

RENEWABLE SOCIO-ECONOMIC INCLUSION IN PREDICTING ECONOMIC SUSTAINABILITY: EMPIRICAL ANALYSIS FROM INDONESIA

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ABSTRACT

The study aims to identify various sustainable initiatives undertaken by Indonesia's manufacturing and services industry, which examines the 50 largest companies listed on the IDX. Furthermore, this study shows the impact of Social sustainability (SS), Environmental sustainability (Env-S), Financial Sustainability (FS) on Economic Sustainability (ES) with financial performance as a variable control. This study uses a descriptive quantitative design method and clause. The sample consists of a series of time series data on the results of reporting on the disclosure of environmental conservation responsibilities of companies listed on the IDX and data for the last 24 years of Foreign Investment (PMA) and Domestic Investment (PMDN). Multiple linear regression analysis was used to test the influence of SS, Env-S, FS on economic sustainability. FS, which is a variable control, is intended as a constant variable to minimize the influence of other variables. The main findings of this study are that director policies and donations have a significant positive influence on the financial sustainability of companies; However, the green house and climate bond factors were not found to have a significant sustainability impact, and the results were negative; Then, the domestic credit and ATM factors have a significant positive impact on sustainability on the Employee's utilization ratio and the Human Development Index. The implications of this study have been classified into factual novelty categories; The implications of the theoretical environmental ethic, practical managerial and policy brief of the green economy to encourage the sustainability of the national economy.

Keywords: sustainability Economy; Social sustainability; Environmental Sustainability; Financial sustainability

INTRODUCTION

Nowadays, global warming and climate change are very critical environmental challenges. This drastic change will certainly affect the sustainability of human life. Sustainable economic growth and efforts to deal with climate change are two interrelated issues and are part of the global dynamics that have occurred recently. Indonesia as one of the major countries with diverse social conditions and has an important role as the lungs of the world has ratified various global commitments. Climate change has caused significant negative impacts on ecosystems, the environment, and various other aspects of life, including the health and economic sectors. Based on the AQLI report (2022), air pollution containing fine particles (PM 2.5) has the potential to reduce the average life expectancy of Indonesians by up to 1.4 years compared to if air quality in Indonesia meets WHO standards. The low life expectancy reflects the low of one of the indicators of the Human Development Index in a country, which will ultimately hinder economic development (Nor et al., 2016). Based on data published by WHO (2022), if measured from life expectancy, air pollution is one of the biggest threats to human health in Indonesia, even beating chronic diseases such as diabetes and kidney infections. This is given that air pollution is not only limited to environmental problems, but also has significant economic impacts and thus creates a dilemma between desired economic growth and increasingly urgent environmental preservation (Thornton et al., 2018). (Sokołowski, 2019) studies that the energy sector in ASEAN countries and the implementation of policies and their impacts on climate change are caused by conventional energy (*black*) and renewable energy (*green*).

Previous research has discussed sustainable economics. Castro, C., Lopes, (2022) investigated the impact of e-government on sustainable development using a logit model for a sample of 103 countries in the period 2003–2018. The results show that the development of e-government is positive. This study provides evidence that e-government increases the likelihood of achieving sustainable development, especially in developing countries. Bhishek N, Habeeb your Rahiman, Neethu Suraja, Abhinandan Kukal, Ashoka M Ld, M. S. Divyashree, (2024) presented the relationship between green finance and economic development. Green finance (GF) has significant potential in driving high-quality economic development (HED), improving the consistency of people's prosperity, and reducing poverty by promoting sustainable development, innovation, and resilience. The study addresses environmental challenges and the promotion of sustainable economic growth through GF's important instruments. (Quartey & Oguntoye's, 2021; Lozano & Reid (2018) explores how industry sustainability can contribute to ESG. The findings show that maximizing supporting factors and minimizing disconnection between universities, industry and government and society can be a starting point in systematically promoting global industrial sustainability. (Noh et al, 2019) also revealed the impact of corporate strategies that have environmental insight on the financial performance of public companies in the Americas. After analyzing 174 companies indexed on the NYSE and NASDAQ. He concluded that there is a positive and significant relationship between environmental certification and financial performance. (Z. Liu, 2020) revealed the relationship between environmental performance and financial performance using ESG data sets which concluded that there was a positive relationship between variables in industrial companies.

