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EXPLORING THE IMPACT OF ESG DISCLOSURE, DIVIDEND PAYOUT RATIO, AND INSTITUTIONAL OWNERSHIP ON FIRM VALUE: A MODERATED ANALYSIS OF FIRM SIZE

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ABSTRACT

This study explores the effect of environmental, social, and governance (ESG) disclosure, dividend payout ratio (DPR), and institutional ownership on firm value in Indonesia during the period of 2010 – 2021 with firm size as a moderating variable. This study examined annual data from a total sample of 58 companies listed on Indonesia Stock Exchange. The panel data was analyzed using a moderated regression analysis. The results demonstrate a negative and significant effect of the ESG disclosure on the firm value. This suggests that the ESG disclosure may increase company costs, resulting in a decrease in the firm value, while the DPR and institutional ownershop have a positive and significant effect as explained by the signalling theory. In addition, the moderating role of firm size on the effect of both the ESG disclosure and institutional ownership on the firm value have a positive and significant effect. These findings imply that big companies can invest in long-term ESG projects beneficial for them, while the institutional ownership on the big companies can reduce information asymmetry. However, the moderating role of firm size on the effect of DPR on firm value does not have a significant effect.

JEL: G30, G32, Q01.

Keywords: *environmental, social, governance, dividend payout ratio, institutional ownership, firm value.*

1. INTRODUCTION

In recent years, researches on the company's objective in increasing firm value have been frequently developed. According to Friedman (2007), a company's primary obligation is to increase shareholders' profit within the scope of applicable law. Many argue that companies are not obliged to participate in social responsibilities beyond their economic function, while they must only focus on the shareholders' welfare. In contrast, a recent paper by Hart & Zingales (2017) proposed that a company should consider more than just profit. The shareholders may have interests other than profit maximization, such as environmental, social, and ethical concerns. They recommended that the comapnies must consistently implement policies that promote their investors' environmental, social and ethical concerns through voting by the shareholders.

The growing investors' awareness of environmental operational risks has driven the companies to develop good environmental, social, and governance (ESG) management practices (Aydoğmuş, Gülay, & Ergun, 2022). This factor has become critical information for the investors and stakeholders in evaluating their investments and business conditions. As a result, public companies have increasingly adopted voluntary ESG disclosure to enhance credibility among The stakeholders, meet the investors' expectations, and respond to industry crises and competition (Olsen, Awuah-Offei, & Bumblauskas, 2021). The companies use the ESG to signal the investors about the sustainability of their business (Limkriangkrai, Koh, & Durand, 2017),

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whereas the stakeholders use the ESG to detect company risks (Amel-Zadeh & Serafeim, 2017). Furthermore, Donaldson & Preston (1995) proposed the stakeholder theory, arguing that a good implementation of ESG in the companies is required to build long-term relationships with all stakeholders. In Indonesia, the number of companies disclosing their ESG activities increased from 58 in 2010 to 105 companies in 2021 (see Table 1). This phenomena highlight the need of the companies disclosing information about their ESG initiatives to the shareholdersin order to ensure the sustainability of their business operations. This phenomenon is further supported by an increase in the median of ESG score in Indonesia from 18.5 in 2010 to 42.1 in 2021.

Table 1. IDX Statistics of ESG Score (Median)

Year	Number of Companies	Tobin's Q	ESG Score	Dividend Payout Ratio (%)
2010	58	1.82	18.5	27.5
2011	69	1.71	18.7	20.0
2012	71	1.74	21.1	25.9
2013	74	1.54	20.2	24.7
2014	75	1.47	20.2	22.1
2015	90	1.27	25.9	21.3
2016	92	1.38	27.9	28.7
2017	93	1.24	31.9	27.0
2018	95	1.16	32.9	20.2
2019	103	1.17	37.5	16.6
2020	103	1.20	39.0	20.0
2021	105	1.20	42.1	23.3

Source: Bloomberg Terminal

The growing interest in ESG researches among academics and experts has led to an examination of the effectiveness of ESG on firm value (Chang & Lee, 2022). ESG activities are parts of the management method to enhance the firm value (Albitar, Hussainey, Kolade, & Gerged, 2020; Giannopoulos, Fagernes, Elmarzouky, & Hossain, 2022). However, the implementation of ESG is expected to increase firm costs and impact the financial statements, resulting in a decrease in profits and firm value caused by fund reallocation from the shareholders to the stakeholders (Barnett, 2007). Thus, the impact of non-financial strategies, such as the ESG implementation, on firm value growth remains uncertain. A meta-analysis by Whelan & Atz (2021) of 1,000 journals exploring the effect of ESG on the firm value revealed that 58% of the journals showed a significant positive impact, 8% displayed a significant negative effect, 13% indicated no significant impact, and 21% showed mixed results. Studies conducted by Aydoğmuş *et al*. (2022), Benjamin & Biswas (2022), Bhaskaran, Ting, Sukumaran, & Sumod (2020), Dalal & Thaker (2019), Ionescu, Firoiu, Pirvu, & Vilag (2019), Li, Gong, Zhang, & Koh (2018), Naeem, Ullah, & Jan (2021), and Wong, Batten, Ahmad, Mohamed-Arshad, Nordin, & Adzis (2021) found a significant positive impact between ESG performance and firm value. Other studies by Duque-Grisales & Aguilera-Caracuel (2021), and Landi & Sciarelli (2019) found a significant negative impact of the ESG on firm value.

