

## **Benchmarking Analysis: A Comparative Study of ESG Implementation Using MSCI Rating Standard on State and Regional Owned Enterprises in Indonesia**

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— *Review of* —  
**Integrative  
Business &  
Economics**  
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### **ABSTRACT**

Environmental, Social and Governance (ESG) are becoming the new standards to measure business sustainability. West Java Provincial government is committed to creating a sustainable business and contributing to the achievement of ESG, especially in terms of improving the regional economy. This research aims to provide a comparative analysis of ESG implementation among several companies. This research uses a mixed-method research approach. Furthermore, this research uses observations, interviews, and documents to collect data for qualitative analysis and financial performance & ESG score data from the company which listed in ESG Leaders Index for the quantitative analysis. Based on the research result, PT Jasa Sarana is in the back row among the three enterprises that make up the benchmarking analysis. In terms of environmental management, PT Jasa Sarana falls behind other enterprises. This study also employs panel data regression. The results show that financial performance components significantly the ESG score. In addition, this study provides suggestions for companies to strengthen their financial performance and capital structure in order to be able to apply ESG standards well and carry out regular benchmarking with companies that have implemented ESG well to obtain best practices for developing and implementing ESG standards.

Keywords: ESG, Business Sustainability, Benchmarking, ESG Scoring.

### **1. INTRODUCTION**

Business sustainability is essential for every company today to create a balance between the business world and the surrounding environment. The Global Reporting Initiative (GRI) has issued guidelines that can be used to measure sustainability management practices in the form of GRI Sustainability Reporting Guidelines related to 3 aspects such as profit, planet and people or the triple bottom line. Furthermore, business sustainability has developed more and more and now has brought the new concept known as the ESG (Environment, Social and Governance) standards. Moreover, ESG measures the sustainability and social impact of investing in a company or business in the future.

Furthermore, since an increasing number of institutional investors and funds include diverse Environmental, Social, and Governance (ESG) investing methodologies, the

forms of sustainable financing have risen quickly in recent years. However, while mainstreaming sustainable finance is a positive step forward, the vocabulary and practices connected with ESG investment differ significantly. One reason is that ESG investing has grown from socially responsible investment ideas to its type of responsible investing.

In addition, most entities face some level of investor, customer or supplier demand for more transparency about ESG issues, particularly regarding questions around supply chain integrity, board diversity or climate change adaptation. In 2018, 85% of all S&P 500 companies produced some ESG disclosure.

### **1.1 Business Issues**

Regional-Owned Enterprises (BUMD) are companies formed to increase regional income through local revenue "PAD". In this regard, the West Java Provincial government is committed to creating a sustainable business and contributing to the achievement of ESG, especially in terms of improving the regional economy and providing a positive impact on the environment and the region. PT Jasa Sarana is one of the BUMD in West Java, Indonesia which has a mission to:

- Become an Agent of Development for the Acceleration of Infrastructure Development in West Java.
- Providing Multiplier Effect for West Java Economic Growth.
- Optimization of the Sustainable Investment Portfolio to Maximize Value for Shareholders.

However, based on the preliminary research, PT Jasa Sarana is still far from its mission to provide a multiplier effect on West Java's economic growth and optimize its sustainable investment. On the other hand, several BUMDs, including MRT Jakarta, are currently focusing on making energy transitions and increasing their ESG index for business continuity and a sustainable city in Jakarta. In addition, several state-owned enterprises (BUMN) such as PT Pertamina and PT Jasa Marga have implemented ESG standards very well. Moreover, Jasa Marga is one of the SOEs that received the ESG leaders index released by IDX. It makes BUMD in West Java lag a few steps with other regions, especially DKI Jakarta and SOEs such as Pertamina and Jasa Marga in implementing ESG standards.

### **1.2 Research Objectives**

This research aims to observe and analyze the implementation of ESG standard at PT Jasa Sarana compared to other companies (MRT Jakarta, Pertamina, & Jasa Marga). This research also aims to provide the benchmarking analysis of ESG using the proven criteria from the proven ESG scoring agency.