This study examines how social sustainability, environmental sustainability, and financial sustainability are in predicting economic sustainability in Indonesia during the period 2000 to 2023. In previous studies, the GDP production approach was widely used to predict a sustainable economy. Previous research has also not looked at the role of the household sector in sustainable economic development. Indonesia with a high number of demographics, the household sector certainly has a significant role in this study wants to try to use other approaches by including variables of social sustainability, environmental sustainability, and financial sustainability. So that it can be a consideration for the industrial sector, households, customers, and the government in achieving sustainable economic targets.

This research is based on an argument that success in achieving a sustainable economy is largely determined by social, environmental, and financial factors that are able to balance profit and environmental needs (Allouche & Laroche, 2019). This assumption departs from the taxonomy that has been formulated by the OJK, that attention to health and the sustainability of the 3 P's, namely planet, people, and profit, must be aligned. In the end, the SDGs target will be achieved. Attention to environmental pollution will be a solution in overcoming the problem of air pollution that has an impact on various economic sectors. Thus, this paper not only strengthens the theory of sustainable economy but also offers insights for policymakers, the banking sector, households, industry, and academics in achieving economic sustainability.

LITERATURE REVIEW

Economic Sustainability

Sustainable economy refers to practices that support long-term economic growth without sacrificing the social, environmental, and cultural aspects of society. Being eco-friendly and lean is a strategy that companies use to reduce waste in the process. The investigation shows the influence of eco-friendly systems on different levels of industrial competition, executive power, and family ties (Jie Han, Qinglan Zheng, Danxi Xie, Anas Muhammad, 2023). It was revealed that green strategies have a positive impact on the growth of companies, and this intensifies along with the level of competition, executive power, and family ties. Companies must adopt this strategy because it provides a competitive advantage (Lartey et al., 2020). Sustainable Economy is related to the efficiency of input-

output production. In other words, it includes economic plans, organizational agendas, and operational dynamics designed to provide a wide variety of social requirements and demonstrate a multidimensional landscape (Hafiz M. Sohail, Hossam Haddad, Mirzat Ullah, Nidal Mahmoud Al-Ramahi, 2024). This theoretical outline highlights the principles of reasonable growth, ecological concern, and individual progress. The main features of this development pattern include efficiency, equity, environmental realization, and sustainability, in addition to encouraging collaboration in various sectors (Muhammad Imran, 2023).

Social sustainability

Social sustainability is a concept related to how society can develop and survive in the long term by paying attention to social welfare, justice, and inclusion. Sustainability is often touted as the company's main vision, but not all managers consider it their primary goal. The concept was first coined in 1987 in the Brundtland Report. The report has two main dimensions: people's aspirations for a better society and limitations caused by nature. Over time, the concept was divided into three broad categories: social, environmental, and economic (Chang & Kuo, 2008). In another study (Pekovic, 2019) also examined environmental standards and their impact on employee productivity and found that in companies that implement environmental ethics, their employees will experience significant productivity

Environmental Sustainability

Environmental sustainability can play an important role in development; in this conception, the board of directors must be more open-minded towards environmental protection. The desire of human life is influenced by this drastic change. The disclosure of *Corporate Social Responsibility* (CSR) has an effect on the trust of corporate stakeholders (Dhar et al., 2020). The concept of value creation through environmental conservation has been discussed by researchers. They propose a sustainability model by using value creation as a key endogenous variable to improve the company's image to stakeholders. As a result, they show that good environmental governance will play an important role and should reflect acceptable responsibility practices to generate a reputation (Andrés et al., 2019).

