Impact of institutional ownership on environmental disclosure in Indonesian companies

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Abstract

Purpose: This study aims to investigate the effect of the classification of origin country of institutional shareholder (domestic, developed, and developing country) and its status on stock exchange (listed and unlisted) on environmental disclosure level in Indonesian companies.

Design/methodology/approach: The data set comprises 474 non-financial firms listed in Indonesian Stock Exchange (IDX) for the period of 2017 to 2019. The study uses an environmental disclosure checklist to measure the extent of environmental disclosure in companies' reports. Panel regression analysis technique is adopted to investigate the association between total percentage of shares held by institutional shareholders based on the classification of origin country and the status in stock exchange, and the extent of environmental disclosure.

Findings: The study reveals that the extent of environmental disclosure is positively and significantly associated with institutional investors from domestic, developed countries, listed, and unlisted institutional investors. Our further analysis shows interesting results that institutions from developing countries have a negative and significant relationship with environmental disclosure in non-sensitive industries.

Research limitations/implications: We recognize the issue of authors' subjectivity in the measurement process of environmental disclosure. The sample for this study encompasses Indonesian listed firms. Thus, the results may not be generalized to Indonesian unlisted firms and other countries or regions.

Practical implications: This study suggests managers to engage more with institutional shareholders because they have greater concern for environmental disclosure practices. The current study also suggests managers to make strong environmental policies as they are important to ensure that institutional shareholders' investments are safe.

Social implications: Given the positive impact institutional shareholders have on the level of environmental disclosure, it indirectly indicates that institutional shareholders have a strong motivation to make the world a better place.

Originality: This study offers in-depth insights into the effect of institutional ownership on environmental disclosure based on the classification of origin country and listing status of institutional investors.

Keywords: Environmental disclosure, Institutional ownership, Indonesia, Agency theory, Stakeholder theory

1. Introduction

Due to the negative impacts on the environment, the government of Indonesia requires all companies to perform social and environmental responsibility activities and disclose them in annual reports and/or sustainability reports (Pemerintah Republik Indonesia, 2007; Otoritas Jasa Keuangan, 2017). Gunawan et al. (2022) provide the fact that the number of Indonesian companies that produce sustainability reports has increased from time to time. The main reason is that there is increasing attention from stakeholders on environmental sustainability issues, such as shareholders. Hu et al. (2018) argue that the practice and reporting of accountability can be influenced by the motives and values of a company's shareholders. In addition, shareholders positively perceive accountability disclosure, encouraging managers to make disclosures (de Villiers & van Staden, 2012). From several types of shareholders, institutional investors significantly influence the company's disclosure practices (Elgergeni et al., 2018; Shahab & Ye, 2018). In the Indonesian context, Nurleni et al. (2018) document that institutional ownership is significantly associated with the disclosure of social responsibility in Indonesian companies. There is a fact that 73.15% of company shares in the Indonesia Stock Exchange (IDX) are owned by institutional investors (CNN Indonesia, 2015). This shows that institutional shareholders have the potential to play an essential role in companies, including pressing or requesting the management of Indonesian companies to disclose particular information.

Institutional shareholders are large investors and perceived to have an adequate supervisory role in companies (Habbash, 2016; Ullah et al., 2019). Yet, they do not want to control companies because their main focus is investing their money for short-term profits (Salehi et al., 2017). On the other hand, they are willing to be active in corporate governance and long-term performance, such as corporate social responsibility (CSR) (Qa'dan & Suwaidan, 2019). Institutional shareholders want to ensure that their investments will meet their interests and avoid the risk of negative impacts on the company's operations. Institutional shareholders tend to be more actively involved in companies' decisions than other shareholders do (Oh et al., 2011). Institutional shareholders are complex shareholders who have experiences and resources. On the other hand, institutional shareholders have more interests in closely monitoring company's disclosure policies. Therefore, institutional shareholders will need more company information to carry out their role in company oversight (Habbash, 2016; Ntim & Soobaroyen, 2013). Then, managers receive pressures from institutional shareholders to make disclosures to meet their demands. It indicates that institutional shareholders will support activities related to accountability and disclosure (Oh et al., 2011).

Various studies have investigated the relationship between institutional shareholders and social and environmental disclosure (Elgergeni et al., 2018; Nurleni et al., 2018; Shahab & Ye, 2018). However, there are a small number of studies examining the characteristics of institutional shareholders, such as the classification of origin country's region of institutional investor and its listing status on the stock exchange. Therefore, this study attempts to fill this gap by providing empirical evidence regarding the effect of institutional investor characteristics on environmental disclosure. This investigation is necessary because different regions have different cultures and values related to social responsibility and disclosure practices. Bhatia & Makkar (2020) document that social responsibility practices in developed countries are better than developing countries. In addition, Oh et al. (2011) provide empirical evidence that investors from developed countries provide higher pressures to company to provide social and environmental information. On the other hand, domestic investors provide less pressure to company due to the friendship relationships between investor and company (Nagata & Nguyen, 2017). In terms of listing status, listed institutional investors have more awareness to social responsibility because they are more regulated than unlisted institutional investors. Hence, they will put higher pressures on investees when they become investees' shareholders (Kotonen, 2009).

