# EFFECTS OF ESG BEFORE AND DURING COVID-19 TO INDONESIA FIRM PERFORMANCE

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#### **Abstract**

Today, seeing the progress of the world that continues to develop, the issues faced are also increasingly varied. According to data from the United Nations, the war between Russia and Ukraine has exacerbated the global cost of living crisis. Apart from this war, the Covid-19 pandemic also continues to be in the spotlight of global media around the world. These two things can be used as one of the reasons for the crisis that the world is currently facing. Companies with good ESG implementation will have keen knowledge of long-term strategic issues so that they can manage their long-term goals. For this reason, ESG performance is used as a benchmark for sustainable development in business decisions and in facing corporate crises. This research was conducted with the aim to find out how the effect of the application of ESG on company value and also in moderation during a crisis. This study uses a classic assumption test analysis with a sample of 71 companies in this study and the period 2008-2021 (14 years) with a total of 994 datas observed. The data used in this study were taken from the financial reports of companies listed on the IDX and the Bloomberg ESG Index for 2008-2021. The results showed that the ESG variable had a significant positive effect on ROE and PBV. Meanwhile, with moderation during the crisis, ESG has no significant effect on ROE and PBV.

Keywords: ESG, Firm performance

#### 1. INTRODUCTION

The acceleration of the spread of the Covid-19 virus since 2019 was one of the reasons for the crisis. One of the big impacts of this pandemic is the plummeting global stock market (Takahashi & Yamada, 2021). Not only from developing countries and poor countries, but developed countries also feel the impact. Because the crisis got worse, companies and industries in the world are increasingly experiencing economic pressure. The case of the Covid-19 pandemic, which has an abundance of news streams, can influence investor decisions and sentiment where according to Barberis et al., (1998), investors can overreact during periods of stress. Since the outbreak of the Covid-19 pandemic, literature and research on the impact of the pandemic have also increased. This is due to the extraordinary panic that has occurred caused by media coverage during a pandemic which can increase stock market volatility,

especially in the sectors most affected by this pandemic (Akhtaruzzaman, Boubaker, & Umar, 2022). Recently, the academic literature has focused a lot of attention on the effect of ESG on decision making. One of them also stated that the Covid-19 media coverage index affected the volatility of the ESG index from the stock markets of developed and developing countries (Akhtaruzzaman, Boubaker, & Umar, 2022). Society will tend to put more trust in companies that apply a good ESG score index. In contrast to companies that do not apply the ESG score index, the credibility of these companies will be questioned.

In 2019, ESG-focused portfolio capitalization reached over US\$ 30 trillion (Broadstock, Chan, Cheng, & Wang, 2021). ESG investment has stimulated a lot of mainstream interest among investors for at least the following two reasons, firstly by focusing on ESG, companies indirectly promote their business actively. The two ESG investments are increasingly being considered to improve the performance of managed portfolios as well as increase returns and reduce portfolio risk. Hartzmak and Sussman (2019) found the fact that investors actively respond to the importance of sustainability reports and direct their investment funds from companies with low sustainability ratings to companies with higher sustainability ratings. Investors place intrinsic value investing in socially responsible companies. From these facts, evidence is obtained that supports the view that companies with high sustainability ratings enjoy lower downside risks during times of crisis.

Hoepner et al. (2022) found empirical evidence that ESG engagement reduces risk in crisis situations. Companies with poor ESG profile values have a higher risk with a record measured from higher carbon emissions produced (Ilhan, Sautner, & Vilkov, 2019). For this reason, ESG performance is used as a benchmark for sustainable development in business decisions (Almeyda & Darmansyah, 2019). Of course, ESG disclosure becomes something that can be used as a benchmark for the success of a company as a condition for fulfilling the company's social and environmental responsibility obligations. With the awareness that the application of ESG is very important and capable of being a way out for companies in facing times of crisis, it is hoped that public and corporate understanding of sustainable investment in companies that implement ESG will also continue to increase. The application of ESG can support the improvement of corporate image and better corporate value. Therefore, this study focuses on how the effect of applying ESG on company value in times of crisis. Especially during this pandemic which is one of the big issues being faced. Companies whose sustainability reports are listed on the IDX in 2008-2021 will be sampled in the study.