Market reaction to dividend policy has long been examined for its impact on the firm value, not only through the ESG. Miller & Mogdiliani (1961) suggested the dividend irrelevance theory, which explains that in a perfect market, the dividends have no effect on the firm value

since the investors can sell their shares in exchange for the dividends. Gordon (1963) and Lintner (1962) had previously challanged this theory, demonstrating that the dividends do have an impact on the firm value when rational investors evaluate the companies based on their dividend policies. The theory suggests that the companies that pay the dividends are more financially stable and less risky, and therefore typically have higher stock prices. Dang, Vu, Ngo, & Hoang (2021) and Nurokhmah & Laksana (2022) proved a positive and significant effect of dividend policy on the firm value as explained by the signaling theory. However, Dwi, Putri, & Kisman (2022) and Nguyen, Pham, Doan, Nguyen, & Truong (2021) reported contrasting results, where there was a negative and significant effect of dividend policy on the firm value. According to Black & Fisher (1976), the more the researches on dividend, the more unsolved the puzzle is. Inconsistencies in these studies may be caused by agency problems in the companies as a result of a high ownership concentration in Indonesia.

A study by Zhuang, Edwards, Webb, & Capulong (2000) showed that the ownership structure in Indonesia is extremely concentrated among the top 5 largest shareholders, with a level of 67.5%. Gunarsih & Hartadi (2017) agreed and explained that on average, the top three shareholders in a company collectively own 65% of the total shares. Therefore, Indonesian companies might be classified as having a concentrated ownership structure. According to Shleifer & Vishny (1997), the majority of the shareholders can have a thorough control over a company if the minority of the shareholders' decisions are ignored in order to maximize the majority of the shareholders' profit through affiliated transactions. Therefore, the agency problem type 2 is also evident in the companies with concentrated ownership problems (Claessens & Yurtoglu, 2013; Shleifer & Vishny, 1997). The presence of institutional ownership is considered to imply that the companies are practicing good corporate governance, which can increase the value for all stakeholders (Budiyono & Wulansari, 2018). The institutional ownership is expected to provide supervision and intervention in the company's decision-making process by providing beneficial information which can impact the firm value. Holly, Jao, & Mardiana (2022) and Cristofel & Kurniawati (2021) found a positive and significant effect of institutional ownership on the firm value. Nonetheless, other studies by Suriawinata & Nurmalita (2022) and Rohim & Satriawi (2019) discovered a negative and significant effect between the two.

In analyzing the relationship between a company's non-financial and financial aspects, it is important to evaluate several company characteristics that may moderate this relationship, as they are essential in interpreting the findings obtained from data analysis. There is also a growing number of researches on the moderating role of firm size in regulating the ESG (Bernaciak, Halaburda, & Bernaciak, 2021), dividend payout ratio (DPR) (Widodo, Praptapa, Suparlinah, & Setyorini, 2021), and institutional ownership (Andaswari, Setyadi, Paminto, & Defung, 2019).

This research contributes to the existing literature and expands the research to some extent. First, this research provides insights on the impact of ESG, DPR, and institutional ownership with firm size on firm value using a moderated regression analysis (MRA) in developing countries, which has not been extensively explored in previous researches. Second, this study examines the moderating role of firm size on the effect of independent variables on the firm value, offering a broader understanding of the effects. Third, this research addresses the concerns of the Indonesian government regarding environmental issues and expanding the

company's ESG programs by exploring the impact of ESG on the firm value in the Indonesian context.

2. THEORETICAL FRAMEWORK AND EMPIRICAL STUDIES

Jensen & Meckling (1976) defined the agency problems as the relationship between agents (managers) who make decisions in a company and represent the goals of shareholders (principals) to increase the firm value. The problems emerge when the agent and the principal make different business decisions due to differences in risk profiles and resolution of company problems, assuming both parties strive to maximize their own value (Hendrastuti & Harahap, 2023). The agency problems are classified into three types (Panda & Leepsa, 2017), consisting of problems between the agent and principal (Type 1), principal and principal (Type 2), and principal and creditor (Type 3).

Basically, the agency problems develop as a result of the difficulty and cost of the shareholders monitoring the managers in making decisions. There are costs that must be incurred by the shareholders, consisting of bonding costs, monitoring costs, and residual losses (Jensen & Meckling, 1976). The bonding costs refer to the cost incurred by the principal to obligate the agent to report work honestly. This cost can be realized in the form of external audits by public accountants, contractual bonds against deviations made by the managers, and limiting the managers' decision-making ability (which would be detrimental to the company as the managers would lose opportunities to invest in profitable projects). Further, the shareholders incur the monitoring cost to oversee and supervise the company's daily decision making process. Meanwhile, the residual losses happen if both of the two costs have been incurred, but there is still a disagreement in the decision-making process. Therefore, addressing the agency problem allow the companies to achieve their goal of maximizing the firm value.

Further, the signaling theory focuses on the fundamental role of information in decreasing information asymmetry between the two parties (Spence, 1973). This theory posits that the agent can decrease the information asymmetry with external stakeholders (Hahn & Kühnen, 2013). It explains that by providing information about themselves, the companies can overcome the information asymmentry problems, where one party has more information than the other (Spence, 1973). This can lead the managers to allocate the capital more efficiently, and the investors can better differentiate companies with different characteristics, and make more informed investment decisions (Myers & Majluf, 1984).

Furthermore, the signaling theory consists of four elements: signal, signaller, receiver, and feedback (Connelly, Certo, Ireland, & Reutzel, 2011; Taj, 2016). The company management acquires positive or negative private information about the company, while executing their business operations, making the manager the signaller. The receiver is an external party with no knwoledge about the company. The signal refers to the rate at which the information given by the signaller (manager) to the receiver (external stakeholders). Meanwhile, the feedback is the interaction between the signallers and receivers (Bae, Masud, & Kim, 2018; Mavlanova, Benbunan-Fich, & Koufaris, 2012). In terms of the ESG, many companies intend to use their financial resources by disclosing information about their sustainability commitments to all stakeholders (Wang, Hsieh, & Sarkis, 2018). Lintner (1956), Bhattacharrya (1979), Miller & Rock (1985), and John & Williams (1985) argued that the dividends can provide useful

information to the investors in analyzing the company's future profitability, as the managers will only distribute the dividends if they believe that future profits will continue to increase.