## **2. LITERATURE REVIEW**

### **2.1 Understanding the Concept & Trend of ESG**

These three fundamental elements are utilized to create an index that measures a company's investment's long-term viability and ethical impact. Environmental, social, and governance (ESG) concerns are intricately entwined with every firm<sup>1</sup>. Furthermore, the ESG are a set of operational requirements used by socially conscious investors to evaluate potential investments. Moreover, In the dynamic business environment created by rapid technological evolution, enterprises in high-tech industries, notably, have asserted their critical role in producing competitive advantages and sustaining sustainable growth in domestic economies<sup>2</sup>. Environmental criteria focus on how a company acts as an environmental steward. The way it deals with employees, suppliers, consumers, and the communities in which it operates are all considered social criteria. Governance encompasses a corporation's leadership, CEO remuneration, audits, internal controls, and shareholder rights<sup>3</sup>. The notion ESG pushes enterprises to emphasize the company's profitability but also the influence of corporate operations, particularly on environmental and social elements.

**Table 1** The Overview of ESG

Explanation Point	Aspects		
	Environment	Social	Governance
Description	It encompasses the energy a firm consumes, the garbage it produces, the resources it requires, and the repercussions for living beings. Lastly, "environment" refers to carbon emissions and climate change.	Addresses the company's relationships with people and institutions in the areas where it does business and its reputation. Labour relations, as well as diversity and inclusion, are all considered "social." Every business function in a larger, more diversified society.	The company's internal system of practices, controls, and processes for governing itself, making successful choices, complying with the law, and meeting the needs of external stakeholders. Every firm, which is a legal entity in and of itself, necessitates governance.
Indicator	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Natural resources</li> <li>• Pollution &amp; waste</li> <li>• Environmental opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Human capital</li> <li>• Product liability</li> <li>• Stakeholder opposition</li> <li>• Social opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Corporate governance</li> <li>• Corporate behaviour</li> </ul>
SDGs Point	6, 7, 9, 11, 12, 13, 14, 15	1, 2, 3, 4, 5, 6, 8, 9, 10	5, 8, 9, 11, 12, 13, 16, 17

Integrating environmental, social, and governance (ESG) factors in private investments is developing from a risk management strategy to a driver of innovation and new opportunities that provide long-term value for the company and society. Promoting ESG adoption across the investment value chain will stimulate more private investment in sustainable development, which can have a more significant impact<sup>4</sup>. The commitments of ESG have progressively grown over time, becoming a significant element of the alternative investing landscape. As a result of the global pandemic, non-ESG and ESG funds raised less capital in 2020 and 2021. The general upward

<sup>1</sup> McKinsey, 2019. Five Ways That ESG Creates Value. McKinsey Quarterly.

<sup>2</sup> Phuong Nguyen, T. P. H. T. L. L. K. T., 2022. Opportunities and Challenges for Developing a Sustainable Software City: Lessons from Quang Trung Software City in Vietnam. Review of Integrative Business and Economics Research, 11(3), pp. 38-60.

<sup>3</sup> Investopedia, 2022

<sup>4</sup> UN Global Compact, 2022

trend for ESG concerning overall fundraising commitments is anticipated to continue as ESG becomes more significant for investors and fund managers.

Institutional investors have been at the forefront of environmental, social, and governance (ESG) investing initiatives, continuing to drive the industry forward. According to over a third of investors polled by Preqin Pro, ESG will become a more significant part of the industry in the next three years. Moreover, this trend is expected to continue, with 80 per cent of investors wanting to implement an ESG strategy by 2023. It took a long time to figure out how ESG went from a niche form of investment to mainstream global finance. Investors have not paid much attention to the mainly unregulated alternatives industry until recently. However, investors now demand more transparency from the funds they participate in, and industry regulation is taking centre stage. On the other hand, the benchmark for determining a company's success is no longer restricted to a single measure of financial performance but encompasses the company's sustainability policies as well<sup>5</sup>.

## 2.2 ESG Scoring Methodology

Until now, no standard used to score or measure ESG applies to the whole world, including Indonesia. Each company or ESG Scoring agency has a different methodology, with considerations and calculations that are not arbitrary but still refer to the appropriate theoretical basis. In this research, the author used the standard from Morgan Stanley Capital International (MSCI) to do benchmarking between PT. Jasa Sarana with several companies to see an overview of each other's Environment, Social and Governance (ESG) implementation.

Based on the MSCI ESG Rating Methodology (2022), the MSCI contains 35 indicators or critical issues that need to be met by the Company to maximize its ESG score. These indicators are contained in 10 major themes, of which 10 are included in the 3 pillars of ESG: Environment, Social and Governance.