# 2. RELATED LITERATURE AND HYPOTHESIS DEVELOPMENTS 2.1 Environmental, Social, Governance (ESG)

Disclosure of sustainability reports is highly developed in almost all over the world and continues to increase in number. Environmental, Social, and Governance (ESG) is a term generally used in sustainability reports that disclose Corporate Social Responsibility (CSR). The term ESG was first put forward by the United Nations (UN) in a corporate social responsibility report. Over time, the ESG disclosure score has grown rapidly and is often used as an aspect of global management consulting considerations (Bahaaeddin & Allam, 2020). ESG Disclosures are tasked with assessing the practices of the indicators they contain, including environmental (E), social, (S) and corporate governance (G). The environmental

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aspect is an index to show and measure issues related to the relationship between the company's business environment and society. Examples include energy use and efficiency, waste generated, and others. The social aspect is an index to show and measure issues that have a correlation with information on social responsibility by companies, for example, employee turnover rates, gender equality, SARA issues within companies, and others. Meanwhile, the corporate governance aspect is an index to show how the company has good governance. Examples contained in this aspect are the level of corruption, collusion and nepotism within companies, bribery and others (Nugroho & Hersugondo, 2022).

ESG has been in the limelight lately. Apart from the financial aspects that investors pay attention to, ESG also has the potential and long-term impact that can be provided in investments not only limited to shareholders, but also stakeholders (Almeyda & Darmansyah, 2019). Companies with good ESG implementation will have keen knowledge of long-term strategic issues so that they can manage their long-term goals. ESG information can direct analysis estimates to be more targeted and realistic. Company management also has the possibility of more precise information to handle and results that can exceed its target market (Tarmuji, Maelah, & Tarmuji, 2016). The development of a company that is getting bigger makes conflicts that can occur more often between principals and agents due to differences in the mindset of each and also interests that stand out. Company owners certainly sometimes have different thoughts from managers (Scott, 2015). Shareholders pay more attention to the sustainability of a company which can be proven by ESG in the sustainability report (Connelly, Certo, Ireland, & Reutzel, 2010). The right solution to reduce agency conflict is managerial ownership in good corporate governance. Management who own shares can act as shareholders and participate in decision making within the company. It is also stated that shareholders pay more attention to the sustainability of a company which can be proven by ESG in the sustainability report (Connelly, Certo, Ireland, & Reutzel, 2010).

## 2.2 The Effect of ESG in Times of Crisis on Firm Value

In facing the world crisis, ESG plays a very important role. Mentioned in research conducted by Bahaaeddin and Allam (2020), environmental problems that occur such as global warming and climate change reveal that these factors have a relationship with company characteristics such as financial performance, fluctuations in stock prices, and others. A company has the characteristics of making separate considerations between its relationship with environmental factors. Therefore, public awareness of this global problem requires companies to disclose company commitments to suppress environmental problems contained in company reports. Since the world monetary crisis in 2008, the disclosure of Corporate Governance Disclosure to date has seen more and more companies make transparency of their corporate governance system. Governance has a role in important problems that occur within the company, corporate governance that is performing poorly will significantly cause a financial crisis (Nugroho & Hersugondo, 2022).

Sustainable development activities are expected to encourage more demand for products and services from companies which will increase company growth and reduce business risk (Buallay, 2019). When the demand for the company's products and services increases, so does the production carried out by the company. The increase in production has had an impact on