On the other hand, the concept of stakeholder theory in the business management suggests that a company's objective should be to meet the interests of all stakeholders, rather than solely focusing on the shareholders (Freeman & McVea, 2001). The stakeholders are individuals or organization who have an interest in or are affected by a company's actions. This includes the shareholders, customers, employees, suppliers, and the society where the company operates (Donaldson & Preston, 1995).

The stakeholder theory has been widely discussed in academic and business settings (Donaldson & Preston, 1995; Mitchell, Agle, & Wood, 1997). Supporters of the stakeholder theory argue that they offer a more comprehensive and ethical approach to the business management than traditional models that focus on the shareholders. The stakeholder theory demonstrates several benefits of the stakeholder-focused approach, including the potential to create value for all stakeholders (Donaldson & Preston, 1995), the ability to build stronger relationships with the customers and employees (Mitchell *et al*., 1997), and the ability to have a positive effect on the society and environment (Donaldson & Preston, 1995).

Other research on the stakeholder theory argues that expecting a compay to meet the interests of all stakeholders equally and fairly is impossible (Friedman, 2007). They argue that a company's primary focus should be on creating value for its shareholders because this is what will secure the company's sustainability for all stakeholders in the future. Other researchers suggest that attempting to meet the interests of all stakeholders may have resulted in unresolved conflicts of interest, and that a focus on stakeholders can divert attention away from the company's primary goals (Donaldson & Dunfee, 1994).

According to the legitimacy theory, a business is granted the right to operate and access resources by the community in which it operates (Hahn & Kühnen, 2013). The establishment of legitimacy is associated with the concepts of responsibility and trustworthiness (Suchman, 1995). The concept of social legitimacy provides several benefits to the companies, such as improved corporate image and reputation exceeding individual benefits, and having a positive impact on the society (Parguel, Benoît-Moreau, & Larceneux, 2011). The social legitimacy can be achieved by aligning the company's actions with the shared values of society. Failing to do so may lead to the company's permission to operate in that society being suspended (Moffat & Zhang, 2014). The legitimacy is influenced by changing societal values over time, which may render previously accepted practices illegitimate. The companies must always adapt to meet the changing needs of the society to maintain their legitimacy (Martens, Yapa, & Safari, 2021).

In this context, the ESG refers to a set of factors that measure the sustainability and social impact of companies and organizations. The environmental factor is related to a company's impact in handling issues, such as climate changes, environmental degradation, and resource depletion. The social factor is related to the company's impact on the society, including employees handling, labor policies, and community engagement. Meanwhile, the governance factor is related to the internal management and decision-making processes of the company, including transparency and accountability.

Incorporating the ESG information into company disclosures allows the company to communicate the sustainability of their operations to their stakeholders (Limkriangkrai *et al*.,

2017). Additionally, such disclosures promote transparency in the company's practices related to the ESG aspects, thereby creating incentives for better decision-making and evaluation among the managers, investors, and stakeholders (Eccles, Ioannou, & Serafeim, 2014; Li *et al*., 2018). Consequently, this leads to the improvent in information quality and availability, reducing the information asymmetry (Cheng, Ioannou, & Serafeim, 2014; El Ghoul, Guedhami, Kwok, & Mishra, 2011). Therefore, the ESG is highly related to the firm value. An examination of the existing literature identifies two key viewpoints. First, the stakeholder theory explains that the ESG performance is positively related to the firm value. Second, the agency theory perspective, on contrary, explains that the ESG performance is inversely related to the value.

Ghoul, Guedhami, & Kim (2017) discovered a positive and significant effect of the ESG disclosure on the firm value in 53 different countries. In addition, Aydoğmuş *et al*. (2022) conducted a larger-scale research involving a sample of 5,000 publicly traded companies from the Bloomberg database from 2013 to 2021 and demonstrated that the ESG have a positive impact on the firm value. It showed that the governments, creditors, shareholders, investors, and other stakeholders expect that the companies will prioritize the ESG and that the market will reward them if they achieve and exceed these expectations. Another study by Wong *et al*. (2021) on Malaysian public firms from the period of 2005 to 2018 found that having an ESG Rating increased the firm value by 31.9%.

However, other investigations have found a negative impact of ESG implementation on the firm value. The study conducted by Seth & Mahenthiran (2022) on firms in India from 2009 to 2012 found a significant negative influence of the ESG on the firm value. This can be explained by the fact that investments in the ESG may take 6-10 years to influence the firm value (Yanagi & Michels-Kim, 2021). A multinational study by Duque-Grisales & Aguilera-Caracuel (2021) examined 104 countries in Latin America and found a significant negative impact of ESG on the firm performance. Besides, Landi & Sciarelli (2019) studying 54 Italian companies in 2007 to 2015 reported a negative effect of ESG on the financial performance. Therefore, the first hypothesis that can be proposed is as follows:

H_{1a}: ESG disclosure has a positive and significant effect on the firm value.

Furthermore, the dividends are a form of shareholder appreciation in the form of a distribution of a portion of the current year's profits (Booth & Zhou, 2017). Typically, the dividends are calculated based on the company's net profit, using a mechanism that distributes a portion of the profits as the dividends and the remainder as earnings for future investment (Miller & Modigliani, 1961).

Meanwhile, the impact of DPR on the firm value has been extensively studied by financial researchers and is an important area of research. There are several major theories that can clarify the relationships between the two variables. The positive effect can be explained by the bird in hand theory and the signaling theory. Further, the negative effect can be explained by the agency theory, whereas the insignificance of dividends can be explained by the dividend irrelevance theory.

The manufacturing industry in Indonesia experienced positive effects during 2016 – 2018 (Rahmawati, 2020). Another study by Nurokhmah *et al*. (2022) showed a positive and significant relationship between the DPR and firm value in 34 manufacturing companies in Indonesia during the period of 2018-2021. Similar findings were also observed in Vietnamese

publicly listed companies during the period of 2006-2017, indicating a positive relationship between the DPR and firm value (Dang *et al*., 2021).