This study offers several significant contributions. First, this study contributes to the literature on the potential impact of institutional ownership on environmental disclosure by using data from Indonesian companies where institutions hold more company shares. Second, although previous research has examined the impact of institutional investors on corporate disclosure (Nurleni et al., 2018; Salehi et al., 2017), this study offers a more in-depth examination of institutional shareholders' characteristics many previous studies have not studied. This study examines the origin country of domestic, developed and developing countries. We also test the listing status of institutional investors on the stock exchange, namely listed and unlisted.

The rest of this paper is structured as follows. Section 2 provides a brief on environmental reporting requirements in Indonesia. Section 3 discusses theories adopted in this study. Section 4 presents the literature review and hypothesis development. Research design is then discussed in Section 5, followed by Section 6 which presents the results of the panel data analysis. Section 7 is the discussion and conclusion, covering research contribution, limitations, and recommendations for further study.

2. Requirements of Environmental Reporting in Indonesia

The Indonesian government plays an essential role in maintaining environmental sustainability to maintain the welfare of the people. Since companies contribute to various environmental damages in Indonesia, the government has issued regulations to encourage companies to pay attention to the negative impacts of their operations through environmental responsibility activities. In addition, the government requires companies to communicate these activities to the public by preparing environmental reports. Environmental disclosure in Indonesia is an inseparable part of social responsibility reporting, which the government or regulatory agencies require. The first regulation related to environmental and social responsibility reporting was issued by the Indonesian Securities Supervisory Agency or *Badan Pengawas Pasar Modal* (BAPEPAM) No. KEP-134/BL/2006. According to this regulation, public companies are required to produce an annual report and a description of the activities and costs for social and environmental responsibility activities reported in this report. To strengthen social and environmental disclosure regulations, the Indonesian government issued Law no. 40 of 2007 concerning Limited Liability Companies. This law regulates social and environmental responsibilities to realize a sustainable economy to improve the quality of the environment that benefits companies, communities, and society. In this regulation, companies that carry out business activities in the field or related to natural resources must show social and environmental responsibilities activities.

In 2012, BAPEPAM issued regulation no. KEP-431/BL/2012 regulates the content of the disclosure of corporate social and environmental responsibility information. Companies are expected to disclose information regarding policies, programs, and costs on environmental aspects (materials, energy, recycling systems, environmental certification, etc.), employment, health and work safety (gender equality, job opportunities, work accident rates, employee turnover, training, etc.), social and community development (local workforce, social facilities and infrastructure, donations, etc.), and products (consumer health and safety, product information, etc.). To encourage comprehensive social responsibility disclosure, the Financial Services Authority or *Otoritas Jasa Keuangan* (OJK) issued OJK Regulation No. 51/POJK.03/2017. Under this regulation, all companies are required to create a sustainability report. This report can be prepared separately from the annual report or as an inseparable part of the annual report. The sustainability report contains information on sustainability strategies, economic aspects (quantity of production, net profit or loss, environmentally friendly products), environmental aspects (energy, emission reduction, waste reduction, biodiversity), and social aspects. Then, this sustainability report must be reported to OJK periodically.

Although the regulation requires the preparation of reports related to social responsibility, there are still problems in the implementation of the regulation because the specific items of social and environmental activities are not clearly described in the regulation (Cahaya et al., 2012; Hanifa & Cahaya, 2016). It can be said that Indonesia does not have guidelines and indicators of accountability activities that companies must carry out and disclose. It can be a severe problem because the content of CSR reports can vary among companies (Cahaya et al., 2012). Companies can freely determine the information to disclose in their reports. They have the potential to reveal information that is positive rather than negative to maintain their image and reputation. Indeed, the Global Reporting Initiative (GRI) provides generally accepted sustainability reporting guidelines which some companies in Indonesia have adopted (Gunawan et al., 2022; Sari et al., 2021). However, adopting the GRI guidelines is voluntary and may not cover specific social and environmental phenomena in Indonesia. It can be concluded that the regulation only requires the physical form of the CSR report, but the regulation does not care about the accuracy of the contents of the report.

3. Theoretical Framework

3.1. Agency Theory

In agency theory, an agency relationship is defined as a contract between the principal and the agent, and the principal delegates decision-making authority to the agent (Jensen & Meckling, 1976). This theory assumes that information asymmetry will arise between the principal and the agent due to the separation of ownership and management (Aboagye-Otchere et al., 2012; Adel et al., 2019). This information asymmetry problem occurs because agents have easy access to information. This theory also assumes that managers are opportunistic and act based on their interests, and the interests of shareholders will not be their priority (Salehi et al., 2017). Therefore, a conflict of interest between the principal and the agent will create agency costs (Al-Janadi et al., 2016; Garanina & Aray, 2020). On the other hand, the manager controls all the owner's resources and uses them to maximize shareholder wealth.