a crisis situation. In connection with the effects faced by the company during the crisis, of course, the company must struggle to be able to continue its business activities. The impact of ESG that can be given to companies is quite positive. With the disclosure of a sustainability report both containing financial and non-financial information, information about company performance can be provided and accounted for to shareholders to be able to satisfy the demands of shareholders. Disclosure of ESG which has a positive response from the community can increase the capital investment that can be obtained. This also means that the company can use the additional capital to further increase production, increase sales, as well as increase company profitability (Safriani & Utomo, 2020). Companies that have good ESG values increase public confidence in investing in these companies, especially during the current crisis. Investors who are willing and willing to invest in a company, especially during the current crisis, of course, want commensurate returns. With the ESG index used by companies, in addition to increasing public and investor confidence, this index can also measure the company's sustainability in facing times of crisis. A real example faced during the Covid-19 pandemic crisis was the collapse of many companies because they could not survive in the face of adjustments to government regulations impacted by Covid-19. However, companies with an ESG index that are trusted by the community are more likely to survive than companies that do not have an ESG score because they have had the public's trust before facing a crisis. According to Broadstock et. al. (2021) investors assume the application of insurance stigma to the investments they invest, namely with the understanding that if investors invest in trusted companies during normal times, when facing a crisis they will be more resilient. It was also explained that the reason for surviving was because Environmental (E) and Governance (G) factors were the resilience matrix of a company that was shown in real time during a crisis because both reflected a good combination of operational governance and production processes within a business organization. Findings by Takahashi & Yamada (2021) suggest that in their research on the analysis of share ownership in funds invested in companies that focus on ESG performance, they are not affected by the abnormal returns that investors get when the stock market falls significantly due to the pandemic crisis. Funds invested in ESG companies outperform funds invested in non-ESG companies. The possibility of getting abnormal returns is getting smaller thanks to the ESG performance of the companies invested. In addition, companies with high levels of E and G scores are proven to have higher stock returns during times of crisis (Albuquerque, Koskinen, Yang, & Zhang, 2020).

the company, namely the increase in costs that must be incurred by the company, especially in

### H1: ESG has a positive effect on firm value.

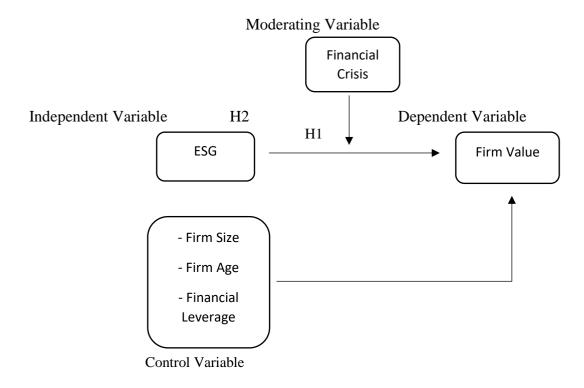
It was also explained that the reason for surviving was because Environmental (E) and Governance (G) factors were the resilience matrix of a company that was shown in real time during a crisis because both reflected a good combination of operational governance and production processes within a business organization. Therefore, if based on the description of the literature and previous research, the hypotheses that can be developed and proposed in this study are as follows:

H2: The existence of a crisis period acts as a moderator of the influence of ESG on company value.

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# 2.3 Conceptual Framework

This study uses one independent variable, two dependent variables, one moderating variable, and four control variables. This study aims to analyze the effect of applying ESG on firm value with moderation during the crisis. The following is the framework that will be developed in this study:



#### 3. METHODOLOGY

### 3.1 Data

This study uses companies listed on the Indonesia Stock Exchange (IDX) and has a sustainability report from 2008-2021. This research captures data with several criteria: 1) Companies that are listed on the Indonesia Stock Exchange (IDX) or have sustainability report in 2008-2021, 2) The company did not experience delisting in 2008-2021, 3) Companies that have complete financial reports. Financial ratio information taken from the company's financial statements and S&P Capital IQ. As for ESG information score taken from Bloomberg.

Table 1. Sampling Process

No.	Criteria	Number of Companies
1	Number of companies listed on the Indonesia Stock	
	Exchange (IDX) in 2008-2021 according to S&P	795
	Capital IQ.	
2	Companies that do not always listed for the 2008-2021	(42)
	period.	
3	Companies that do not have a complete sustainability	(679)
	report for the 2008-2021 period.	
4	Companies that do not have complete financial reports	(3)

for the 2008-2021 period.	
Total Company	71
Total Observation (14 periods x 73 companies)	994

Table 1. shows the number of sample companies for this study as many as 71 companies with a total observation of 994 companies. Descriptive statistics as can be seen from Table 3. of each variable shows that the ESG variable has a value the average is 20.446 (20.4%) so that it can be said that ESG disclosure in companies in Indonesia currently being studied is still low because it is still below 50 percent (Alfaruq, 2021). The PBV variable has an average value of 3.113 and the ROE variable has an average value of 14.454 meaning that companies have ESG disclosure and researched at this time, has a high market value because it has a PBV and ROE value above 1.