The positive effect of dividends on the firm value is supported by the signaling theory, which explains that the dividends signal to the investors about the company's consistent and strong profitability (Bhattacharya, 1979; Miller & Rock, 1985; Poterba & Summers, 1983). In addition, the bird in hand theory also contributes to the investors' demand for a certain profit in the form of dividends, thus the companies that pay the dividends will be more preferred by the investors (Miller & Modigliani, 1961).

Furthermore, a previous study revealed that the DPR has a negative and significant effect on the firm value using a sample of 450 companies in Vietnam during the period of 2008-2019 (Nguyen *et al*., 2021). Dwi *et al*. (2022) examined the food and beverage industries in IDX-listed companies during the period of 2014-2020 and found a negative effect between the two. Therefore, the second hypothesis that can be proposed is as follows:

H_{1b}: DPR has a positive and significant effect on the firm value.

Studies on the role of institutional ownership have been conductedin its role on the company's governance. Pound (1988) proposed three hypotheses to explain this relationship: (1) Efficient monitoring and control hypothesis, where the institutional ownership can increase the firm value by improving the observation and control over the management; (2) Conflict of interest hypothesis, where there are different interest between the stakeholders and institutions, such as between the institutions and management or between the institutions and shareholders, resulting a decrease in the firm value; (3) Aligned strategic hypothesis, where the alignment of interests between the institutions and other stakeholders can influence an increase in the firm value.

In addition, the agency theory serves to understnad the relationship between the institutional ownership and firm value. The agency problems emerge when there is a split of firm ownership, and the involvement of institutional investors can help to minimize these problems (Jensen & Meckling, 1976). The institutionall ownership has been found to positively impact the firm value through its effect on the corporate governance (Ferri & Jones, 1979). This is due to the belief that the institutional investors have greater incentives and resources to monitor the managers' behaviors and advocate for changes that benefits the company (Fama & Jensen, 1983). This monitoring role can help in aligning the interests of managers and shareholders, reducing the conflicts of interest, and increasing the firm's overall efficiency.

Cristofel & Kurniawati (2021) on LQ-45 in Indonesia during the period of 2016-2018 showed a positive and significant effect of institutional ownership on the firm value. However, Suriawinata & Nurmalita (2022) examined consumer good companies listed on the IDX during the period of 2015-2019 and showed that the institutional ownership affected the firm value negatively and significantly. Similar negative findings were also found by Rohim & Satriawi (2019) in manufacturing firms listed on the IDX from 2014-2018. It was because Indonesia, as one of the countries in Asia, still had a high legal risk. Thus, in terms of institutional ownership, both domestic and foreign, they would continue to prioritize their own interests and the inability of institutions to limit practices of manipulating corporate profits. Therefore, the third hypothesis that can be proposed is as follows:

H_{1c}: Institutional ownership has a positive and significant effect on the firm value.

The impact of firm size on the corporate financial decisions (Hashmi, Gulzar, Ghafoor, & Naz, 2020). The firm size was also found as a critical and necessary characteristic and its 'size effect' could influence the results obtained through empirical analysis (Dang, Li, & Yang, 2018). Previous empirical studies also found the effect of 'size effect' on several corporate financial decisions such as investment decision (Bakke & Whited, 2010; Kadapakkam, Kumar, & Riddick, 1998), financing decision (Diantimala, Syahnur, Mulyany, & Faisal, 2021; Ibhagui & Olokoyo, 2018; Vithessonthi & Tongurai, 2015), and dividend payout decision (Redding, 1997; Tekin, 2020; Widodo *et al*., 2021).

The firm size is able to positively affect the firm value under several characteristics as follow: (1) the higher the firm size, the higher the company's ability to achieve economic of scale, thus, lowering the company's production cost (Rodríguez-Villalobos & García-Martínez, 2018); (2) there are more access on financial resources and borrowing at cheaper interest rates (Ferri & Jones, 1979); (3) there are less risks because of diversification and low bankruptcy cost (Ang, Chua, & McConnell, 1982; Titman & Wessels, 1988). Therefore, big companies often have the advantage of having large amount of fixed asset and debt that can benefit from tax shields.

There are several reasons why the effect of firm size is related to the relationship between ESG and firm value. First, the big companies tend to have more assets than the smaller ones (D'Amato & Falivena, 2020), allowing them to invest more in sustainable ESG projects. Furthermore, they are considered to have better strategies and goals for monitoring their businesses. Therefore, they are in a better position in handling the ESG projects. Besides, the visibility of the firm should also be evaluated, because firms frequently receiving public attention are more likely to invest in sustainability practices to maintain their reputation in the eyes of shareholders. A study by Burke, Logsdon, Mitchell, Reiner, & Vogel (1986) revealed that as businesses grow, the stakeholders will pay more attention to the firm's sustainability and they will invest in factors that will increase the firm's social value. Therefore, the fourth hypothesis that can be proposed is as follows:

H_{1d}: Firm size moderates the effect of ESG on firm value positively.

Lintner (1956) conducted a seminal study in United States during 1933 – 1953 on the effect of firm size on the DPR. The findings revealed that the big companies had a higher target DPR compared to the smaller companies. This suggests an inverse relationship between the firm size and dividend policy, where the big companies tend to pay higher dividends than the smaller companies. They also can adjust their dividend policies more quickly in response to changes in earnings or other factors. The big companies are more likely to generate profits, allowing them to pay the dividends to shareholders (Widodo *et al*., 2021). In contrast, the smaller companies may delay the dividend payments and instead use the profits for reinvestment in investment opportunities to enhance their future assets.

H_{1e}: Firm size moderates the effect of DPR on firm value positively.

Different perspectives emerge on how the firm size may moderate the effect of ownership structure on firm value. The first perspective is based on information economics, which proposes that the big companies have less information asymmetry compared to the smaller

companies. The big companies tend to have more analysts following them, which not only lessens the information asymmetry but also increases capital market monitoring (Bhushan, 1989). This suggests that the big companies moderate the firm value through the ownership structure positively. It is because their firm size strengthens the role for monitoring the capital markets, thereby enhancing the transparency and efficiency of the companies.