Drawing upon agency theory, the principal might use the company's monitoring and disclosure mechanism to reduce the information asymmetry between the principal and the agent (Adel et al., 2019; Eng & Mak, 2003; Muttakin & Subramaniam, 2015). Jensen & Meckling (1976) argue that one of the groups that can play a prominent role in monitoring is institutional investors. Institutional investors are known to be large investors with an influential supervisory role (Habbash, 2016; Ullah et al., 2019). Although institutions do not want to control companies (Salehi et al., 2017), institutions want and demand more disclosure because institutions prefer companies that disclose more information (Ajinkya et al., 2005). In addition, institutional shareholders want assurance that their investments are safe. Therefore, institutional investors need not only financial information but also information on environmental responsibility because of the pressure to promote sustainable development.

3.2. Stakeholder theory

Stakeholders are groups or individuals who can influence or be influenced by achieving company goals (Roberts, 1992). According to stakeholder theory, company management is expected to carry out activities expected by stakeholders and report these activities to stakeholders (Guthrie et al., 2004). The primary role of corporate management is to assess the importance of satisfying stakeholder demands to achieve the company's strategic goals (Roberts, 1992). One of the dimensions of Ullmann (1985) recognizes that when stakeholders control resources, companies tend to respond to requests from stakeholders. Therefore, the power of stakeholders will have a positive impact on social performance.

Researchers debate whether companies should pay attention to all stakeholders as a moral obligation or focus on specific stakeholders. Clarkson (1995) argues that companies need to focus on the interests of primary stakeholders. If the primary stakeholders are dissatisfied and withdraw from the company's system, the company cannot continue its business. However, Guthrie et al. (2004) explain that all stakeholders have the right to be provided with information about the company's impact on them, even if they do not use it. This difference in views has given rise to two branches of stakeholder theory, namely the normative or ethical and managerial or positive branches (Nyahas et al., 2018). The normative branch suggests the company treat all stakeholders fairly. The managerial branch mentioned that the company needs to meet key stakeholders' demands.

This study adopts the managerial or positive branch of stakeholder theory, which emphasizes managers satisfy critical interest groups such as shareholders. There is a high relationship between the company and shareholders in terms of providing the company's capital structure. Since shareholders have control over the resources the company needs to survive, managers are recommended to meet the demands of shareholders (Clarkson, 1995). Concerning environmental disclosure practices, de Villiers & van Staden (2012) find that shareholders are very optimistic about environmental disclosures published in company reports because they want companies to be accountable for their environmental impacts. Ismail & El-Shaib (2012) provide evidence that shareholders are a significant driver of corporate social disclosure.

4. Literature Review and Hypothesis Development

4.1. Domestic institutional shareholders

Domestic investors are defined as investors whose domicile is in the same country as the company. Hence, they do not have serious information asymmetry problems compared to foreign investors (Said et al., 2009; Sari et al., 2021). It is because they can easily obtain company information, including environmental responsibility activities. According to Nagata & Nguyen (2017), domestic institutional shareholders tend to be close to managers and have less voice in the company's decision-making process. It indicates that domestic investors will not be too active in influencing companies to disclose any information. It contradicts foreign investors who provide high pressure on companies to disclose information to reduce information asymmetry (Sari et al., 2021; Wicaksono & Setiawan, 2022). Oh et al. (2011) argue that foreign investors may differ from domestic investors regarding preferences, timing, and issues of information asymmetry. It can be said that if domestic investors own high percentage of company's shares, they will not provide much pressure on companies to create environmental disclosures. Thus, this study proposes the following hypothesis.

H1: The extent of environmental disclosure in Indonesian companies is negatively associated with the proportion of shares hold by domestic investors.

4.2. Institutional shareholders from developed and developing countries

Haniffa & Cooke (2005) assume that shareholders from developed countries pay higher attention to CSR practices. Amran & Devi (2008) reveal that foreign investors from developed countries (such as the United States and Great Britain) prioritize sustainable development so that they will actively press companies' management to show social responsibility activities and disclose them in corporate reports. According to Giannarakis (2014), investors from developed countries have a better understanding of the value of CSR for social and environmental purposes. Hence, investors understand that companies must implement CSR strategies to benefit the society (Soh et al., 2014). Previous studies provide empirical evidence that CSR-related disclosure is strongly influenced by shareholders from developed countries. Oh et al. (2011) find that Western shareholders strongly encourage South Korean companies to disclose CSR-related information. Amran & Devi (2008) report that shareholders from developed countries have a positive relationship with CSR disclosure of Malaysian companies. On the other hand, shareholders from developing countries pay less attention to environmental disclosure (Garanina & Aray, 2020). Hence, they tend to be passive and do not want to actively influence companies' behaviour and decision, including environmental disclosure practices. Therefore, this study estimates that the higher percentage of shares owned by institutional investors from developed countries will result in the higher level of environmental disclosure. On the other hand, the level of disclosure will be lower when institutional investors from developing countries hold higher percentage of shares. As such, this study develops the following hypotheses.

