

## Government Ownership, International Operations, Board Independence and Environmental Disclosure: Evidence from Asia–Pacific

Luluk Muhamatul Ifada<sup>1✉</sup> and Maya Indriastuti<sup>2</sup>

<sup>1,2</sup>Department of Accounting, Faculty of Economics, Universitas Islam Sultan Agung  
Jl. Raya Kaligawe Km. 4 Semarang 50112, Indonesia

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### Abstract

**Purpose:** This study examines the relationship between government ownership, international operations, and board independence as an independent variable on environmental disclosure in public companies in Asia Pacific emerging markets.

**Method:** This study used a purposive sampling method for 53 companies from 76 emerging market public companies in the Asia Pacific with an environmental disclosure score in 2018, with cross-section data. This study used secondary data that were processed by the Ordinary Least Square (OLS) method as the main research method, and showed a significant positive relationship.

**Findings:** Government ownership, international operations, board independence, have a positive effect on environmental disclosure. Government ownership has a positive effect on environmental disclosure, meaning that companies with government ownership can be emphasized to comply with environmental regulations with better environmental disclosure. International operations positively affect environmental disclosure, meaning that companies operating internationally are more proactive in social and environmental responsibility, which can increase the interest of companies to make environmental disclosures. Board independence positively affects environmental disclosure, indicating that board independence allows a focus on long-term environmental investment through corporate environmental disclosure.

**Novelty:** The originality of this study examines emerging market public companies throughout developing countries in the Asia Pacific. This is to capture the context of environmental disclosure among developing countries.

**Keywords:** *Government Ownership, International Operations, Board Independence, Environmental Disclosure, Asia–Pacific*

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## INTRODUCTION

A healthy environment plays a vital role in people's lives. The global risk report, first published by the (Granados Franco, 2020), reports that global risk tops the list predicted in terms of probability, all of which are connected to the environment. Awareness of this environmental issue has increased significantly in the last few years of this decade (Ham et al., 2016). Cases of environmental damage in Indonesia have resulted from the company's operations, such as

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author (✉)

E-mail: [luluk.ifada@unissula.ac.id](mailto:luluk.ifada@unissula.ac.id)

the coal mine in South Kalimantan at PT M, which destroys nature and threatens the function of the natural water aquifer, which is used to distribute water to the surrounding community. In addition, in Toba Regency, North Sumatra, some companies have polluted the environment for 34 years. These problems can affect the company's daily operations, and the community feels the pollution caused by the company's activities. Corporate organizations or public sector organizations cannot damage the environmental quality of their business activities. Paying greater attention to environmental aspects may result in developing standards and guidelines related to environmental disclosure to improve the quality of information disclosed by companies (Alazzani and Wan-Hussin, 2013). Therefore, the quality of the company's environmental disclosure must consider it and several essential aspects, company's environmental disclosure can be influenced by several factors inherent in each company's characteristics (Gantyowati and Agustine, 2017).

The application of environmental disclosure, namely, the process of communicating the environmental impact on the company and financial accounts to shareholders. Environmental disclosure is needed by several wider stakeholders, not only by investors. Companies and stakeholders must pay attention and understand various environmental, social, corporate governance, and economic issues by combining and addressing views and concerns in the decision-making process. According to Ghazali and Chariri (2014) environmental disclosure is a process used to express information about company activities and the impact on the social conditions of society and the environment. Maulia and Yanto (2020) believed that the practice of environmental disclosure is a managerial tool for companies to avoid environmental and social conflicts to be seen as a company that is responsible to the public to explain the good and bad social and environmental impacts caused by the company. Environmental disclosure has two characteristics. The first is voluntary; namely, although environmental and social disclosure standards have been developed, there are still no standard guidelines regarding environmental disclosure information standards in the Indonesian government. The second is mandatory from regulations that require companies to provide environmental and social responsibilities such as submitting information on Corporate Social Responsibility (CSR) reports.