Conversely, the entrenchment hypothesis is another perspective that suggests that the big companies could be more vulnerable to the adverse consequences of concentrated ownership. This perspective explains that an increase in share ownership by influential owners may result in the exploitation of resources and firm value for their personal gains. As a result, the second perspective suggests that the firm size moderates the firm value through the ownership structure negatively. In other words, the big companies may be more vulnerable to power abuse by the influential owners.

H_{1f}: Firm size moderates the effect of institutional ownership on firm value positively.

The following Figure 1 illustrates the research framework of this study developed based on the literature review and identified research gaps for each variable. This study examines the positive effects of ESG disclosure, DPR, and institutional ownership on the firm value with the firm size as a moderating variable in Indonesian companies.

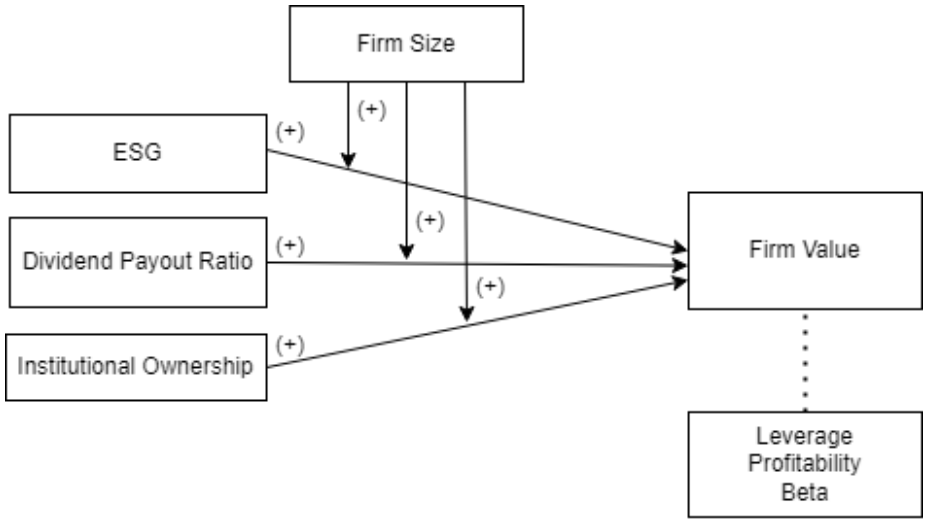

Figure 1. Research Framework

3. RESEARCH METHODS

This study was done in a quantitative manner. The data was collected from various sources, including Bloomberg Terminal and S&P CapitalIQ. The data used was annual data from the period of 2010-2021to obtain the long-term impact of the independent variables. The population of this study consisted of 105 companies, generating a total of 1,260 firm-year observations. The purposive sampling technique was employed to obtain objective results from predetermined criteria (Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters, & Walker, 2020). The sampling criteria of this study included: (1) the company must be listed on the IDX during the period of 2010-2021 and have not undergone delisting; and (2) the company must have complete data needed for tthis research, including the Tobin's Q, Bloomberg ESG

Score, DPR, institutional ownership, total sales, debt to equity ratio (DER), return on assets (ROA), and beta for each year. A total of 58 companies were included in the study, with 696 firm-year observations (see Table 2).

Table 2. Sample Selection

	Requirements	Number of Companies
1	Companies listed on the IDX and have not been delisted from during the period of 2010 - 2021.	420
2	Having complete data in accordance with the researcher's needs.	(362)
	Total sample size	58
	Number of periods	12
	Firm-Year Observations	696

Source: Processed data

The data was analyzed using the moderated regression analysis using the multiple regression method of Ordinary Least Square (OLS). This method was implemented to obtain unbiased and objective results in accordance with the research objectives which had met the criteria of Best Linear Unbiased Estimates (BLUE). To meet the BLUE criteria, classical assumption tests were conducted to test the reliability. The classical assumption tests included normality test, multicollinearity test, heteroskedasticity test, and autocorrelation test. Following the completion of the classical assumption tests, the results of data regression would determine the appropriate multiple regression type for balanced panel data between the pooled model, fixed effect model, or random effect model. Further, the Hausman test was performed to choose between the fixed effect model and random effect model, while the Breusch-Pagan LM test was performed to choose between the pooled model and random effect model. Following the selection of the best model, F-test and T-test were performed to determine the model's suitability and the significance of each independent variable. This research employed the assumption of α = 10% (90% confidence interval) as a standard for statistics. The F-test was performed to examine whether all independent variables significantly affect the dependent variable simultaneously. If the F-count is greater than the F-table, the null hypothesis (H_0) is not supported empirically, implying that all independent variables significantly affect the dependent variable. Conversely, if the F-count is less than the F-table, the H_0 can be supported empirically, indicating that there is no significant effect of independent variables on the dependent variable simultaneously. On the other hand, the T-Test was performed to assess the significance of coefficients in the regression model. If the T-count is greater than the T-table, the H_0 cannot be supported empirically, implying that independent variables have an individual significance to the dependent variable. However, if the T-count is less than the T-table, then the H_0 can be supported empirically, implying that independent variables individually have no significance to the dependent variable. Ultimately, the coefficient of determination was employed to determine the extent to which the independent variables simultaneously affect the regression model.

The Tobin's Q was the proxy used to assess the firm value. The ESG score data was obtained from Bloomberg Terminal ESG Score, which evaluated the ESG disclosure from each company. The DPR was calculated by dividing the amount of dividends paid by the company's earnings. The institutional ownership was calculated from the total percentage of institutional ownership in the company. Meanwhile, the firm size as a moderating variable was calculated from the total sales of the company. The following Table 3 presents the measurement of research variables and indicators.