In an empirical study (Earnhart et al, 2018) they found a positive relationship between a company's environmental performance and environmental performance. Many research presentations conclude that there is a negative relationship and mix colleration between these two variables. This review also helps in finding various relationships between financial performance and environmental responsibility. In another literature (Jayasundara et al., 2019) studies carbon footprint (CF), environmental sustainability which has a negative correlation. (Cortez & Cudia, 2019) studies that improvements in capital structure to environmentally friendly product innovation are measured in terms of costs incurred. The results suggest that environmental sustainability innovations will improve financial performance (increases sales, equity, net income, and assets but increases long-term debts). Which financial performance has a positive impact on investment in environmental innovation when the efficiency is weak. Here policies will play an important role in the company's compliance to preserve the environment.

Financial Sustainability

Sustainable Finance is an ecosystem with comprehensive support in the form of policies, regulations, norms, standards, products, transactions, and financial services that align economic, environmental, and social interests in financing sustainable activities and financing the transition to sustainable economic growth (OJK, 2022). In implementing Sustainable Finance, Indonesia currently still faces various challenges, including convincing business actors and the public that efforts to generate profits will be better and lasting if carried out by considering natural resources and social impacts on society. This is known as the profit, people, planet (3P) principle. The creation of financial resilience knowledge helps companies to capitalize on innovation opportunities and competitive advantages over their competitors. These business assets can be associated with better

financial performance in critical conditions. Nunes et al. (2019) studied the relationship between network intensity and the process of financial innovation investigated to analyze the influence of these networks on firm performance.

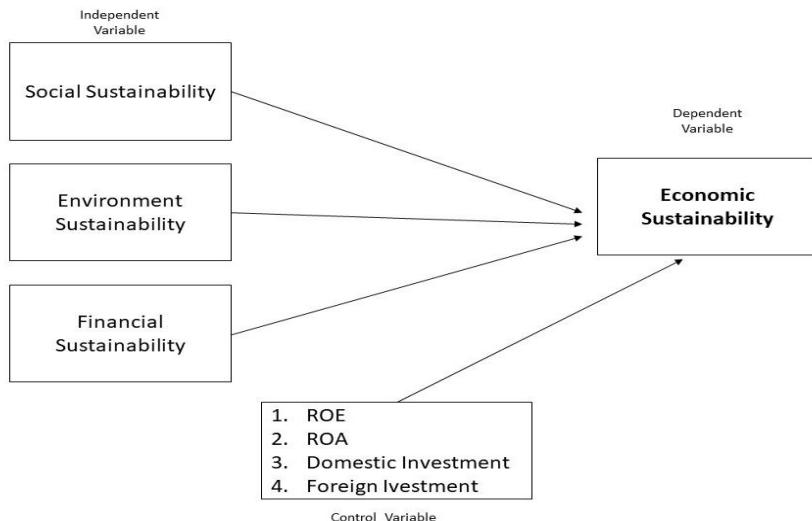


Figure 1. Research Outline
 Source: Author Analysis (2024)

HYPOTHESIS

(Chouaibi, 2021) focuses on the development of quantitative measures of the sustainability economy to evaluate the impact of SS, Env-S, FS on financial performance, by sampling 95 companies. Empirical results show that financial performance depends on the realization of innovation and disclosure activities. The study concluded that encouraging companies to invest in intangible investments stimulates the disclosure of corporate responsibility that can result in a sustainable competitive advantage. (Girón et al., 2021) This study examines the relationship between reporting activities and the economic performance of companies. This paper combines data from the Global Reporting Initiative (GRI).

(Alfalih, 2022) investigates the relationship between sustainable social responsibility and environmental sustainability, by making corporate social performance a mediating variable. This study applied a structural equation model to data collected through questionnaires distributed to 50 companies in Saudi Arabia. The results show that there is a mediating effect of corporate social performance between extrinsic motivation of sustainable entrepreneurship and sustainable entrepreneurial outcomes as determinants, and social innovation. This mediation effect seems to be less important for other determinants such as the acquisition of knowledge resources. The results of this study determine an important pathway for social innovation to facilitate its definition and try to operationalize the process of its creation. In fact, this study provides an operationalized approach to social variables.