## 2.3 ESG Leaders in Indonesia

In 2020, the Indonesia Stock Exchange (IDX), through the announcement of Stock No. Peng-00363/BEI.POP/12-2020 officially launched the IDX ESG Leaders Index. This Index measures the price performance of stocks with a good Environmental, Social and Governance (ESG) assessment, is not involved in significant controversy, and has transaction liquidity and sound financial performance. Furthermore, the IDX ESG Leaders index is built based on an ESG risk assessment which measures the extent to which the ESG implementation is carried out by the Listed Company based on the risk exposure in each business field. To determine the constituents or shares that are included in Indonesia Stock Exchange (IDX) ESG Leaders is undoubtedly not an easy thing, and there are several aspects and factors as well as stages that need to be considered. The process for selecting the Indonesia Stock Exchange IDX ESG Leaders Index constituents is carried out as follows:

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<sup>5</sup> Yi-Chun Kuo, Y.-M. W. Y. X. L., 2022. Identifying Key Factors for Sustainable Manufacturing and Development. *Review of Integrative Business and Economics Research*, 11(1), pp. 30-50.

1. IDX determines the universal stocks for the selection of the IDX ESG Leaders Index, namely from the constituents of the IDX80 Index that have an ESG risk score from Sustainalytics.
2. Issued shares with high controversy (category 4 and 5).
3. Issue stocks with ESG risk scores in the high and severe categories.
4. From the remaining stocks, based on the lowest ESG risk value, the selected IDX ESG Leaders Index constituents are at least 15 shares and at most 30 shares.

Based on the selection process, IDX Indonesia has released 30 issuers that are the members of the ESG Leaders index.

### **3. RESEARCH METHODOLOGY**

#### **3.1 Research Method**

In this research, the author uses a mixed-method research approach. Mixed method approach is an approach to inquiry involving collecting both quantitative and qualitative data (Creswell, 2014). The qualitative research approach is used to describe and explore business issues that occur in the Company (in this case PT. Jasa Sarana) in depth and holistically especially in the ESG implementation context. The quantitative approach is intended to examine the relationship or influence of several variables on the research topic (ESG Score).

#### **3.2 Research Design**

In this research, the author uses an exploratory sequential mixed method research design. This design allows researchers to begin with a qualitative research phase and explores the views of key informants regarding the concept and implementation of ESG. The first phase of this design will be analyzed, and the information will be used to build into the quantitative phase. The qualitative used to build an instrument that best fits the sample under study, to identify appropriate instruments for the quantitative phase, and specify variables that need to go into a follow-up quantitative analysis (analyze the relationship between financial performance and ESG score).

#### **3.3 Data Collection**

##### **Qualitative:**

The data needed in this study includes information about internal and external data related to the implementation of business sustainability at PT Jasa Sarana. Furthermore, information about ESG in various companies, especially those indexed by ESG, is also needed for benchmarking. Such information includes ESG (framework and strategies), ESG Implementation, sustainability report, etc. Therefore, the data collected by the authors in this study were formed in two parts, as follows:

##### **a. Primary Data**

Primary data comes from sources that directly provide data to data collectors and are collected by authors from the agency, company, agency, institution, or organization under study.

##### **b. Secondary Data**

Secondary data comes from sources that do not directly provide data to data collectors. This data is obtained through the literature, scientific reports and other data sources that are related to the research carried out, which is intended to obtain a theoretical basis.

### **Quantitative:**

The data collected is in the form of panel data, which is based on secondary historical financial data and ESG score collected from 30 companies listed on the Indonesia Stock Exchange (IDX) in the ESG Leaders Index. The data collected is yearly over the period 2018-2021. The historical financial data are also retrieved from Stockbit and Ajaib. Stockbit and Ajaib are simple stock investing apps that provide complete information about firms listed on the IDX.

### **3.4 Data Analysis (Qualitative)**

In this research, the author used benchmarking analysis. Benchmarking is a continuous measurement process that compares one or more company business processes with the best companies in these business processes to obtain information that can help companies identify and implement business process improvements<sup>6</sup>. While another view of benchmarking stated the same argument, that benchmarking is a process that compares and measures the performance of a company with other companies to obtain information that will be used for continuous improvement<sup>7</sup>. The author used “general benchmarking” to examine the technological features (ESG key issues) of the selected companies as well as their implementation and deployment. Furthermore, the source organizations could be from the same or different industries<sup>8</sup>.