Table 3. Research Variables

Variable	Indicator
Dependent	
Firm value (TOBIN'S Q)	The company's market capitalization with addition of liabilities divided by the total asset.
Independent	
Bloomberg ESG Score (ESG)	Calculated based on a company's disclosure of its ESG practices, with a range of 0.1 - 100.
Dividend Payout Ratio (DPR)	The dividend paid divided by the company's net income
Institutional Ownership (INST_OWN)	The percentage of ownership held by mutual funds or pension funds, insurance companies, investment companies, or other asset management companies.
Moderating	
Firm Size (SIZE)	Natural log of the company's total sales
Control	
Leverage (DER)	Total debt divided by total equity
Profitability (ROA)	Net income divided by total asset
Adjusted Beta (Beta)	Approximation of security's beta in the future projected to progressively converge to average. Adjusted Beta = 0.67 * Raw beta + 0.33

Model 1 examined the effect of ESG, DPR, and institutional ownership on the firm value. Model 2 examined the effect by adding leverage, profitability, and beta as control variables. Model 3 examined the moderating effect of firm size on the independent variables. The data analysis examined the classical assumptions and selected the appropriate regression model among the pooled effect model, fixed effect model, and random effect model. The data was analyzed using EViews 12.

The regression models are as follow:

$$TOBINS_Q_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 DPR_{it} + \beta_3 INST_OWN_{it} + \varepsilon_t \quad (1)$$

$$TOBINS_Q_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 DPR_{it} + \beta_3 INST_OWN_{it} + \beta_4 DER_{it} + \beta_5 ROA_{it} + \beta_6 BETA_{it} + \varepsilon_t \quad (2)$$

$$TOBINS_Q_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 DPR_{it} + \beta_3 INST_OWN_{it} + \beta_4 SIZE_{it} + \beta_5 ESG_{it}.SIZE_{it} + \beta_6 DPR_{it}.SIZE_{it} + \beta_7 INST_OWN_{it}.SIZE_{it} + \beta_8 DER_{it} + \beta_9 ROA_{it} + \beta_{10} BETA_{it} + \varepsilon_t \quad (3)$$

Note:

$TOBINS_Q_{it}$ = Firm value

ESG_{it} = Bloomberg ESG score

DPR_{it} = Dividend payout ratio

$INST_OWN_{it}$ = Institutional ownership

$SIZE_{it}$ = Natural log of total sales

DER_{it} = Debt to equity ratio

ROA_{it} = Return on asset

$BETA_{it}$	= Adjusted beta
α	= Constant
$\beta_1 - \beta_{10}$	= Coefficient regression
ε_t	= Error term

4. DATA ANALYSIS AND DISCUSSIONS

Zulfikar (2018) mentioned that there were three approaches for conducting the moderated regression analysis, including the common effect (CE), fixed effect (FE), and random effect (RE). The Chow test was performed to choose between the FE and CE regression models, with the FE was preferred. The selection of FE or RE was determined using the Hausman test, with the FE was more preferred. Meanwhile, the selection between the CE and RE was determined using the Breusch Pagan test, with the RE was more preferred.

Table 4. Results of regression model determination

Model	Test	Prob.	Conclusion
1	Chow	0.0000***	FE
	Hausman	0.2840	RE
	Breusch Pagan	0.0000***	RE
2	Chow	0.0000***	FE
	Hausman	0.0000***	FE
	Breusch Pagan	-	-
3	Chow	0.0000***	FE
	Hausman	0.0000***	FE
	Breusch Pagan	-	-

Note: $*** p < 1\%$, $** p < 5\%$, $* p < 10\%$
Source: Processed data

Table 4 above shows that Model 1 should use the RE, since the results of the Chow test and Breusch Pagan test demonstrate a significance at α = 1%. On the other hand, Models 2 and 3 should use the FE, as the results of the Chow test and Hausman test show a significance at α = 1%.

To determine the BLUE model, it was necessary to performed the normality test, heteroskedasticity test, and autocorrelation test. The normality test aimed to determine whether the residuals of the data were normally distributed using the Jarque Bera test method. The results show that the probability of the Jarque-Bera test is 0.0000, indicating a significance at α = 1%. Thus, the H_0 cannot be supported empirically, or that the data was not normally distributed. However, the central limit theorem states that the probability distribution would reach normality when the sample size used increased (Kwak & Kim, 2017).

The absence of multicollinearity between the independent variables was one of assumptions of the classical assumption test, implying that each independent variable had no strong correlation. To examine the multicollinearity, the Variance Inflation Factor (VIF) test was performed calculated by inverting the tolerance value. The VIF limit value is 10, and values below 10 indicate no multicollinearity and values above 10 indicate the presence of multicollinearity between the independent variables.

Table 5. Result of VIF test

Model	Variable	VIF
1	ESG	1.0051
	DPR	1.0056
	INST_OWN	1.0036
2	ESG	1.0340
	DPR	1.0064
	INST_OWN	1.0681
	ROA	1.0901
	LEVERAGE	1.1047
	BETA	1.0617
3	ESG	243.8128
	DPR	110956
	INST_OWN	37.1723
	SIZE	11.4179
	ESG*SIZE	274.858
	DPR*SIZE	110956
	INST_OWN*SIZE	32.2574
	ROA	1.1194
	LEVERAGE	1.1357
	BETA	1.0884

Source: Processed data

Tabel 5 shows that Model 1 and Model 2 have VIF values below 10, indicating the absence of strong correlation or multicollinearity among the independent variables. However, after including the moderating variable in Model 3, several independent variables have VIF values above 10, indicating the presence of multicollinearity. This issue was ignored by the researcher, since the moderating variable was used to understand how it interacted or related to the chosen independent variable and not to obtain the BLUE predictions.

Furthermore, a non-heteroskedasticity test was conducted to ensure that the variance of errors in the regression model was constant across all observations. The non-constant error variance could lead to problems in obtaining the best results due to the inefficient error variance. The heteroskedasticity test was performed using the Laplace Likelihood Ratio test.