(Carayannis et al., 2014) focuses on financial impact, specifically sustainability, resilience, and company excellence. The main objective of this paper is to discuss how the sustainability and resilience of companies can be achieved with good financial performance. In addition, this case shows how BMI can be used to overcome commoditization challenges, among others by switching from BM which focuses on domestic credit and ATM which focuses on the banking sector. The results show how banks in developing countries can overcome their dependence on modern financial products can improve the sustainability of the country's financial ecosystem.

In addition, companies that ensure sustainable economic growth are able to provide positive equity to shareholders. Din et al. (2022) investigated the relationship between sustainable development, domestic investment and adjusted foreign investment, financial development, economic growth, and resource rent, using the usual smallest squares panel technique and the panel's common moment method for annual panel data of three developing countries in South Asia, during the research period 1990 to 2020. The results show that the sustainable development goal index, financial development, and economic growth have a positive and significant effect on net savings while at the same time, the inflation rate and natural resource rental have a negative and significant influence on sustainable development in developing countries in the ASEAN region. Therefore, the researcher explored three hypothetical findings.

H1: Variable social sustainability has a significant positive effect on economic sustainability

H2: Variable environmental sustainability has a significant negative effect on economic sustainability

H3: Variable financial sustainability has a significant positive effect on economic sustainability

After going through an extensive literature review related to sustainability initiatives, it can be broadly classified into three aspects: ESG (*Environmental, Social, and Governance Ethic*). We measure sustainability in these three aspects, to test the impact of long-term investments on financial performance, social sustainability, and environmental sustainability. The implications in this study will explore practically the diverse managerial relationships.

METHODS

Data and Sampling

This study examines how Economic Sustainability in Indonesia is influenced by various factors both in terms of social, environmental, and financial. Using time series data from 2000-2023 with a total of 24 years of observation with 1 dependent variable, 3 independent variables, and 4 control variables. The secondary data used in this study was taken from Word Bank, IEA, OJK, and BPS.

Empirical models and variables Definitions

To assess the impact of Social Sustainability, Environmental Sustainability, and Financial Sustainability on Economic Sustainability, multiple linear regression analysis and relevant statistical tests for equations 1 and 2 are used as follows. Model (1) is used to test the influence of SS, Env-S, FS on ES. While model (2) is used to see the influence of SS, Env-S, FS, ROE, ROA, DI, and FI on ES.

$$ES = \alpha + b_1 SS + b_2 Env-S + b_3 FS + e \quad (1)$$

$$ES = \alpha + b_1 SS + b_2 Env-S + b_3 FS + b_4 ROE + b_5 ROA + b_6 DI + b_7 FI + e \quad (2)$$

The SS dependent variable is measured by two indexes: Employee's utilization ratio and Human Development Index. Both indices are measured by collecting data published by the World Bank and BPS based on a set of predetermined criteria. The criteria used to measure the employee's utilization ratio are those who work in the industrial sector. The criteria for measuring HDI are built through a three-dimensional approach, namely longevity and health; knowledge, and a decent life (Table 1).

For the variable independent Social Sustainability (SS), it is measured by the company's director and donation policies by looking at CSR value. Variable Environmental Sustainability (Env-S) is measured by two approaches, namely greenhouse and climate bond. Green houses are obtained from Word Bank's annual report which calculates total greenhouse gas emissions. Meanwhile, climate bonds are calculated from the total industries that contribute to climate change mitigation and adaptation. Variable Financial

Sustainability (FI) is measured by two indices: domestic credit and ATM. The criteria used to measure domestic credit is total domestic credit provided by financial sector (% of GDP), while ATMs are measured by the number of Automated teller machines (ATMs) per 100,000 adults.