### **3.5 Data Analysis Quantitative**

The data analysis technique used in this study is regression analysis, where this analysis is intended to examine the effect or relationship between the independent and dependent variables, which in this case is the relationship of financial performance on ESG scores.

#### **3.5.1 Hypotheses Development**

##### **Financial Performance**

Financial performance is used to evaluate how well a company manages its resources from its business to generate revenues. Investors could learn information about the company's general health from its financial performance. It provides a quick snapshot of the company's economic situation and managerial performance (Investopedia, 2022). In this study the company's financial performance is represented by Return on Assets (ROA) and Return on Equity (ROE).

##### **The Relationship Between ROA and ESG Score**

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<sup>6</sup> Andersen B, P. P., 1995. *The Benchmarking Handbook*. London: Chapman & Hall.

<sup>7</sup> Tatterson, J., 1996. *Benchmarking Basics: Looking for A Better Way*. Manlow Park: Christ Publication.

<sup>8</sup> Kelessidis, D. V., 2000. *Benchmarking*, Thessaloniki Technology Park: INNOREGIO: dissemination of innovation management and knowledge techniques.

Return on Assets (ROA) defines as a financial ratio that indicates how profitable a company is in relation to its total assets (Hargrave, 2022). In 2016, Ferrero, Fernandez, and Munoz revealed that companies that have interdimensional show better ESG practices and economic performance than other companies. In keeping with earlier study, Lassala, Apetrei, and Sapina (2017) used financial ratio analysis to explore how financial performance of organizations affects sustainability. According to their findings, return on assets is an important indicator of sustainability for companies. Thus, the following is the hypothesis proposed:

**Hypothesis H1:** The relationship between Return on Asset (ROA) and ESG Score is estimated to be positive.

### **The Relationship Between ROE and ESG Score**

Return on equity (ROE) is a financial performance measurement calculated by dividing net income by shareholders' equity (Fernando, 2022). Other research findings conducted by (Ulrich Atz, et al., 2022) which revealed that there is a positive relationship between financial performance (ROA, ROE, bahkan stock price) with ESG. ROE has an important role in company's sustainability, the ROE indicators can help decision-makers when the desired outcome must balance human health, environmental, social, and economic risks and rewards (EPA, 2022).

**Hypothesis H2:** The relationship between Return on Equity (ROE) and ESG Score is estimated to be positive.

### **3.5.2 Research Variables**

The dependent variables used in this study is ESG score. ESG score is a measure of the quality of ESG implementation in a company. IDX uses the ESG score to determine which companies are eligible to be included in the ESG leaders index as the author explained in chapter 2 related to the ESG leaders index and its indicators. On the other hand, the independent variable in this study is financial performance which is represented by Return on Assets (ROA) and Return on Equity (ROE).

This study also employs several control variables such as revenue, firm size and covid crisis pandemic. To emphasize, the covid's variable act as a dummy variable as a control variable. This variable is used to understand firms' situation during the pandemic. The value of this dummy variable is equal to 0, which indicates the period before the COVID-19 pandemic, and 1 implies the period during the COVID-19 pandemic. The abbreviation, calculation, and related literature for all the variables are:

**Table 2** Research Variables

Variable	Abbreviation	Calculation
<b>Dependent Variables</b>		
ESG Score	ESG_SCORE	(Market Cap $i$ $\times$ Free Float Ratio $i$ $\times$ ESG Tilt Factor $i$ ) / Base Market Cap $\times$ 100
<b>Independent-Variables</b>		
Return on Asset	ROA	Net Profit / Total Asset
Return on Equity	ROE	Net Profit / Shareholders' Equity
<b>Control Variables</b>		
Revenue	REV	Natural logarithm of total revenue
Firm Size	SIZE	Natural logarithm of total assets
COVID-19 Pandemic	COVID	(0, 1)

### 3.5.3 Regression Model

In order to analyze and examine the relationship between the financial performance as an independent variable (X) and ESG score as a dependent variable (Y) and also there are several control variables involved. This study employs panel data regression by using the Stata 17 software. The models used to test the hypotheses developed previously are as follows:

$$ESG\_SCORE = \alpha + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 REV_{it} + \beta_4 FIRM\_SIZE_{it} + \beta_5 COVID_{it} + \varepsilon_{it}$$

