value of the endogenous variable should also be high. Standard deviation is the variation in the path coefficients that are calculated during the bootstrapping process of PLS-SEM. T-statistics is obtained by dividing path coefficients by standard deviation and is then used to obtain a p-value. The P-value is then used to test the significance, where if the p-value of the test is below 0.05, the test is significant.

The significance is shown through S and NS, which means significant and not significant. From all 6 hypothesis tests, IDESG has a significant effect on IDROA, MYESG has a significant effect on MYROA, and COESG has a significant effect on COROA, indicated by p-values of 0.000, 0.002, and 0.021, respectively. Meanwhile, IDESG has no significant effect on IDTQR, MYESG has no significant effect on MYTQR, and COESG does not affect COTQR, which is shown through p-values of 0.128, 0.451, and 0.103, respectively. From the above analysis, it can be concluded that H1, H1a, and H1b are accepted as the results are significant, and there are positive correlations between ESG and ROA. Meanwhile, H2, H2a, and H2b are rejected as the results are not significant despite the path coefficients showing positive effects.

Discussion

To discuss in detail the results of the significance test in Chapter 4, the 6 Research Questions are answered through the hypothesis tests and factor loadings analysis. For Research Question 1, the results of this are indicated by the H1a hypothesis test, which shows ESG has no significant effect on Tobin's Q. This is shown through "NS" in the "Significance" column as the p-value is 0.128 for Indonesian companies. This supports past research that indicates there is no direct correlation between ESG and firm value or stock value (Trisnowati et al., 2022). In addition, Research Question 2 is discussed through the H1b hypothesis test, which shows "NS" in the "Significance" column with a p-value of 0.451, indicating that ESG has no significant effect on Tobin's Q for Malaysian companies. This result goes against the conclusion reached by past studies indicating that ESG has a significant effect on Tobin's Q for Malaysian companies (Sadiq et al., 2020). Overall, there is no significant relationship between ESG and Tobin's Q for Indonesian or Malaysian companies, as shown by the H1 hypothesis test, as the p-value is 0.103. The results of this study for H1 support previous research done as firm value is also affected by various factors

other than ESG, such as financial performance or prospects, while composite ESG scores are not paid much attention (Trisnowati et al., 2022; Budsaratragoon and Jitmaneeroj, 2021).

Research Questions 3 and 4 are discussed by analyzing H2a and H2b. H2a is connected to Research Question 3, and it shows that the effect of ESG on Indonesian companies has a significant effect on their Return of Assets. Research Question 4 is answered through H2b, in which the hypothesis test shows that the ESG of Malaysian companies has a significant effect on their Return on Assets with a p-value of 0.002. For both Indonesian and Malaysian companies, ESG has a significant effect on their Return on Assets, as indicated by a p-value of 0.021 for the H2 hypothesis test. Results for H2, H2a, and H2b support the results reached by past research that ESG has a significant effect on ROA (López-Toro et al., 2021). This is due to previous research on the topic (López-Toro et al., 2021) that higher ESG investment concludes in a long-term value-oriented approach that can improve financial performance while lacking ESG participation can cause damage to the company's stakeholder relations and ultimately negatively affect their financial performance.

Research Questions 5 and 6, which discuss the individual factors, cannot be tested for significance as there are no hypothesis tests for indicators towards the dependent variables. However, the factor loadings analysis can be used to identify which of the three indicators (ENV, SOC, and GOV) correlate with ESG the most and also affect the dependent variables. For Research Question 5, the environmental score is the lowest among the three individual factors, and as it is below 0.7-factor loadings, it is not within an acceptable range of correlation between IDENV and IDESG. The same can be said for Malaysian companies' environmental score (MYENV), which is at -0.807 when correlated to MYESG. This indicates that the environmental score for both Indonesian and Malaysian companies is the lowest and is one indicator that does not correlate with ESG. Meanwhile, the SOC and GOV scores rate above 0.7 in factor loadings for the Indonesian and Malaysian companies, which indicates that these two factors are correlated and affect ESG as a construct. These observations suggest that the factors that affect ESG and consequently affect ROA and Tobin's Q are the social and governance factors.