Table 1. Descriptions of Variables

Variables	No	Sub Variables	Definitions
Dependent variable			
Economic Sustainability	1	Employee's utilization ratio	Those who work in the industrial sector
	2	Human Development Index	HDI is built through a three-dimensional approach, namely longevity and health; knowledge, and a decent life
Independent variables			
Social Sustainability	3	Director's policy	Directors who have sustainable development policies
	4	Donations	They are giving charity to the nonprofit organization or the others in Need
Environment Sustainability	5	Green House	Total greenhouse gas emissions (kt of CO2 equivalent)
	6	Climate Bond	Industries that contribute to climate change mitigation and adaptation
Financial Sustainability	7	Domestic Credit	Domestic credit provided by financial sector (% of GDP)
	8	ATM	Automated teller machines (ATMs) (per 100,000 adults)
Controlling Variables			
	9	Return of equity (ROE)	The measure of profitability is based on equity, more precisely on shareholder's equity. (ROE = profit after tax/market capitalization*100)
	10	Return of Assets (ROA)	It shows the percentage of how profitable is the assets in generating revenue
	11	Domestic Investment	
	12	Foreign Investment	

Source: Author Analysis (2024)

Along with the dependent and independent variables that have been described, all the control variables are presented in table 1.

RESULTS

Descriptive Statistics

Table 2 presents descriptive statistics for eight different variables, denoted as EE, SS, Env-S, FS, ROE, ROA, DI, and FI. The total sample size for all variables consisted of 24 observations. The ES variable has a value of 105 to 131 with an average count of 118.667 and a standard deviation of 8.5499. variable SS has a value of 62 to 6875 with an average count of 360,708 and a standard deviation of 1387,552. This figure shows that the social sustainability indicators used are still low. The Env-S variable has a value of 3.66 to 7.30

with an average value of 5.01 and a standard deviation of 9.42. This pattern shows that there is still low attention to environmental sustainability during the period 2000 to 2023. The FS variable has a value of 47 to 108 with an average value of 73.66. The standard deviation value is 24,219.

The control variable in this study is ROE has a value of 29 to 61 with an average value of 40.62 and a standard deviation value of 8,509. The ROA value has a value of 2.42 to 5.19 with an average value of 4.18 and a standard deviation of 0.802. This value shows that not all financial sectors have been used as a sample to see their impact on economic sustainability. Another variable control is Domestic Investmen which has a value of 20363 to 674923 with an average value of 227651 and a standard deviation of 178090. Variable foreign investment has a value of 286663 to 5030047 with an average value of 2.3783 with a standard deviation of 9761985. This shows that the observations have covered the total value of investment both domestically and abroad.

Table 3 shows the stationery value in this study. After conducting a stationery test at the level level, it was found that the T-Statistic value was < of 5% critical value. So that the test is carried out again at the first different stationary level. And a total of 23 observations were obtained with a T-Statistic value of > from 5% critical value with a probability value of < 5% for all variables used.

Table 2. Descriptive statistics

Variables	Obs	Mean	Std. Dev	Min	Max
Economic Sustainability	24	118.6667	8.5499	105	131
Social Sustainability	24	360.708	1387.552	62	6875
Environment Sustainability	24	5.01	9.42	3.66	7.30
Financial Suistainability	24	73.66	24.219	47	108
ROE	24	40.62	8.509	29	61
ROA	24	4.18	0.802	2.42	5.19
Domestic Investmet	24	227651	178090	20363	674923
Foreign Investment	24	2.3783	9761985	286.663	5.030.047

Source: Processed Data (2024)

Table 3. Unit root test for (stationarity)

Variables	T-Statistic	5% Critical Value	p-value for Z(t)	Level
Economic Sustainability	7.135	3.000	0.0000	1
Social Sustainability	4.797	3.000	0.0001	1
Environment Sustainability	3.161	3.000	0.0223	1
Financial Suistainability	4.241	3.000	0.0006	1
ROE	6.692	3.000	0.0000	1
ROA	4.116	3.000	0.0009	1
Domestic Investmet	6.173	3.000	0.0000	1
Foreign Investment	3.779	3.000	0.0031	1