#### 3.2 Empirical Models

The form of the regression equation that can be formed if it is based on the hypothesis that has been designed is as follows:

Model 1:

$$PBV_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 FCD_{it} \times ESG + \beta_3 LnTA_{it} + \beta_4 LnAGE_{it} + \beta_5 DAR_{it} + \beta_6 SG_{it} + \varepsilon_{it}$$

Model 2:

$$ROE_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 FCD_{it} \times ESG + \beta_3 LnTA_{it} + \beta_4 LnAGE_{it} + \beta_5 DAR_{it} + \beta_6 SG_{it} + \varepsilon_{it}$$

#### 3.3 Variable Measurement

In this study, four variables will be used, namely independent variables, dependent variables, control variables, and moderating variables. The table below is a conclusion from the operationalization of the variables used.

Table 2. Variable Measurement

	Variable	Operationalization	References
Independent Variable	ESG	ESG Score	Buallay (2018)
		Net Incom	e / Book Value of Equity
		ROE	Buallay (2018)
Dependent Variable	Firm Value		llue of equity + book value otal Assets Franita (2016)

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Moderating	Financial	Crisis Dummy	,	Broadstock et al. (2021),		
Variables	Crisis	(1 for crisis ye	ars (2019-2021) and 0 others	Akhtaruzzaman, Boubaker, Umar (2022)		
				Buallay (2018), Lopez, Garcia, and Rodriguez (2007), Velte (2017), Wagner (2010)		
	Firm Size	Log(Total Ass	ets)	wagner (2010)		
	Firm Age	Log(Firm Age)		Buallay (2018), Wagner (2010)		
	Financial Leverage	Total Debt to	Total Assets Ratio			
G 1	Firm growth	Sales Growth	$\frac{\text{sales(t)} - \text{sales(t-1)}}{\text{sales(t-1)}}$	Bai et al. (2004), Kao et al. (2018)		
Control						
Variable						

### 4. EMPIRICAL RESULTS

# 4.1 Descriptive Statistics

Table 3. Descriptive Statistics

	ESG	ROE	PBV	M	ESGM	LNTA	LNAGE	DAR	SG
Mean	20.446	14.454	3.113	0.214	7.318	15.650	2.823	0.210	0.270
Median	21.095	13.705	1.870	0.000	0.000	16.566	2.996	0.144	0.093
Maximum	70.244	89.310	49.050	1.000	70.244	21.269	3.664	1.767	63.020
Minimum	0.000	-75.020	0.090	0.000	0.000	5.183	0.315	0.000	-2.345
Std. Dev.	18.213	16.139	5.259	0.411	16.412	3.619	0.574	0.210	3.123
Observations	994	994	994	994	994	994	994	994	994

We use data after winsorizing in 1% to reduce the marginal effects of extreme observations. Some firms have ESG value zero since during the observation period, they do not report ESG score. As seen in ESG score the difference of ESG among the firms in Indonesia is so large. The value of the firms that estimate using ROE and PBV also show quite a big difference among firms. It may be explained by the fact that our data set include financial crisis period.