### 3.6 Research Informant

The informants in this research were determined "purposively", which is determining the informants based on specific considerations such as the capacity and capability of a person who is considered the most knowledgeable and has the power to provide access to the author to explore the object/situation to be studied. The selected informants in this research are:

1. President Director of PT Jasa Sarana
2. Vice President of Pertamina Energy Institute
3. Head of CSR of PT Jasa Marga
4. Business Development Director of PT MRT Jakarta
5. Head of Representative Office of IDX in West Java

## 4. BENCHMARKING RESULTS & ANALYSIS

### 4.1 Benchmarking Result

In this chapter, the author will provide a comparative analysis by performing benchmarking between 4 companies: Jasa Sarana, Jasa Marga, Pertamina and MRT Jakarta. This benchmarking is intended to see the implementation of Environment, Social, and Governance (ESG) standards in these companies. In this context, the author uses the ESG standard from MSCI, which consists of 3 Pillars, 10 major themes and 35 key issues, to compare and measure the implementation of ESG standards in each company from the results of observations, interviews, and document analysis. The results of the benchmarking that have been carried out are as follows:



**Table 3** ESG Benchmarking Using MSCI Standard

Pillars	Themes	Key Issues	Assesment			
			Jasa Marga	Pertamina	MRT	Jasa Sarana
Environment	Climate Change	Carbon Emission				
		Financing Environmental Project				
		Climate Change Vulnerability				
		Product Carbon Footprint*				
	Natural Capital	Water Stress*				
		Biodiversity and Land Use				
		Raw Material Sourcing				
	Pollution and Waste	Toxic Emission & Waste				
		Packaging Material & Waste *				
		Electronic Waste				
	Environmental Opportunities	Clean Tech				
		Green Building				
		Renewable Energy				
Social	Human Capital	Labor Management				
		Health and Safety*				
		Human Capital Development				
		Supply Chain Labor Standards				
	Product Liability	Products Safety and Quality*				
		Chemical Safety				
		Consumer Financial Protection				
		Privacy and Data Security				
		Responsible Investment				
		Health & Demographic Risk				
	Stakeholder Opposition	Controversial Sourcing				
		Community Relations				
	Social Opportunities	Access to Communication				
Access to Finance						
Access to Health Care						
Opportunities in Nutrition and Health*						
Governance	Corporate Governance	Board				
		Pay				
		Ownership				
		Accounting				
	Corporate Behaviour	Business Ethics				
		Tax Transparency				

In the benchmarking analysis, the author uses 2 indicators, which are green and red. Where the green indicator indicates that the key issues are "OK" or there is no problem, while the red indicator indicates that the key issues still have problems or "NOT OK".

The table above shows that PT Jasa Sarana only fulfils 20 of the existing 35 key issues or only 57% of the overall vital issues. Meanwhile, as a fellow BUMD, MRT Jakarta achieved slightly more than PT Jasa Sarana, namely as many as 25 of 35 key issues or around 71% of the overall indicators. In this case, PT Jasa Sarana lags in environmental management compared to PT MRT Jakarta. MRT Jakarta has good environmental management, and this is supported by its business goal of creating net zero emissions and efforts to solve climate change problems.

On the other hand, when compared to state-owned enterprises such as PT Pertamina and PT Jasa Marga, PT Jasa Sarana is even further behind the two SOEs. Pertamina fulfilled 26 of the 35 key issues or 74% of the total vital issues. Meanwhile, Jasa Marga was the best in this benchmarking by meeting 30 of the 35 existing key issues or around 85%. It certainly makes PT Jasa Marga worthy of being an issuer indexed in the ESG Leaders index and being the best in this benchmarking, while Jasa Sarana is the most lagging behind. The benchmarking data above follows the results of the scoring carried out by the ESG scoring agency "Sustainalytics", where in Sustainalytics data, Jasa Marga received a rating of 15.2 (classified as low risk) calculated on 22 March. As a result, Jasa Marga in the transportation infrastructure industry ranks 54 out of 170, while in its global universe ranking (the total number of companies measured by Sustainalytics is 1,384 out of 14,756.