Source: Processed Data (2024)

Table 4. Correlation matrix

ES	SS	EnvS	FS	ROE	ROA	DI	FI	
ES	1.0000							
SS	0.3410	1.0000						
Env-S	0.8718	0.2563	1.0000					
FS	0.1473	0.1801	0.1772	1.0000				
ROE	0.0856	0.1329	0.0906	0.1758	1.0000			
ROA	0.0899	0.0803	0.0937	0.6629	0.3207	1.0000		
DI	0.1203	0.2912	0.2237	0.1288	0.6629	0.3207	1.0000	
FI	0.2203	0.2912	0.2588	0.1329	0.5621	0.2449	0.3884	1.0000

Source: Processed Data (2024)

Table 4 shows the results of the correlation coefficient between the variables in models (1) and (2) of the Pearson test. Both SS, Env-S, FS against ES and variable control against ES. In addition, all independent variables show the absence of collinearity in models (1) and (2).

Table 5 shows the results of the multicollinearity test. The value of Centred VIF is less than ten, which indicates the data do not have multi-co linearity. Table 6 shows that all variables used in the study have a probability value of $> z 5\%$, which means that all data have been distributed normally. Table 7 shows that the data used are free from heteroscedasticity and autocorrelation. In both tests, it was shown that the Probability value was $> \text{chi2}$ so there was no residual data in this study.

Tabel 5. Test of multi-co linearity: Centered VIF

Variables	VIF (<10)
SS	1.52
EnvS	3.65
FS	3.58
ROE	2.09
ROA	2.13
DI	1.16
FI	3.13

Source: Processed Data (2024)

Table 6. Shapiro-Wilk W Test of Normality

Variables	Z	Prob>z
ES	0.414	0.33927
SS	0.016	0.06152
EnvS	0.283	0.38852
FS	0.052	0.07291
ROE	0.047	0.05434
ROA	0.056	0.06103
DI	0.054	0.07802
FI	0.784	0.21662

Source: Processed Data (2024)

Table 7. Test of Heteroskedasticity and Autokorelation

Specification Test	Chi2	Probability >chi2
Heteroskedasticity LM (Statistic)	Breusch-Pagan 0.27	0.6009
Autocorrelation Godfrey LM	Breusch- Godfrey LM 0.046	0.8296

Source: Processed Data (2024)

Results of the Discussion of Factors Affecting Economic Sustainability

To assess the influence of SS, Env-S, and FS on ES, multiple linear regression analysis was used. There are two models used in this study, where SS, Env-S, and FS are against ES and SS, Env-S, FS, ROE, ROA, DI, and FI are against ES.

Table 8. Regression results

Variables	Coef.	P> t	Variables	Coef.	P> t
SS	0.015047	0.030	SS	0.007418	0.063
EnvS	-6.14e-08	0.003	EnvS	5.61e-08	0.003
FS	0.080915	0.043	FS	0.0938002	0.047
ROE	0.225544	0.148			
ROA	1.973399	0.022			
DI	0.000014	0.120			
FI	2.60e-08	0.091			
Adj R-squared	0.7959		Adj R-squared	0.7598	
Probability	0.0000		Probability	0.0000	

Source: Processed Data (2024)

Table 8 shows the results of the influence of SS, Env-S, FS, ROE, ROA, DI, and FI on economic sustainability in Indonesia during the period 2000 to 2023. The regression results shown in table 8 show that SS has a positive impact on ES in Indonesia during the period 2000 to 2023. This finding is in line with the research of Mohammad Shahfaraz Khan, Mohd Yousuf Javed, (2022) providing support for hypothesis 1 which states a positive correlation between SS and ES. The regression coefficient between the two variables, SS and ES was at 0.015 which was very high at 1%. This shows that if the SS shows greater fluctuations, thereby incentivizing the Company to be more involved in activities that can improve the sustainable economy.