Table 6. Results of Laplace Likelihood Ratio test

Model	Likelihood Ratio	df	Prob.
Cross Section Test			
$H_1 = Residuals\ are\ heteroscedastic$			
1	1810.154	58	0.0000***
2	1814.654	58	0.0000***
3	1819.760	58	0.0000***
Period Test			
$H_1 = Residuals\ are\ heteroscedastic$			
1	49.8952	58	0.7667
2	39.1725	58	0.9726
3	40.7764	58	0.9581

Note: $*** p < 1\%$, $** p < 5\%$, $* p < 10\%$
Source: Data processed

Table 6 shows the results of Laplace Likelihood Ratio test. The probability of the cross section test shows a value below the significance level of α = 10% or 0.1, indicating the conclusion to reject H_0, and that the residuals are heteroscedastic. Based on the presented results,

the heteroskedasticity occurred in the cross-section test and not in the period test, indicating the presence of partial heteroskedasticity in the data. This issue of heteroskedasticity would be improved using the White Period regression technique (cross-section cluster).

Furthermore, the autocorrelation test was performed to discover any correlation between errors in each observation. The classical assumption test required that the error in one observation must not affect the error in the next observation, either in time series or cross-section data. Therefore, the autocorrelation test was done using the Durbin Watson method. The rule of thumb for the Durbin Watson statistic is: (1) DW close to 2 indicates no autocorrelation; (2) DW < 2 indicates a positive autocorrelation and (3) DW > 2 indicates a negative autocorrelation.

The effect of independent variables on the dependent varibales was examined through hypothesis testing. The multiple regression models were conducted, including the RE model for Model 1 and the FE model for Model 2 and Model 3. The F-test was employed to determine the significance of each independent variable's coefficient on the dependent variable. The coefficient of determination was also calculated to evaluate how much the variance in the dependent variable could be explained by the independent variables. The results show that the Adjusted R-Squared of Model 1 is 0.075, indicating that the independent variables could explain 7.5% of the dependent variable's influence. On the other hand, Model 2 and Model 3 have higher Adjusted R-Squared values of 0.8222 and 0.8335, respectively, indicating that the inclusion of control and moderating variable significantly contributed to explaining the dependent variable's variance. This difference in tge Adjusted R-Squared values highlighted that Model 2 (with the control variables) and Model 3 (with the moderating variable) were better than Model 1.

Table 7. Results of F-test

Model	Sum of Squares	F	Prob.
1	545.5732	19.8034	0.0000***
2	391.4624	52.0789	0.0000***
3	377.2817	56.4202	0.0000***

Note: $*** \, p < 1\%$, $** \, p < 5\%$, $* \, p < 10\%$
Source: Data processed

Table 7 above shows the results of the F-test for all three models with the probabilities below α = 10%, indicating that the null hypothesis cannot be supported empirically ($H_0: \beta_1 = \cdots = \beta_n = 0$) and instead the H_1 can be supported empirically ($H_1: \beta_1 = \cdots = \beta_n \neq 0$).

Table 8. Results of T-test

Model	Variable	Estimated Coefficients	Std. Error	t-Statistics	Prob.
1	(Constant)	2.8945	0.3148	9.1924	0.0000***
	ESG	-0.0271	0.0036	-7.4272	0.0000***
	DPR	0.0004	0.0002	1.5108	0.1313
	INST_OWN	0.0932	0.5131	0.1818	0.8558
	R-Squared	0.0790			
	Adj. R-Squared	0.0750			
2	(Constant)	1.6305	0.0880	18.5091	0.0000***
	ESG	-0.0079	0.0017	-4.5170	0.0000***
	DPR	0.0005	$1.66e^{-5}$	30.4082	0.0000***
	INST_OWN	0.3879	0.1597	2.4288	0.0183**
	ROA	0.0852	0.0059	14.3001	0.0000***
	LEVERAGE	0.0003	0.0001	1.9451	0.0567*
	BETA	0.0037	0.0015	2.3555	0.0220**
	R-Squared	0.8384			
	Adj. R-Squared	0.8223			
3	(Constant)	7.6794	1.0478	7.3286	0.0000***
	ESG	-0.0506	0.0274	-1.8454	0.0702*
	DPR	-0.1517	0.6206	-0.2445	0.8077
	INST_OWN	-5.3143	1.8836	-2.8213	0.0066***
	SIZE	-0.3824	0.0648	-5.8973	0.0000***
	ESG*SIZE	0.0029	0.0016	1.7851	0.0796*
	DPR*SIZE	0.0092	0.0377	0.2453	0.8071
	INST_OWN*S		0.1167	3.0736	0.0032***
	IZE	0.3587			
	ROA	0.0903	0.0067	13.3123	0.0000***
	LEVERAGE	0.0001	0.0001	0.9961	0.3234
	BETA	0.0059	0.0015	3.9430	0.0002***
	R-Squared	0.8575			
	Adj. R-Squared	0.8423			

Note: $*** \, p < 1\%, \; ** \, p < 5\%, * \, p < 10\%$
Source: Data processed

Table 8 shows that in Model 1, has a the ESG has a p-value of 00000 (below α = 1%), indicating a significant effect of the ESG on the firm value. On the other hand, the DPR and institutional ownership are not significant, as their significance values are above α = 10%. Meanwhile in Model 2, after including the control variables of ROA, DER (leverage), and Beta, it was found that the ESG, DPR, and ROA are significant at α = 1%, the institutional ownership and Beta are significant at α = 5%, and the leverage is significant at α = 10%. The addition of the moderating variable of firm size in Model 3 results in the institutional ownership, firm size, INST_OWN*SIZE, ROA, and Beta to be significant at α = 1%, while the ESG and ESG*SIZE are significant at α = 10%.