## 4.2 Benchmarking Analysis

As shown in Table 5, it can be seen that PT Jasa Marga is the best among the 4 benchmarked companies in terms of implementing ESG standards. Therefore, the author will use Jasa Marga as a reference in conducting the analysis and make Jasa Marga the best practice to improve ESG standards at PT Jasa Sarana. Based on the benchmarking results in table 5, it can be seen that the aspect with quite a several red indicators in Jasa Sarana are the environmental aspect. When compared to Jasa Marga, 6 key issues are superior and can be used as best practices so that Jasa Sarana can make improvements to these environmental aspects. The 6 key issues in the environment at Jasa Marga that can be used as best practices are as follows:

### 1. Climate change vulnerability

Changes in land use can occasionally occur from business operational activities, posing a danger of climate change. In this instance, the company can make frequent and consistent environmental management and monitoring efforts to reduce potential adverse effects and promote long-term development.

### 2. Biodiversity and land use

A study of biological impacts must be carried out during the construction of toll roads, and coordination with relevant Ministries and Offices must be carried out to ensure that the Company's activities, from land acquisition to construction to operations, do not harm biodiversity in the Company's area. It is also essential to agree on what the Company needs to do to conserve biodiversity during the planning stage. In terms of land use, the Company must ensure that its activities take place outside of a protected area and that the area used is following the Regional Spatial Plan and the land acquisition

process as outlined in the Procedures for Implementing Land Procurement for Development in the Public Interest.

### **3. Electronic waste**

Electronic device purchases at Jasa Marga can be divided into physical purchases and electronic rental systems. If an electronic item is no longer in use or its useful life has expired after a physical purchase, the ITE Group shall return it to the PFA Group for destruction following applicable Company requirements. When it comes to renting electronic gadgets, the device will be returned to the service provider once the rental period has passed. It can be implemented by PT Jasa Sarana in its electronic waste management, with the caveat that there must be a defined SOP and coordination flow for the destruction or handling of electronic trash.

### **4. Clean tech**

The application of clean technology consists of the use of renewable energy (solar system) as lighting in the workspace or office, the use of LED lights (environmentally friendly), waste processing in rest areas and wastewater treatment.

### **5. Green building**

In this case, the Company can apply green building standards under technical provisions regarding green buildings as stated in the Minister of Public Works and Public Housing Regulation no. 21 of 2021, which includes site management, energy use efficiency, water use efficiency, indoor air quality, waste management and water management.

### **6. Renewable energy**

Jasa Marga utilizes new renewable energy by using Solar Power Plants in the form of installing solar panels on the roof of the Head Office environment as a source of electrical energy for office operations. PT Jasa Marga (Persero) Tbk, through its subsidiary, PT Jasamarga Bali Tol (JBT), has also entered into a Cooperation Agreement related to Solar Power Plant Facilities (PLTS) with PT Bukit Energi Investama (IDX) as an effort to increase the use of new and renewable energy. PLTS will support PT JBT's business and operational activities with a maximum capacity of 400 Kilowatt-Peak (kWp) provided by PT BEI. In its application, solar panels will be installed at six points on the Bali-Mandara Toll Road motorway with a length of 1 km each, which will start work in March 2022 and is targeted for completion in early July 2022.

In this case, PT Jasa Sarana may find it challenging to apply renewable energy because it requires a large enough cost. Furthermore, Jasa Sarana does not have the same financial capability as Jasa Marga. For this reason, what needs to be done is to collaborate with the Government and investors regarding the provision of funds related to the application of renewable energy. On the other hand, collaboration with private companies is also needed to procure renewable energy as well as studies on the application of renewable energy at PT Jasa Sarana.

## 5. RESEARCH FINDINGS

### 5.1 Does Company's Financial Performance Affect Company's ESG Score?

From the previous benchmarking results, the State-owned Enterprises (PT Jasa Marga and PT Pertamina) meet more ESG indicators than the Regional-Owned Enterprises (PT Jasa Sarana and PT MRT Jakarta). Then the question is whether to apply good ESG standards, good financial performance is needed first? Will companies with poor financial performance and smaller company sizes find it difficult to apply ESG standards?

Based on the benchmarking results, author will analyze the panel data regression by testing the effect of financial performance on the ESG Score by using several control variables in the process.