In the Indonesian context, the observed relationship between SS and ES can be attributed to several factors. As the SS increases, the government's efforts to create jobs will be more massive. Good social sustainability will create more prosperous, healthy, and educated community conditions. This in turn increases economic productivity because healthy and educated societies tend to be more productive and innovative. Sustainability programs often focus on poverty alleviation by providing access to education, health services, and economic opportunities. It directly supports economic growth by expanding its consumer base and productive workforce.

The Env-S variable for ES has a regression coefficient value of -6.14. This shows that Env-S has a negative relationship with ES during the period 2000 to 2023. This is in line with the research of Shahab Ud Din, Muhammad Yar Khan (2022) and supports hypothesis 2 which states a negative correlation between Env-S and ES. If the Env-S fluctuates smaller, it will increase the ES in total. Carbon emissions have a significant impact on the sustainable economy. Addressing this problem requires collective action to reduce carbon emissions through effective environmental policies, technological innovation, and changes in people's behavior. These efforts are important to ensure sustainable economic growth and the well-being of future generations.

In the Indonesian context, the government has formulated various policies that support a sustainable economy, including reducing carbon emissions. High carbon emissions contribute to global warming and climate change, which can lead to an increase in the frequency and intensity of natural disasters such as storms, floods, droughts, and wildfires. These impacts can damage infrastructure, disrupt agricultural production, and hinder economic activity. Climate change caused by carbon emissions can disrupt weather patterns and soil fertility, reduce crop yields, and increase agricultural production costs. So that it has an impact on food security and higher food prices.

The FS variable against ES has a regression coefficient value of 0.0809. This shows that FS has a negative relationship with ES during the research period 2000 to 2023. This is in line with the research of Olajumoke Rebecca Ogunniyi, Abiodun Funso Okunlola and Aregbeshola (2023) and supports hypothesis 3 which states a positive correlation between FS and ES. When FS increases, it will be responded to in total with government policies that can support a sustainable economy. The increase in financing to the community shows the government's positive support in improving the living standards of the community and business actors, which will have an impact on the sustainability of the Indonesian economy.

In the context of Indonesia, one of the government's policies in improving the economy in monetary terms is to expand banking financing activities to the public. In the context of sustainable finance, to increase efficiency and innovation, banks must increase the number of ATM machines. This is to make it easier for the community to access finance, thereby increasing community loyalty. The higher the level of community loyalty in banking, the more the number of deposits will increase. An increase in the number of deposits in the company will increase financing. The two research models that have been carried out provide empirical evidence that the best model in this study is the first model, where EC is influenced by SS, Env-S, FS, and variable control. It is evidenced by the higher Adj-Rsquare value in the first model, which is 0.7959.

CONCLUSION

This study looks at the impact of SS, Env-S, and FS on ES in Indonesia between 2000 and 2023. The regression method used is multiple linear regression. In the model built, ES is measured by Employee's utilization ratio and HDI. SS is measured by the director's policy and CSR. Env-S is measured by greenhouse and climate bond. FS is financed by financing and ATMs. And variable controls are used, namely ROE, ROA, DI, and FI. The findings in this study look at the positive influence of SS and FS on ES, and the negative influence of Env-S on ES. This research contributes to the existing literature on the relationship between SS, Env-S, and FS. The findings of the study have important implications for the government to balance its strategy on a sustainable economy. One approach involves public-private partners to encourage collaboration in creating sustainable projects. Regular consultations and dialogues with industry stakeholders provide a comprehensive understanding of their specific needs, challenges, and suggestions regarding climate and economic policies. The limitations of this study are not specifically researching the industrial sector that contributes a lot to climate pollution. For the next researcher, to create a research model with panel data regression analysis, and specifically study the industrial sector so as to get more in-depth and comprehensive results.

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