Environmental accounting includes of monitoring, measuring, and reporting environmental information, namely information about the company's impact on the environment. The purpose of environmental accounting is to improve the company's environmental performance and long-term environmental sustainability. Environmental accounting enhances the company's existing environmental management system, and therefore the development of environmental accounting can be considered as a new instrument of environmental management (Schaltegger et al., 2008). The goal of the prominent company is not only to earn a profit (Muhimatul et al., 2019). Baldini et al., (2018) stated that in recent years, companies felt pressure to conduct environmental disclosure. Companies with high environmental performance conduct numerous environmental disclosures, which is possible owing to economic benefits obtained from the announcement of positive news (Tadros and Magnan, 2019). Hummel and Schlick (2016) expressed that a company's environmental disclosure can be informative and reliable. Lu et al., (2020) proved that environmental information disclosure can encourage export decision making. In other words, environmental information disclosure can contribute to company sales; thus, a company's environmental disclosure efforts are inevitable. Such efforts can be related to the institutional pressure experienced by a company. Delmas and Toffel (2004) found that high environmental responsibility is a standard among companies that are subject to institutional pressure, such as multinational companies, as a result of their international reputation. Ham et al., (2016) stated that environmental issues are a critical issue for companies, public sector organizations, and the international community. In this case, companies face public pressure, for accountability more intense than before (van de Burgwal and Vieira, 2014). Thus, to gain legitimacy from stakeholders, companies must have environmental accountability transparency (Angela and Handoyo, 2021). Such companies communicate their environmental responsibility through environmental disclosure. Delgado-Márquez et al., (2017) proved that a company's international position has a

positive effect on its environmental disclosure. By contrast, Delgado-Márquez et al., (2017) and Zhao et al., (2014) stated that companies operating internationally (large international firms) face intense pressure from stakeholders from their negative contributions to the environment, which can damage their corporate environment-related reputation.

Several studies on environmental disclosure show that fines related to the environment or legal processes for environmental violations can increase environmental disclosure (Neu et al., 1998). Berthelot et al., (2003) found that media pressure, information costs, proprietary costs, and firm size can affect a firm's environmental disclosure. In terms of the relationship between institutional pressure and environmental disclosure, the emergence of pressure on companies is one of the factors influencing them to improve their environmental disclosure. Haque and Islam (2015) determined that the pressure exerted by the government, nongovernment organizations (NGOs), the media, and institutional investors has a positive effect on the Carbon Disclosure Project. Cormier and Gordon (2001) examined the media exposure, imitation (imitating other companies' environmental programs), and routine (previous environmental disclosure implementation) of companies' environmental disclosure. Both studies entail future research on industry membership influencing environmental disclosure (Cormier and Gordon, 2001) and stakeholder pressure influencing social and environmental disclosures in general. A research gap exists regarding the effect of institutional pressure on environmental disclosure identified through three mechanisms causing institutional isomorphism, namely, coercive pressure, mimetic pressure, and normative pressure. In terms of intended institutional pressure, according to DiMaggio and Powell (2002), institutional theory predicts that companies will react to institutional pressure due to coercive, normative, and mimetic pressures.

Environmental investment is necessary to increase environmental disclosure. Environmental investment challenges in developing-country markets, or emerging markets, differ from those in developed-country markets because of the nature of the market economies of developing countries (Gorte and Hasevlat, 2015). Furthermore, Gorte and Hasevlat (2015) stated that the industry production process can have an impact on environmental and social hazards. This impact is highly regulated in developed markets but may not be well controlled in emerging markets. The development of companies with an environmental disclosure score among developed-market companies and emerging-market companies in Asia-Pacific demonstrates a significant difference. Based on 2019 data from Bloomberg, we determine that the number of companies with an environmental disclosure score is only 0.429% (76 out of 17,680 companies) in emerging markets and 2.36% (367 out of 15,547 companies) in developed markets. This finding shows that the proportion of companies with an environmental disclosure score in developed markets is 7.23 times higher than that in emerging markets. Furthermore, the number of companies with an environmental disclosure score in emerging markets is 0.41% of the total number of companies. This figure can be used to recommend related parties to improve environmental accountability, as stated by Jasch and Savage (2008) and Schaltegger et al., (2008) through proactive environmental accountability initiatives by companies.

This paper is important for some reasons. First, providing insight into the low environmental disclosure practices of all emerging market public companies in the Asia Pacific. Second, this paper used institutional theory as a comprehensive approach to explaining environmental disclosure practices. In terms of institutional theory, this study considers company activities as a reaction to external and internal pressures and incentives. The use of this theory has the potential to help and provide greater insight into environmental disclosure practices given the differences in results from previous studies. Third, the importance of environmental disclosure and the lack of extensive research examining on mimetic, coercive, and normative pressures on emerging market companies in the Asia-Pacific. This study has a contribution, including to understand potential impediments when presenting the commitment to report to all stakeholders and guarantee reporting quality. (Clarkson et al., 2008; Caesens et al., (2014) stated that environmental reporting in some countries remains voluntary, with low levels of transparency in emerging markets.