Further, Model 1 without the control variables shows that the ESG is significant on the firm value with a β of -0.0271. This indicated that every 1-point increase in the ESG score would decrease the firm value by 0.0271. The DPR and institutional ownership are not significant at α = 10%. The negative effect of ESG on the firm value contradicts the first hypothesis developed, thus H_{0a} cannot be supported empiricallya. This finding is consistent with previous researches (Duque-Grisales & Aguilera-Caracuel, 2021; Ruan & Liu, 2021) conducted in Latin America and China. Furthermore, there were two ways to interpret the regression results. First, the ESG has a negative effect on the firm value in the absence of financial control variables. Second, in

developing countries where the ESG activities were not as active as in developed countries, voluntary ESG disclosure might become an additional cost for the companies, thus their firm value decreased. The lack of strong institutional situation in developing countries and the lack of investor protection regulations required the companies to gain the investor trust by incurring costs on the efforts to establish good corporate governance through the selection of independent directors or commissioners, external audits, improved information disclosure, and etc. This finding in Model 1 supports the theory proposed by Friedman (2007) that serving the expectation of all stakeholders were unrealistic and increasing the risk in the company diverting from its primary goals.

In addition, the regression results in Model 2 shows that the ESG has a significant effect with a β of -0.0079, indicating that the H_{0a} cannot be supported empirically. An increase of 1 point in the ESG score would decrease the firm value by 0.0079. Similarly, the DPR also has a significant effect with a β of 0.0005, leading to the rejection of H_{0b}. An increase of 1% in the DPR would increase the firm value by 0.0005. Besides, the institutional ownership has a significant effect with a β of 0.3879, also leading to the rejection of H_{0c}. An increase of 1% in the institutional ownership would increase the firm value by 0.3879. Furthermore, all three control variables show a positive and significant effect, indicating that including the control variables could enhance the accuracy and reliability of the regression model. The positive and significant effect of the DPR was supported by the signalling theory (Bhattacharya, 1979; John & Williams, 1985; Miller & Modigliani, 1961), which suggested that a high DPR signalled to the investors about the company's future prospects. Besides, the institutional ownership also shows a positive and significant effect, which could be explained by the company's ability to lessen the agency conflicts in the company in terms of managerial decision-making (Cristofel & Kurniawati, 2021).

The moderated regression in Model 3 shows that the moderation between ESG and firm size has a positive and significant effect with β of 0.0029, thus rejecting the H_{0d}. A 1-point increase in the ESG score would increase the firm value by 0.0029. Further, the moderating role of firm size changes the direction effect of ESG on firm value from negative to positive. Therefore, the firm size acted as a quasi-moderator between the ESG and firm value. This is consistent with a research by Abdi, Li, & Càmara-Turull (2022) which showed that the big companies had greater capital and might continuously invest in the ESG activities that could result in a strong and positive relationship between the ESG and firm value. The big companies were also considered to have better strategies and goals in monitoring the business and also simultaneously investing in the sustainable ESG projects. The moderating role of firm size on the DPPR does not have a significant effect on the firm value, thus the H_{0e} cannot be supported empirically. The firm size as a moderator on the effect of institutional ownership on firm value shows a positive and significant effect with a β of 0.3587, therefore rejecting the H_{0f}. This findings implied that cthe big companies would be able to reduce its information asymmetry as their size strengthened the role for monitoring and transparency in the capital market that led to an increase in the firm value.

5. CONCLUSION, SUGGESTION AND LIMITATION

This present study aims to explore the effect of ESG disclosure, DPR, and institutional ownership on firm value with the firm size as the moderating variable, examining companies in Indonesia during the period of 2010 – 2021. The results of this study show that in the model without control variables (Model 1), the ESG disclosure negatively affects the firm value, while the DPR and institutional ownership are not significant. These findings imply that first, without the presence of financial control variable, the ESG has a negative and significant effect on the firm value. Second, it could be assumed that in developing countries where the ESG activities were not as active as in developed countries, the voluntary ESG disclosure could be an additional cost for the companies, resulting in a decrease in the firm value. Meanwhile, in Model 2 which involved the control variables, it is found that the ESG disclosure negatively affects the firm value, while the DPR and institutional ownership positively affects the firm value. The positive effect of DPR was supported by the signaling theory, where it signalled the investors about the company's ability to generate profit in the future. Meanwhile, the positive effect of institutional ownership indicated the company's ability to lower the agency conflicts. Further, the moderated regression analysis of Model 3 using the firm size as the moderating variable shows that the effect of ESG and institutional ownership on the firm value is positively moderated by the firm size, while the firm size fails to moderate the effec of DPR on the firm value. The positive and significant moderation in the effect of ESG on the firm value happened since the big companiesrended to have greater capital and might consistently invest in the ESG activities. The big companies were thought to have better strategies and goals in monitoring the business and also simultaneously investing in the sustainable ESG projects. On the other hand, the positive and significant effect between the institutional ownership and firm value implied that the big companies had less information asymmetry and their size played a big role in the monitoring and transparency in the capital market.

Furthermore, the results of this study imply several important implications for academics, policymakers, and managers. First, this study emphasizes the importance of firm size as a moderating factor when examining the effect of ESG, DPR, and institutional ownership on the firm value. The effect of ESG and institution ownership on the firm value can be influenced by the firm size. Second, the negative effect of ESG on the firm value highlights the financial trade-offs and challenges that the company encounters when implementing the ESG principles. This suggests that the governments and regulators should carefully assess the cost and benefits of promoting the ESG practices, and work to remove any barriers that might prevent the companies from adopting such practices. Third, the positive and significant effect of DPR and institutional ownership on the firm value suggests that these factors may be important determinants of firm market performance in developing countries. Thus, the managers and policymakers should consider these factors in their decision making process as they may have a significant impact on the firm value.

However, this study also faced several limitations. First, the dependent variable of this study was only proxied by the Tobin's Q. Future researches are suggested to use more proxies based on the market value and accounting principles. Second, the sample of this study was only limited to 58 companies that consistently provided complete data during the research period and might only be concentrated on several industries. An extraordinary event such as the COVID-19 pandemic must have been considered in the analysis as it might have caused significant impacts

on the variables in the study. Future researches are suggested to use bigger sample size to improve the external validity of the findings.

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