### 5.2 Classical Assumption Test

The appropriate panel data models have been determined so that the next step is to test the classical assumptions before conducting the regressions. This test is a “mandatory” test so that the models used in the regression satisfy the classical assumption tests. The classical assumption tests, such as linearity, normality, multicollinearity, heteroscedasticity, and autocorrelation, are performed in linear regression with the Ordinary Least Squared (OLS) method. However, it is not necessary to perform all the classical assumption tests on every linear regression (Gujarati & Porter, 2009a):

1. The linearity test is rarely conducted on every linear regression model since it is assumed that the model is linear.
2. The normality test is not a BLUE (Best Linear Unbiased Estimator) requirement, and some argue that it is unnecessary to satisfy this criterion.
3. Multicollinearity test is not possible when just one independent variable is utilized, but it is required if the independent variable used is more than one in linear regression.
4. Heteroscedasticity is more common in cross-section data, and panel data is more similar to cross-section data features than time series.
5. Autocorrelation emerges exclusively in time series data. Hence, measuring autocorrelation on non-time series data (cross-section or panel) is pointless.

Since this research uses panel data models, it is able to relax the classical assumption tests (Biørn, 2017). Therefore, this research will only conduct the multicollinearity and heteroscedasticity tests because both tests are stated to be sufficient to satisfy the classical assumption test in the panel data.

Based on the results of the multicollinearity test, each variable has a Variance Inflation Factor (VIF) value of less than 10 and the tolerance (1/VIF) of each variable is more than 0.10. Thus, the regression model in this study is free from multicollinearity.

**Table 4** Multicollinearity Test

Variable	VIF	1/VIF
ROA	6.14	0.162745
ROE	4.84	0.206823
SIZE	4.80	0.208339
REV	3.98	0.250941
COVID	1.05	0.956935
Mean VIF	4.16	

The last is a heteroscedasticity test with a significant level showing a value of 0.7900 or above 0.05 ( $\alpha = 5\%$ ). Thus, the regression model in this study is declared free from heteroscedasticity.

### 5.3 Regression Result

**Table 5** Panel Data Regression Result of Financial Performance Impact on ESG Score

ESG_SCORE	
ROA	33.5338 ** 0.003
ROE	-11.3689 ** 0.001
REV	-03360 0.479
SIZE	2.1866 *** 0.000
COVID	-0.5461 0.497
Constant	15.5897 *** 0.000
No of Observation	120
No of Companies	30
R-Squared	0.4907
Adjusted R-Squared	0.3838
Prob > F	0.0000
Hausman	0.9983
Estimation	RE

Notes: \*\*\*, \*\*, \* denote a p-value in parentheses of 0.01, 0.05, and 0.1, respectively.

Based on the regression results in Table 5, the coefficient of determination (R-Square) on the dependent variable (ESG\_SCORE) is 0.4907 or 49%. It shows that 49% of the variation in the dependent variable can be explained by the independent variables and control variables while the remaining 51% is explained by other variables aside from those tested in this regression model. On the other hand, the adjusted R-square value is

0.3838 (38.3%). This means that the ability of the independent variables in this study affects the dependent variable by 38.3%, while the remaining 61.7% ( $1 - 0.3838$ ) is explained by variables other than the independent variables in the study.

In addition, in this regression model the significant value ( $\text{Prob} > F$ ) is 0.0000 or less than 0.05, so this model is accepted and explains that the independent variables (ROA, ROE) and control variables (REV, SIZE, COVID) simultaneously affect the dependent variable (ESG\_Score).

### **5.3.1 The Effect of ROA on ESG Score**

Based on the results of the partial test in the ROA variable regression on ESG\_SCORE, it shows that the P value is 0.004, which is smaller than the predetermined significant level of 0.05 ( $P < 0.05$ ). Thus based on this result, partially the independent variable Return on Assets (ROA) has an effect on the dependent variable ESG\_Score so that the H1 hypothesis is accepted in this study.

### **5.3.2 The Effect of ROE on ESG Score**

Based on the results of the partial test in the ROE variable regression on ESG\_SCORE, it shows that P value of 0.001, which is smaller than the predetermined significant level of 0.05 ( $P < 0.05$ ). Thus based on this result, partially the independent variable Return on Equity (ROE) affect the dependent variable ESG\_Score, so that the H2 hypothesis is accepted in this study.