This supports the statement by (Abdullah et al., 2020), that the environmental goals (especially maintaining sustainability) in most of the companies that are members of this emerging market are not regulated. Besides, this study is considered important because it raises environmental issues that support the Sustainable Development Goals program in the United Nations Division for Sustainable Development (UN DSD).

This study measures all research variables including environmental disclosure scores, with secondary data from Bloomberg sources. Bloomberg data are widely used in recent academic studies on environmental disclosure (Qiu et al., 2016; Bernardi and Stark, 2018; Hassan and Romilly, 2018). Hassan and Romilly (2018) believed that Bloomberg data are comprehensive and available for large numbers of companies and countries in several periods.

Environmental reporting is a new management instrument that companies can supply the data to external stakeholders and improve internal processes, gain benefits, and guarantee their sustainability. Environmental reporting allows: (a) a greater difference from the company in terms of environmental risk, which is a goal sought by the business community; and (b) adequate accountability to society, which is a goal desired by regulatory agencies, non-governmental organizations, and society (Borges & Bergamini, 2005). Following the rationale adopted from the perspective of institutional theory, this study focused on institutional pressure whether it can strengthen companies to decide to improve environmental disclosure. Hossain et al., (2016) examined the perceptions of non-managerial stakeholders about the barriers to corporate social and environmental responsibility practices in a developing country context.

### **Theoretical framework and hypotheses development**

By following the rationale adopted from the perspective of institutional theory, this research focuses on whether institutional pressure can strengthen companies' decisions to improve environmental disclosure. Institutional theory is a branch of legitimacy theory that explains the institutional pressure experienced by organizations (Faisal et al., 2019). Institutional theory has been widely recognized as a common and powerful justification for organizational action (Tina Dacin et al., 2002). Facing pressures from the environment, organizations adopt structures and practices that are considered legitimate (Carpenter and Feroz, 2001).

Institutional pressure in this study was identified as the initial motivation for the company to increase environmental disclosure to ensure that its activities and performance can be accepted by the community. With the acceptance from the public, it is hoped that this can increase the value of the company so that it can increase company profits. The more companies play a role in the company's environmental activities, the more companies must disclose their environmental performance in their annual reports. This study examines environmental disclosure practices by examining the coercive, normative and mimetic pressures comprehensively through 6 indicators as stated by Cahaya et al., (2012). Coercive pressure is represented by government ownership, mimetic pressure is represented by indicators of international operations, normative pressure is represented by board independence. Research on institutional pressure and environmental disclosure has been conducted by several previous researchers, but the results were different. Therefore, this research will also contribute in the form of additional references to increase confidence in the effect of institutional pressure on environmental disclosure.

Studies on the effect of pressure on environmental disclosure, such as Vitolla et al., (2019), show that pressure from customers, environmental protection organizations, employees, shareholders, and the government determines integrated reporting (IR) quality. This type of pressure is seen from the assumption that customers, environmental protection organizations, employees, shareholders, and the government require nonfinancial information reporting, including environmental disclosure. IR is innovative and effective and includes financial and nonfinancial information. Deegan and Blomquist (2006) documented that pressure from NGOs causes changes in companies' environmental disclosure. Haque and Islam (2015) proved that pressure from NGOs, the media, institutional investors, and government agencies (regulators)

as stakeholders, influences companies' attention and responsibility to disclose climate change-related accountability. Lim et al., (2007) suggested that board independence is positively related to voluntary disclosure. Kathy et al., (2012) found that board independence has a positive effect on the number of environmental reports of a company.

International operations in the legitimacy theory embedded in the practice of accounting disclosure argue that companies can continue to ensure that company operations are considered legitimate, that is, operate within the values and norms of society. Thus, society claims that an organization will pursue a legitimacy strategy, including gaining and maintaining legitimacy, every legitimacy is threatened (Fadila, 2018). In companies operating abroad or in international operations, more emphasis will be placed on CSR than reporting sustainability reports. Therefore, international operations must provide environmental disclosures because they must be active in social and environmental responsibility.

Companies owned by the government can obey and comply with the rules because the board of directors in the company is the government's choice. Government companies have the characteristics of a public company. Therefore, the company's operations are free from anyone's supervision. Government companies are in the public spotlight compared to private companies because people think they have rights (Ghazali, 2007). Amran and Devi (2008) believed that government companies are not only focused on the prosperity of shareholders, but companies must be willing to bear the government's need to legitimize the company so that it is stable.