H2: The extent of environmental disclosure in Indonesian companies is positively associated with the proportion of shares hold by shareholders from developed countries.

H3: The extent of environmental disclosure in Indonesian companies is negatively associated with the proportion of shares hold by shareholders from developing countries.

4.3. Listed and unlisted status of institutional shareholders

Due to their listing status, listed institutions are bound by regulations to show specific performance such as CSR activities and reporting. CSR-related regulations become the coercive pressures that encourage companies to show stewardship activities and disclosures (Cahaya et al., 2015, 2017). Listed institutions are arguably more visible to the public and under the supervision of a wide range of stakeholders. In Indonesia, CSR disclosure is mandatory, which means all companies are required to disclose CSR information in annual and/or sustainability reports. Kotonen (2009) suggests that listed institutions are more aware of sustainability issues than unlisted ones. Following the argument above, we assume that listed institutional shareholders have better understanding and experience about CSR regulations and activities. When listed institutions become firm's shareholders, they will use their power to influence managers to provide information regarding stewardship activities. It can be assumed that higher firm shares owned by listed institutions will lead to higher level of environmental disclosure. On the other hand, unlisted institutional investor may not provide significant pressures to managers to disclose information related to social and environment activities. Therefore, we formulate the following hypotheses:

H4: The extent of environmental disclosure in Indonesian companies is positively associated with the proportion of shares hold by listed institutional shareholders.

H5: The extent of environmental disclosure in Indonesian companies is negatively associated with the proportion of shares hold by unlisted institutional shareholders.

5. Research Design

This study uses all companies listed on the Indonesia Stock Exchange (IDX) as research samples. There are three reasons for selecting these companies. First, there is the fact that institutional shareholders hold 73.15% of the outstanding shares of Indonesian listed companies (CNN

Indonesia, 2015). Second, listed companies are under pressures from stakeholders such as shareholders, the government, and others to listed companies. Third, listed companies are more regulated than unlisted companies regarding social and environmental practices and disclosures.

As the end of 2019, there were 662 companies listed on IDX. However, this study excludes financial institutions from the sample because this industry is considered as having lower environmental impacts than other industries (Yu et al., 2020). After removing companies with missing data, the final sample consists of 474 firms. The annual and sustainability reports for the period of 2017-2019 of selected firms are downloaded from IDX or official company's website. This study investigates these years because OJK releases a regulation (No. 51/POJK.03/2017) that requires all listed companies to create sustainability report periodically.

5.1. Model specification and variable description

This study develops the following regression model to test all the hypotheses. The summary of variable description is presented in Table 1.

$$EDI = \beta_0 + \beta_1 DOM + \beta_2 DVLD + \beta_3 DVLG + \beta_4 LIST + \beta_5 UNL + \beta_6 ROA + \beta_7 SIZE + \beta_8 LEV + \beta_9 AGE + \beta_{10} AUD + \varepsilon$$

Where:

EDI = environmental disclosure index;

DOM = domestic institutional investors;

DVLD = institutional shareholders from developed countries;

DVLG = institutional shareholders from developing countries;

LIST = listed institutional investors;

UNL = unlisted institutions;

ROA = return on assets;

SIZE = firm size;

LEV = firm leverage;

AGE = firm age;

AUD = firm's auditor.

[Take in Table 1]

Environmental Disclosure Index (EDI) represents the dependent variable in this study. This study developed a checklist containing 34 environmental disclosure items developed by the Global Reporting Initiative (GRI) version 4. This study employs GRI framework because it is a widely acknowledged sustainability reporting framework (Arif et al., 2021; Bueno et al., 2018). Gunawan et al. (2022) report that many companies listed in IDX publish sustainability report based on GRI framework. In addition, previous studies use this standard to measure the level of corporate sustainability disclosures (Cahaya et al., 2017; Hanifa & Cahaya, 2016). This study applies a dichotomous approach to assessing environmental disclosure and considers each environmental item equally important. This study assigns a value of 1 if an item of environmental disclosure is disclosed and a value of 0 if it is not reported (Muttakin & Subramaniam, 2015; Said et al., 2009). Then, this research adds up all the values.

In terms of independent variables, this study basically uses institutional shareholders as the independent variable measured by the percentage of shares owned by institutional investors. This study follows Nurleni et al. (2018), who define institutional shareholders as ownership of parties in the form of institutions such as foundations, banks, insurance companies, investment companies, limited liability companies (PT), and other institutions. Information regarding the origin country's region of institutional shareholders and their listed status is obtained from the company's reports. The independent variables are domestic institutional investors (DOM), institutional shareholders from developed countries (DVLD) and developing countries (DVLG), institutional investors listed on stock exchange (LIST), and unlisted institutions (UNL).