### **5.3.3 The Effect of Control Variables on ESG Score**

In testing the panel data regression, the author also involved control variables consisting of revenue (REV), firm size (SIZE) and the covid-19 pandemic (COVID). Based on the results of the regression test, it can be seen that the P value on the REV variable is 0.48 or ( $P > 0.05$ ) so that the level of revenue in a company does not affect the ESG score. On the other hand, the SIZE variable has a P value of 0.000 or ( $P < 0.05$ ) so that the size of a company (based on the assets) affects the ESG score. Finally, the COVID variable which is used as a dummy variable shows a P value of 0.498 or ( $P > 0.05$ ) so that the Covid-19 pandemic does not affect the ESG score.

## **5.4 Discussion**

From the results of previous tests it can be seen that financial performance affect a company to achieve an ESG score. It is related to the benchmarking analysis that the author previously conducted. It can be seen that State-Owned Enterprises have achieved more ESG indicators than Regional-Owned Enterprises. This is not only seen from the companies included in the benchmarking analysis, but can also be seen from the ESG Leaders Index that many State-Owned Enterprises are included in the index along with other giant companies due to their amazing ESG score

In this case, to achieve a good ESG score, a company must have good financial capability and the company must be "big" because adopting ESG standards, especially on environmental aspects, requires a lot of funding. For example, PT Pertamina is

carrying out a massive energy transition by developing renewable energy and efforts to achieve Net Zero Emissions (NZE). When compared to PT Jasa Sarana, of course, the strength of its capital is very much different, causing PT Jasa Sarana to be far below Pertamina in terms of its environment.

## **6. CONCLUSION AND RECOMMENDATION**

### **6.1 Conclusion**

ESG is a novel idea that has emerged from business and investing. West Java urges Regional Owned Enterprises to adopt ESG standards as part of its current commitment to ESG development. According to research, PT Jasa Sarana has not yet adequately adopted ESG standards. Although it is doing well in social and governance, PT Jasa Sarana is still trailing behind in environmental management, as seen by benchmarking results to other companies such as PT Pertamina, PT Jasa Marga, and PT MRT Jakarta.

To improve the standard of ESG implementation at PT Jasa Sarana, an appropriate best practice is needed, by making PT Jasa Marga a reference by observing and adopting existing systems, especially in terms of climate change vulnerability, biodiversity and land use, electronic waste, clean tech, green building and renewable energy.

In addition, it can be seen from the research results in the previous chapter that BUMN companies have achieved more ESG indicators than BUMDs. This is because BUMN have much better financial strength and performance than BUMD. There are variables that affect the achievement of ESG scores in a company, namely Return on Assets (ROA), Return on Equity (ROE) and also firm size. In this case, achieving a good ESG score requires good financial capability from a company because to adopt ESG standards, especially on environmental aspects. To conclude, in this case it can also be concluded that PT Jasa Sarana's ESG performance is lagging behind other companies because its financial performance is not good enough when compared to other companies.

### **6.2 Recommendation**

Based on this research, the author recommends to:

1. Improve the company's financial performance first and also increase the capital capability of PT Jasa Sarana to carry out ESG transformation, especially in environmental aspects.
2. Collaborate with many parties, especially the government and investors to obtain investment in efforts to make the energy transition and develop renewable energy.
3. Form an ESG acceleration team and conduct a unique study on the results of the ESG benchmarking to formulate a plan to improve ESG standards at PT Jasa Sarana.
4. Prepare a master plan or roadmap for ESG development by focusing on the aspects the company wants to improve first. We recommend that critical issues not requiring significant funds are prioritized first.

5. Develop a simple risk rating based on risk analysis to see which key issues are urgent and have enormous implications.
6. Conduct systematic comparative studies, especially for companies that are members of the ESG leaders index, to gain insight and best practices for implementing ESG in these companies.

### ACKNOWLEDGEMENTS

First and foremost, all praises to the Almighty God for the abundance of love, grace, and blessings that have enabled me to complete this research successfully. In addition, I'd want to offer my heartfelt gratitude and thanks to my research supervisor, Dr. Agung Wicaksono, without whom I would not have been able to complete this research satisfactorily. Thank you to all of the informants who took the time to discuss and share their experiences also their data regarding to the implementation and development of ESG. Thank you to my beloved mother, brother, sister, and entire family; without their prayers, enthusiasm, and support, completing this research would be extremely impossible. The authors also thank the anonymous reviewers.

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