#### **4.2 Empirical Results**

The research focuses on the analysis of the effect of applying ESG before and during crisis on

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firm value. The data in this study is panel data where this data combines time-series data and cross-section data to obtain more observational data (Widarjono, 2013). The time-series data is 14 years from 2008 to 2021. Meanwhile, the cross-section data is 71 companies multiplied by 14 years to produce 994 data. The following are the results of statistical tests to prove the hypothesis on empirical model 1 and empirical model 2:

Table 4. Effect of ESG on the Firm Performance

	ROE	PBV
ESG	0.0223**	-0.0997**
	(2.3830)	(-2.5175)
M	-1.0018**	-6.0376***
	(-2.2632)	(-2.9795)
ESGM	-0.0104	0.0514
	(-0.8858)	(0.9480)
LNTA	0.2258**	-0.0282
	(2.5146)	(-0.0993)
LNAGE	-0.0828	-1.8210
	(-0.2357)	(-1.3150)
DAR	-3.2551***	-24.6577***
	(-4.4146)	(-7.9489)
SG	-0.0812**	-0.2500**
	(-2.9407)	(-1.9673)
С	0.3540	28.2323***
	(0.2196)	(5.0565)
Adjusted R-Squared	0.0507	0.1143
F-Statistic	8.5828	19.2997
Prob (F-Statistic)	0.0000	0.0000

( ) t-statistic, \*\*\*, \*\*, \*, significant 1%, 5%, and 10% respectively

Based on Table 4. it can be seen that the empirical model 1 and 2 of the ESG variable has a positive effect and significant to ROE and PBV. Simultaneously, the F test shows that the variables ESG and control variables (LNTA, LNAGE, DAR and SG) have a significant effect. For variables control in this empirical model 1, only the total assets variable (LNTA) has a positive effect significant, financial leverage variable (DAR) and sales growth (SG) has a significant negative effect, and firm age (LNAGE) have no significant effect. Whereas in the

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empirical model 2, in the control variable only the DAR and SG variables have a significant negative effect. The remaining control variables, namely LNTA and LNAGE, have no significant effect.

Based on table 4.6 in the results of the PBV regression analysis, the calculated F value is 8.583 with a Prob value. of 0.000. Prob Value F  $(0.000) < \alpha = 0.05$  then the regression analysis model is good. This means that H0 is rejected and H1 is accepted so that it can be concluded that the variables ESG, FCD(M), ESG\*M, LnTA , LnAGE, DAR, and SG have a significant effect against PBVs. Whereas in the results of the ROE regression analysis, the calculated F value is 19.299 with a Prob value. of 0.000. Prob value. F  $(0.000) < \alpha = 0.05$  then the regression analysis model is good. This means that H0 is rejected and H1 is accepted so that it can be concluded that the variables ESG, FCD(M), ESG\*M, LnTA, LnAGE, DAR, and SG have a significant effect significant to ROE.

Sustainable development and sustainability reporting have been considered as important aspects of a country's economic development. This is evidenced by the increasing number of studies on the impact of ESG performance on other aspects, especially on how it affects firm value with the aim of encouraging companies around the world to start complying with sustainability reporting (Junius, Adisurjo, Rijanto, & Adelina, 2020). This study aims to prove that there is a positive effect of ESG performance on firm value and also prove that differences in crisis times moderate the effect of ESG on firm value.

The results of this study indicate that in the empirical model 1 and 2 the ESG variable has a significant positive effect on PBV and ROE, so the first hypothesis is accepted. In the results of the empirical model 1 where the ESG variable has a positive effect on PBV, it can be interpreted that the role of ESG affects company value seen from its shares. ESG applied by the company and reported in the corporate sustainability report (CSR) is an activity that directly benefits the community. Companies that implement ESG can be said to have healthy finances because they can set aside their resources to carry out non-profit activities and are considered capable of contributing and being responsible for their activities. This is calculated as a guarantee that the company's value will grow in a sustainable manner. Therefore, it will increase public trust to invest in the company so that the share value of the company will also increase (Putri, Firmansyah, & Labadia, 2020).

Related to good stock value, in the signaling theory developed by Brigham & Houston (2016), it is stated that company leaders and executives who have good information about their company will tend to convey this information to potential investors so that the company's stock price increases. In this theory, it is explained that the company will give a signal to outside investors about the state of the company. This information can be in the form of descriptions, notes, past descriptions, or achievements that have been made by the company. When linked to CSR reporting and ESG implementation, this theory can become a basis where external parties or investors can rely on more trust in companies that implement ESG and report it in sustainability reports, because complete and actual information about these companies can be trusted for accuracy to get value. companies that are better and able to provide useful signals to society (Zarlia & Salim, 2014).