Based on a systematic review of the literature, corporate social disclosure practices are theoretically associated with the characteristics of the company. Hence, this study includes firm characteristics in the regression model as control variables. First, firm profitability is measured by the return on assets (ROA), that is the ratio of net profit (loss) and total assets (Lone et al. 2016; Naheed et al., 2021). Second, firm size is measured by the natural logarithm of total assets (Khan et al., 2019; Orazalin, 2019; P. & Busru, 2020). Third, leverage is defined as the ratio of total debt and total assets (Aladwey et al., 2022; Alareeni & Hamdan, 2020; Vitolla et al., 2020). Fourth, firm age is defined as number of year since the company's inception (Jouber, 2021; Kilincarslan et al., 2020). Last, Firm auditor is measured by a value of 1 if a company is audited by Big4 auditors and 0 otherwise (Chijoke-Mgbame et al., 2020; Sundarasen et al., 2016).

6. Results

6.1. Descriptive statistics

Table 2 depicts descriptive statistics for all variables investigated in this study. It indicates that Indonesian companies' degree of environmental disclosure is relatively low. It can be seen that the value of the mean of environmental disclosure (EDI) is 6.379, with a minimum score of 0 and a maximum score is 25. Domestic institutional ownership (DOM) has a higher average value than investor institutional from developed and developing countries, with an average of 46.061. The value of the mean of developed (DVLD) and developing institutional ownership (DVLG) are 10.563 and 3.139, respectively. It can also be seen that the value of the mean of unlisted institutional ownership (UNLIST) is higher than listed institutional investor (LIST), which means that unlisted institutional shareholder dominates the ownership structure of Indonesian companies. In terms of control variables, the average profitability (ROA), firm size (SIZE), leverage (LEV), firm age (AGE), and auditor (AUDIT) are 0.021, 28.545, 0.558, 14.438, 0.315, respectively.

[Take in Table 2]

6.2. Bivariate Analysis

Table 2 reports the correlation matrix among variables. It can be seen that EDI is positively correlated with DOM ($\rho = 0.033$) and UNLIST ($\rho = 0.028$), but these correlations are insignificant. EDI is positively and significantly associated with DVLD ($\rho = 0.115$) and LIST ($\rho = 0.114$). On the other hand, there is a negative and significant relationship between EDI and DVLG ($\rho = -0.056$). In terms of control variable, EDI is positively and significantly related to ROA ($\rho = 0.079$), SIZE (ρ = 0.076), AGE (ρ = 0.095), and AUDIT (ρ = 0.089). However, EDI negatively correlates with LEV (ρ = -0.031). Overall, all correlation coefficients among variables presented in Table 2 are below the value of 0.8; therefore, we can confirm the absence of a serious multi-collinearity problem (Gujarati, 2004; Sekaran & Bougie, 2016). However, it is not enough to ensure that the multi-collinearity problem does not exist (Abang'a et al., 2022). Hence, we employ another to examine multi-collinearity by running the variance of inflation factor (VIF) test. A multi-collinearity problem occurs when a VIF value exceeds 10 (Qa'dan & Suwaidan, 2019). Table 3 shows that all the VIF values are less than 10; therefore, VIF values do not indicate this problem.

[Take in Table 3]

6.3. Multivariate analysis

We conduct the Hausman test to test the proposed hypotheses to determine which estimation model, fixed or random effect model, provides the best explanation for our data (Hasudungan & Bhinekawati, 2022). Hausman test result is insignificant, indicating that random effect is better than fixed effect. Thus, a regression test is conducted using random effect model (REM). The regression results are reported in Table 4. In Column 1, this study finds a positive and significant of domestic institutional ownership (DOM) variable ($\beta = 0.188$, $p < 0.01$). Thus, this finding rejects H1. Our finding implies that domestic institutions pressure managers to provide more disclosure related to environmental stewardship activities. It contradicts the notion that domestic institutions tend to be more friendly with the managers and less vocal (Nagata & Nguyen, 2017). We document that institutional investor from a developed country (DVLD) positively and significantly influences the extent of environmental disclosure ($\beta = 0.301$, $p < 0.01$). In other words, H2 is supported. This finding indicates that the greater ownership of institutions from a developed country, the higher the extent of environmental disclosure. Our result is consistent with the finding of Oh et al. (2011) and Haniffa & Cooke (2005). This study also finds a positive and significant coefficient of institutional investors from developing countries (DVLG) ($\beta = 0.124$, $p > 0.10$). This result rejects H3. This finding implies that a higher proportion of ownership of a developing country's institution does not stimulate the production of environmental disclosure. It is consistent with the finding of Garanina & Aray (2020).