Amran and Devi (2008) defined coercive isomorphism as the role of the government. This type of pressure is coercive owing to its "forceful" nature. In terms of environmental regulations, the government can try to pressure companies to comply with environmental regulations and disclose related activities in their reporting through government ownership. Privatized government-owned companies are significantly affected by government decisions owing to government funding (Adnan and Nankervis, 2003), which illustrates coercive isomorphism by the government. Given that the government implements environmental regulations, companies with government ownership can be pressured to comply with environmental regulations, with improved environmental disclosure. Calza et al., (2016) examines environmental disclosures that focus on companies in Europe with the context of only one country. The government has influential stakeholders. When the government holds the company with more shares, it can reflect environmental and social responsibility in the social perception of the country (Naser et al., 2006) and (Lan et al., 2013). Haddad et al., (2015) and Khlif and Achek (2017) showed a positive relationship between the level of voluntary disclosure and government ownership. This is also supported by Amran et al., (2014) that there is a significant positive relationship between climate change disclosure practices and government ownership. Environmental disclosure is in line with institutional theory and government ownership. This study argues that the goal of government or government ownership is to consistently advance the disclosure practice because the government tends to provide liability to the environment. Therefore the hypothesis is proposed as follows:

### **H<sub>1</sub>: Government ownership has a positive effect on environmental disclosure**

Mimetic stress involves situations in which an organization mimics the practices of other institutional organizations (DiMaggio and Powell, 1983). Faisal et al., (2019) stated that mimetic pressure typically emerges when a company seeks to gain a competitive advantage. Cahaya et al., (2012) used international operations to represent mimetic stress. In response to this type of pressure, international companies began disclosing (voluntarily or otherwise) environmental information to increase transparency. Mimetic pressure can be interpreted as a situation in which a company considers meeting the expectations of market constituents. Wei et al., (2017) and Yang et al., (2018) determined that this type of pressure has a positive effect on environmental disclosure. Dupire and M'Zali (2018) expressed that pressure from competitors, especially those operating internationally who pay considerable attention to the environment, can increase a company's interest in conducting environmental disclosure. Companies operating internationally must be

able to adapt to culture and environment. There are several differences from customer needs to very different rules to regulate trade from one country to another to market products supervised by the international community. Companies operating internationally has the opportunity to gain more stakeholders. A large number of stakeholders in the company needs more emphasis on CSR. Furthermore, the company reports sustainability reporting. Regarding the institutional theory, when international operations are higher, companies need to be more proactive in social and environmental responsibility. Therefore, the hypothesis is proposed as follows:

### **H<sub>2</sub>: International operations have a positive effect on environmental disclosure**

Normative pressure refers to pressure arising from group norms to conduct certain institutional practices (Deegan 2007; DiMaggio and Powell, 1983). In terms of normative pressure, Darnall et al., (2010) explained that companies that fail to maintain satisfactory communication with stakeholders run the risk of ruining their positive reputation. This concept shows that a positive relationship exists between normative pressure and environmental disclosure communication with stakeholders. Companies conduct environmental disclosure to maintain their image in the eyes of their stakeholders. The message that companies wish to convey is that they manage the environment effectively, as expected by all parties. However, stakeholders' expectations of companies to pay attention to the environment are low; thus, companies do not demonstrate motivation, attention, and commitment to environmental disclosure. Experiencing pressure from stakeholders, companies must pay attention to environment-related information disclosure. McKendall et al., (1999) argued that independent commissioners will likely focus on long-term environmental investments and pressure management to not neglect such investments (such as by seeking firm environmental disclosure). Board independence can be a major factor for preventing managers from taking responsibility for the environmental impacts of their operations on stakeholders. Haniffa and Cooke (2002) claimed that independent board members determine a company's level of disclosure. Previous research strongly suggests that the higher the number of independent commissioners of a company, the higher the level of effective monitoring by the independent commissioners. Independent commissioners will likely be sensitive to social demands (Ibrahim and Angelidis, 1995) and promote socially responsible behaviors in a company (O'Neill et al., 1989). Based on these findings and arguments on independent commissioners, researchers expressed that commissioners with a substantial number of commissioners will likely objectively direct their knowledge and expertise toward monitoring environmental performance and pursuing available environmental opportunities through environmental disclosure.