E. CONCLUSIONS

The results of this study show that focusing on meeting the needs of the public company's stakeholders is able to increase the financial performance as it can build stable relationships with stakeholders and foster a long-term value-oriented approach to running the firm in Indonesia or Malaysia. Despite having similar geographical factors but different start points in promoting ESG, results from Malaysia and Indonesia companies are similar in that ESG has effect on ROA but no effect on Tobin's Q. Despite analyzing these two countries, further research is needed in order to confirm the results by using a more comprehensive dataset such as ASSET4 by Reuters and by enlarging the size of samples from these two countries in order to obtain a much more representative sample as this study only uses 25 sample companies in total.

To summarize the study, ESG has been studied to affect firm value and financial performance but has had controversial results in various past research. Indonesia and Malaysia are both chosen as subject countries due to them being middle-income countries, which are studied to have the largest concentration of pollution among other income categories (Pulino et al., 2022). In addition, Malaysia and Indonesia appear in several environmental and social index rankings where they are not within the top 25% of the rankings and appear in the lower-middle percentile (Legatum Prosperity Index, 2021; Sustainable Development Report, 2022; Yale Environmental Performance Index, 2022).

ESG was chosen as a topic due to its upcoming relevance to the UN 2030 goals for sustainable development, which have been signed by more than 190 countries (Europe Banking Authority, 2021). ESG is researched to have controversial effects on firm value, as various research suggests that it has a positive effect on firm value, while other research suggests that there are no effects or there are positive effects. In addition, it is similar to financial performance, where there are studies indicating that ESG has a positive effect on financial performance, and other research shows the opposite. Meanwhile, much research has also discussed the individual factors of ESG that can affect either firm value or the financial performance of a company. These past studies and research have served as the foundation for the 6 hypothesis testing of H1, H1a, H1b, H2, H2a, and H2b.

The methodology chosen for this study was PLS-SEM, which was previously used to analyze a similar dataset (Lopez-Toro et al., 2021). The analysis consisted of 3 separate datasets: one dataset for only Indonesian companies, one dataset for only Malaysian companies, and 1 dataset for a combined number of companies. The three datasets are used in order to answer the Research Questions established in Chapter 1 of this paper. In addition, PLS-SEM consists of 2 models: the Measurement Model and the Structural Model.

The results of the PLS-SEM analysis are set out in Chapter 4, which consists of a descriptive analysis, Measurement Model, and Structural Model of the PLS-SEM. As indicated by the analysis, H1, H1a, and H1b are not significant, and the hypotheses are rejected. This shows that ESG has no significant effect on firm value. This could be due to the perception that firm value is more affected by long-term financial performance instead, despite having no collinearity indicated in this study. In addition, H2, H2a, and H2b are significant, and the hypotheses, which show that ESG has a significant effect on financial performance, are accepted.

This study contributes to the existing literature on ESG and its effects on firm value and financial performance, which has been done for various industries and countries. As this study focuses specifically on Indonesian and Malaysian companies, firms from these countries can use this study as a reference to aim for a better understanding of what can be done to increase their financial performance and profitability. This study recommends that both Indonesian and Malaysian companies focus on enhancing their social and governance performance to increase their financial performance. However, as this study focuses on non-banking and non-financial companies, it may not be reliably used for those sectors and industries.

Using this study as a reference, companies are able to strategize and plan to increase their financial performance. As it is studied that Indonesian and Malaysian ESG has a significant effect on financial performance and that social and governance factors have a higher correlation on ESG than environmental factors, companies can implement social or governance corporate action in order to increase their financial performance. For example, a public-listed Indonesian company can implement a community development program that is aligned with its short and long-term goals, which is implemented by one public-listed company (Elnusa, 2023). An example of community development programs is scholarships for less fortunate students or children in order for them to achieve higher levels of studies. Programs such as scholarships are not only able to improve the company brand but also increase the abilities of available human resources in the future (SIRCLO, 2022). Actions and programs such as the following are able to increase social factor scores for overall ESG scores and are also able to increase the productivity of the employees and the reputation of the company; hence, it will be able to increase the financial performance of public-listed companies. In addition, companies could also implement better governance scores by selecting directors with varying relevant experiences and skills, which can cause the Board of Directors to formulate better strategies for the company, which can result in better financial performance for the company (Hosny & Elgharbawy, 2022).

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