In Column 2, we investigate the status of investor institutions on the stock market. We document a positive and significant coefficient of the listed institutional ownership variable (LIST) (β = 0.031, $p < 0.01$); thus, H4 is supported. It implies that higher ownership of listed institutions results in a higher extent of environmental disclosure. Our result indicates that this shareholder cares about disclosure, so it has higher expectations on the company to disclose information related to the environment. This finding is consistent with the result of Grosbois & Fennell (2022). We also report that there is a positive and significant association between unlisted status of an institution (UNLIST) and environmental disclosure (β = 0.019, $p < 0.01$). It rejects the proposed hypotheses that predict a negative direction. Unlisted institutional investor likely expects higher environmental disclosure to ensure their investment is safe.

[Take in Table 4]

6.4. Robustness check

This study also performs several tests to examine the robustness of the results reported in Table 4. First, we change the measurement of environmental disclosure variable from GRI 4.0 guideline to the 42 environmental items developed by He & Loftus (2014). The results are presented in Table 5 in Columns 1-3. It can be seen that our results do not differ from the results of the primary analysis contained in Table 4. Second, following Ullah et al. (2019), we drop all control variables in the regression model to ensure that these variables do not influence our independent variables. The results are documented in Table 5 in Columns 4-5, and we find consistent results.

6.5. Sensitive vs. non-sensitive industry

Previous studies find that sensitive industry receives higher pressure from stakeholder to show stewardship activities and create higher level of environmental disclosure (Yu et al., 2020; Yunus et al., 2020). It is because sensitive industry causes significant environmental damages so that this industry faces higher scrutiny from stakeholders. To provide a deeper analysis, we decompose our sample into two groups based on its environmental sensitivity. The results are reported in Table 6. For the subsample of sensitive industry (Column 1-3), the analysis reveals that domestic institution (DOM) positively affects environmental disclosure in the sensitive industry (β = 0.016, $p < 0.10$).

We also find that the higher ownership of institutions from developed country (DVLD) will result in higher environmental disclosure (β = 0.020, $p < 0.10$). Additionally, we document a positive relationship between institution from developing country (DVLG) and environmental disclosure but this relationship is insignificant (β = 0.022, $p > 0.10$). In terms of the status of institutional investor on the stock market, our result indicates that ownership of listed institution (LIST) is a predictor of environmental disclosure (β = 0.026, $p < 0.10$). Similar to this, unlisted investor institution (UNLIST) is positively and significantly related to such disclosure in sensitive industry (β = 0.021, $p < 0.10$).

For the non-sensitive industry (Column 4-6), we find that institution from developed country (DVLD) has a positive and significant relationship to environmental disclosure in this industry (β = 0.049, $p < 0.01$). We also document that listed institution (LIST) is a significant predictor of environmental disclosure for non-sensitive industry (β = 0.033, $p < 0.05$). However, our finding suggests that higher ownership of institution from developing country (DVLG) will reduce the extent of environmental disclosure (β = -0. 110, $p < 0.05$). Domestic institutional ownership (DOM) and unlisted institution (UNLIST) are insignificantly related to environmental disclosure in non-sensitive industry.

[Take in Table 5]

[Take in Table 6]

7. Discussion and conclusion

Our findings show that domestic institutional investors significantly influence environmental disclosure. This finding does not support Nagata & Nguyen (2017) that argue that domestic investors tend to be friendly to managers and more passive so that they do not provide pressure on companies. It is arguably easier to collect corporate information than foreign investors as they are in the same country. On the other hand, our findings suggest domestic institutional investors are more likely to confront managers and express their criticism. Domestic investors have better knowledge about environmental regulations in Indonesia; hence they drive managers to comply with regulations to avoid sanctions. As presented in Table 6, the pressure from domestic investors is higher in sensitive industry. It indicates that when companies' operation potentially results in significant environmental damages, they do not hesitate to press managers to be accountable and responsible for the environmental impacts. Then, they want companies to be transparent by disclosing environmental stewardship activities to the public. In addition, to comply with the regulations, such environmental disclosure is essential for investors to ensure that companies are away from protests and blockades from other stakeholders; therefore, their investment is safe.

This study supports previous studies that find foreign investors experience higher information asymmetry due to their different geographic locations (Wicaksono & Setiawan, 2022). However, our finding suggests that institutional investors from developed and developing countries have different effects on environmental disclosure in Indonesian companies. Our results show that investors from developed countries may suffer higher information asymmetry problems than developing countries in both sensitive and non-sensitive industries. This argument is reasonable because Indonesia is geographically located in Southeast Asia, where almost all countries in this region are classified as developing countries. There is a long geographical distance between Indonesia and most developed countries, so investors from developing countries have many limitations in supervising companies' activities. Hence, they press companies to disclose corporate information to monitor the companies, predict prospects, and reduce agency costs.