Regarding to return on equity, the returns provided by the company to shareholders must also provide benefits compared to the capital invested by investors in the company. The company is not an entity that only operates for its own interests and profits, but must provide benefits for shareholders (Freeman, 1984). The existence and sustainability of a company is greatly influenced by the support of shareholders. Disclosure of CSR is one of the trusted bridges between shareholders and companies. The

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greater the support from investors, the greater the company's efforts to continue to adapt (Zarlia & Salim, 2014).

This is also in line with research conducted by (Triyani, Setyahuni, & Kiryanto, 2020), (Rossi, Chouaibi, Chouaibi, Jilani, & Chouaibi, 2021), and (Maftuchah, 2018) which tries to see a positive influence between performance ESG on company value. The empirical findings from the previous research show the relevance of assessing the application of ESG to corporate value in the context of implementing sustainability and ESG reporting in companies in developing countries. The measurement of the average ESG performance value of Indonesian companies included in this study can still be said to be low, namely 20.4%. These results can strengthen the evidence that the application of sustainability reporting in Indonesia is still weak.

Meanwhile, during the crisis period, the results of the empirical model 1 show that the ESG\*M variable has a negative and insignificant effect on PBV. Meanwhile, in the empirical model 2, the ESG\*M variable has no significant positive effect. From these results, the second hypothesis was rejected. The results of this hypothesis test are in line with previous research conducted by Baker et. al., (2020) who found that ESG during a crisis has a negative effect. Comparison with previous research shows that the market reaction to the crisis period in the example of the covid-19 pandemic cannot be explained simply by looking at how lethal the virus is and how severe the pandemic crisis is faced. In these results, it is interpreted that whether or not there is a crisis period it is facing does not affect the ESG applied by business organizations where in this study, crisis period data was taken from 2018 to 2021 where the crisis occurred due to the co-19 pandemic. Along with the results of the first hypothesis where ESG has a positive effect on firm value, it can also be interpreted that ESG still has relevance to firm value both during normal and crisis times.

#### 5. **CONCLUSIONS**

Based on the results of the analysis that has been carried out, it shows that ESG performance has a positive and significant effect on PBV and ROE in empirical model 1 and empirical model 2. Simultaneously, it shows that ESG variables and control variables (LnTA, LnAGE, DAR and SG) have a significant effect. Related to the control variable in empirical model 1, firm size (LnTA) has a significant positive effect, financial leverage (DAR) and sales growth (SG) have a significant negative effect. The rest, namely the firm age control variable (LnAGE), has no significant effect. Whereas in the empirical model 2, in the control variable only the DAR and SG variables have a significant negative effect. The remaining control variables, namely LnTA and LnAGE, have no significant effect.

Therefore, it can be concluded that ESG performance will affect company performance as measured using PBV if it is offset by company growth and revenue growth. However, if measured using ROE, ESG will be more influential if it is offset by the DAR control variable or the company's debt ratio and company's revenue growth are the same as empirical model 1.

The results of this study indicate that ESG has a significant effect on PBV and ROE. That means that in non-crisis times, companies with good ESG implementation will be able to influence the company's stock price and investment. Investments that over time will grow and the application of the company's ESG can be one of the important considerations that can influence investors' funding and investment decisions. In addition, the results of this study also prove that both during normal times and during times of crisis, the application of a company's

ESG is not affected by its existence and application, whether the company is experiencing a crisis or during a period that is running normally. There is no relevance between the times of crisis faced by the company which can weaken the application of ESG during a company crisis. On the other hand, good ESG implementation might be one of the considerations for companies to be more resilient in facing times of crisis when compared to other companies that do not apply ESG in their business processes.

For further research, it is expected to use and expand the research population to other developing countries, such as the example of Southeast Asia. This is because in Indonesia itself, the application of ESG is not high enough. Likewise with previous studies that have used populations from developed countries. Apart from that, it can also be used to increase the research period for the crisis period being faced.

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