The other potential reason is that investors from developed countries have a better understanding and experience in sustainability and disclosure practices than developing countries (Bhatia & Makkar, 2020; Dyck et al., 2019). As documented in previous studies, developed countries are pioneers of non-financial reporting, so investors are familiar with accountability and transparency practices, including environmental disclosure (Huafang & Jianguo, 2007). In Indonesia, foreign investors are dominated by investors from developed countries such as the United States, and Japan (IDX Channel, 2022). As our finding reveals a significant impact of institutional investors from developed countries, it can be said that investors from developed countries strongly influence environmental performance of Indonesian companies. It confirms the finding of Oh et al. (2011) that shareholders from developed countries largely influence CSR implementation in Asian countries. Investors want to promote accountability and transparency so that they urge Indonesian companies' managers to be concerned not only about financial aspects but also non-financial aspects such as environmental issues. Thus, environmental disclosure is produced to meet the demand and pressure of investors from developed countries.

Another important finding of this study is that status of institutional investors is a significant determinant of environmental disclosure in Indonesian companies. This finding demonstrates that all institutional investors, regardless of institutional investors' status, put high pressures on companies to disclose environmental information. This implies that the investors consider environmental disclosure as an essential medium for companies' survival. Because institutional investors are larger investors who place a higher amount of investments (Ullah et al., 2019), they demand managers disclose environmental information to avoid investment risks related to environmental issues. Furthermore, our further analysis shows that listed and unlisted institutions significantly affect environmental disclosure in a sensitive industry. Institutional investors pay serious attention to the business impact because they invest in an environment-sensitive industry. On the other hand, we also find that unlisted institutional investors do not significantly influence environmental disclosure in non-sensitive industry. Unlisted investors may assume that non-sensitive industry results in lower environmental damage so that they do not strictly monitor companies' activities.

This study contributes to the extant literature by documenting the effects of the classification of origin country and listed status of institutional investors on environmental disclosure in Indonesian companies. It also adds the limited empirical evidence of these relationships as previous studies only investigate the effect of total shares owned by institutional investors on corporate disclosures. In terms of practical implication, this study urges managers to engage more with institutional shareholders to collect their demands and interests comprehensively. This is because investors have many concerns about the business impact on the environment, which can affect their investments. In addition, we suggest managers make strong environmental policies to accommodate investors' demands related to stewardship activities and disclosures. This study also has a social implication. As there is the positive association between institutional shareholders and the extent of environmental disclosure, it indirectly indicates that institutional shareholders have strong motivation to preserve the environment and make the world a better place.

Our study acknowledges some limitations. First, we independently collect the environmental disclosure data by reading companies' annual or sustainability reports. Thus, it emerges the issue of subjectivity. However, we can assure that our disclosure data reflect environmental information disclosed in companies' reports based on the environmental indicators employed in this study. In addition, our sample is listed Indonesian companies, so caution is advised when generalizing the research findings to Indonesian unlisted firms, and other countries or regions. Future research is suggested to include all Indonesian firms in the sample or conduct cross countries analyses to provide more comprehensive empirical evidence regarding the relationship between institutional investors and environmental disclosure.

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Table 1. Variable description

	Variable	Description
Dependent variable	EDI	Total environmental indicator disclosed by company in the reports.
Independent variables	DOM	Percentage of shares owned by domestic institutional investors.
	DVLD	Percentage of shares owned by institutional shareholders from developed countries.
	DVLG	Percentage of shares owned by institutional shareholders from developing countries.
	LIST	Percentage of shares owned by institutional investors listed on stock exchange.
	UNL	Percentage of shares owned by unlisted institutions.
Control variables	ROA	Ratio of net profit (loss) and total assets.
	SIZE	Natural logarithm of total assets.
	LEV	Ratio of total debt and assets.
	AGE	Number of year since the firm's inception.
	AUD	A value of 1 is given if firm is audited by Big-4 auditor, 0 otherwise.

Table 2. Descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
EDI	1,370	6.379	5.019	0	25
DOM	1,369	46.061	31.447	0	100
DVLD	1,369	10.563	22.841	0	99.77
DVLG	1,369	3.139	12.594	0	92.05
LIST	1,369	9.505	22.811	0	98.31
UNL	1,369	49.999	31.5441	0	100
ROA	1,354	0.021	0.209	-4.21	0.921
SIZE	1,358	28.545	1.768	22.344	33.494
LEV	1,357	0.558	1.234	-0.391	28.120
AGE	1,367	14.438	10.354	0	42
AUD	1,357	0.315	0.464	0	1

Table 3. Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) EDI	1										
(2) DOM	0.033	1									

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(3) DVLD	0.115***	-0.458***	1								
(4) DVLG	-0.056**	-0.232***	-0.078***	1							
(5) LIST	0.114***	0.083***	0.144***	0.010	1						
(6) UNL	0.028	0.452***	0.129***	0.114***	-0.502***	1					
(7) ROA	0.079***	-0.033	0.030	0.011	0.057**	0.019	1				
(8) SIZE	0.076***	-0.026	0.042	-0.033	0.154***	-0.110***	0.112***	1			
(9) LEV	-0.031	-0.027	-0.036	0.011	0.057**	-0.010	-0.195***	-0.099***	1		
(10) AGE	0.095***	-0.116***	0.222***	0.028	0.034	0.052*	0.006	0.150***	-0.211	1	
(11) AUD	0.089***	-0.049*	0.1381***	0.140***	0.163***	0.011	0.090***	0.258***	-0.047	0.189***	1
VIF		1.02	1.01	1.01	1.01	1.01	1.05	3.67	1.23	3.27	1.55

Note: *, **, ***, represent significance at 10%, 5%, and 1%, respectively.

Table 4. Regression results

Variable	(1)	(2)	(3)
DOM	0.188		
	(0.007)***		
DVLD	0.301		
	(0.002)***		
DVLG	0.124		
	(0.143)		
LIST		0.031	
		(0.001)***	
UNL		0.019	
		(0.005)***	
ROA	0.967	0.915	0.980
	(0.112)	(0.133)	(0.108)
SIZE	0.156	0.136	0.146
	(0.183)	(0.250)	(0.216)
LEV	0.026	-0.025	0.011
	(0.849)	(0.857)	(0.939)
AGE	0.031	0.034	0.021
	(0.141)	(0.091)*	(0.074)*
AUD	0.425	0.316	0.486
	(0.335)	(0.471)	(0.269)
Year Effect	Yes	Yes	Yes
Industry Effect	Yes	Yes	Yes
R^2	0.055	0.057	0.048
F-Stat	45.39	43.444	30.64
Prob. (F.stat)	0.001***	0.001***	0.022**

Note: *, **, ***, represent significance at 10%, 5%, and 1%, respectively.

Table 5. Robustness check

Variable	(1)	(2)	(3)	(4)	(5)
DOM	0.306			0.017	
	(0.000)***			(0.008)***	
DVLD	0.043			0.035	
	(0.000)***			(0.000)***	
DVLG	0.021			0.001	

	(0.134)			(0.248)	
LIST		0.407			0.036
		(0.001)***			(0.000)***
UNL		0.031			0.018
		(0.000)***			(0.003)***
ROA	0.916	0.862	0.930		
	(0.171)	(0.199)	(0.167)		
SIZE	0.205	0.185	0.186		
	(0.153)	(0.199)	(0.200)		
LEV	0.034	-0.032	0.013		
	(0.836)	(0.847)	(0.937)		
AGE	0.038	0.042	0.046		
	(0.138)	(0.097)*	(0.072)*		
AUD	0.536	0.429	0.645		
	(0.316)	(0.419)	(0.228)		
Year Effect	Yes	Yes	Yes		
Industry Effect	Yes	Yes	Yes		
R^2	0.062	0.065	0.040	0.033	0.031
F-Stat	51.69	48.80	30.10	18.73	17.19
Prob. (F.stat)	0.000***	0.001***	0.026**	0.000***	0.000***

Note: *, **, ***, represent significance at 10%, 5%, and 1%, respectively.

Table 6. Further analysis

Variable	**Sensitive Industry**			**Non-Sensitive Industry**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
DOM	0.016			0.019		
	(0.073)*			(0.152)		
DVLD	0.020			0.049		
	(0.085)**			(0.004)***		
DVLG	0.022			-0.110		
	(0.277)			(0.048)*		
LIST		0.026			0.033	
		(0.053)*			(0.022)**	
UNL		0.021			0.015	
		(0.051)*			(0.121)	
ROA	2.659	2.517	2.620	0.527	0.476	0.504
	(0.068)*	(0.084) *	(0.072)*	(0.429)	(0.475)	(0.450)
SIZE	0.097	0.073	0.102	0.156	0.127	0.117
	(0.537)	(0.646)	(0.517)	(0.364)	(0.461)	(0.500)
LEV	0.394	0.338	0.198	0.001	-0.064	-0.018
	(0.679)	(0.722)	(0.835)	(0.997)	(0.664)	(0.898)
AGE	0.054	0.055	0.056	0.005	0.018	0.026
	(0.043)**	(0.036)**	(0.034)**	(0.846)	(0.541)	(0.375)
AUD	0.221	0.584	0.177	0.431	0.541	0.738
	(0.707)	(0.924)	(0.760)	(0.525)	(0.418)	(0.267)
R^2	0.035	0.038	0.028	0.044	0.038	0.044
F-Stat	16.41	14.11	9.97	13.68	11.06	8.51
Prob. (F.stat)	0.037**	0.049**	0.076*	0.090*	0.081*	0.091*

Note: *, **, ***, represent significance at 10%, 5%, and 1%, respectively.