Cui et al., (2020) found that board independence has positive effect on environmental disclosure, this study examined MNC companies in several countries, such as China, Japan, England, and the United States. Alipour et al., (2019) found that board independence has a positive effect on environmental disclosure quality (EDQ) and company performance. The remuneration of independent commissioners cannot be affected by the company's financial performance, but it is more likely to consider long-term sustainable development goals, including environmental and social responsibilities (Ibrahim et al., 2015). Commissioners will be more independent, proving their significant contribution to environmental disclosure and CSR (Thro, 2012). Under the institutional theory, independent commissioners are always independent and cannot be influenced by any relationship that can affect their decisions to improve company performance. Therefore, the board independence is more compliant with social and environmental regulations so that they will get rewards for legitimacy and company sustainability. Therefore, the hypothesis is proposed as follows:

### **H<sub>3</sub>: Board Independence has a positive effect on environmental disclosure**

## METHODS

### Data Collection Method

This study is an explanatory research, and the population was public companies in Asia-Pacific. Data for all the variables were collected from a Bloomberg data source. Purposive sampling was employed to select the sample. The inclusion criterion was public companies in emerging markets in Asia-Pacific, with consideration for the low number of companies with an environmental disclosure score in such markets. The number of samples that met this criterion was relatively small. According to Jayanti and Gowda (2014), in general, emerging markets lag behind developed markets in terms of environmental management. Jayanti and Gowda (2014) conducted research on sustainability, with an exclusive environmental focus on emerging markets.

Another criterion was that the sample companies must have complete financial and nonfinancial data, including government ownership, international operations, and board independence. From a total population of 17,680 emerging market public companies in the Asia Pacific and 76 emerging market public companies in the Asia Pacific, companies that have an environmental disclosure score were only 0.42 percent. Furthermore, the selected sample were 53 companies that had complete data because there are 23 go-public companies in developing country markets that had EDS information but did not have complete data.

### Data Analysis Technique

The data analysis technique used in this research was multiple linear regression analysis which is used to determine the effect government ownership, international operations, board independence on the dependent variable (environmental disclosure). This statistical application is suitable for cross-sectional data types and has independent variables on a non-metric or category (dichotomous) size scale which is categorized as a dummy variable, such as one of the data in this study Ghozali (2018).

$$ED = \alpha + \beta_1 GO + \beta_2 IO + \beta_3 BI + e \dots \dots \dots (1)$$

A statistical model aims to examine the relationship between the dependent variable and the independent variable. In this study, statistical calculation performed by using SPSS 26 (1)

Explanation :

$\beta_1$  = Government ownership

$\beta_2$  = International operations

$\beta_3$  = Board independence

ED = Environmental Disclosure

In addition, this study used some techniques as follows: descriptive statistics are generated from descriptive statistics for the variables presented in the descriptive statistics table in the form of maximum values, minimum values, average values, mean values, and standard deviation values. Testing classical assumptions such as normality, multicollinearity, heteroscedasticity. They are used in this study and can provide representative results (Blue: best, linear, unbiased, estimator). Conclusion Best, linear, unbiased, estimator can occur if the results say that the model is normally distributed, there is no multicollinearity and heteroscedasticity. Testing the hypothesis with the t-test. The t-test is to partially test whether there is an effect of the independent variable on the dependent variable. The test is univariately using the t-test method. The determination rate is 5 percent. The coefficient of determination is used to measure the ability of the model to explain variations in the dependent variable (Ghozali, 2018).

### Research Variables

The institutional pressure measurements were adopted from Cahaya et al., (2012) and presented in Table 1. In this study, the definition of environmental disclosure followed that of Hassan (2018); Sullivan and Gouldson (2012), stating that it is part of a company's responsibility to the environment, which can increase awareness of potential environmental risks and

**Table 1.** Institutional Pressure Measurements

Isomorphic Process	Measurement	References
Government ownership	$\frac{\text{Government shares}}{\text{Total shares}} \times 100$	Cahaya et al., (2012)
International operations	Number of company stock markets around the world	Cahaya et al., (2012)
Board independence	$\frac{\text{Number of independent commissioners}}{\text{Number of company board members}} \times 100$	Cahaya et al., (2012)

opportunities, especially those related to climate change, and improve a company's reputation through the utilization of a proactive approach. In this study, the environmental disclosure score, namely, the Bloomberg score, was used to determine a company's environmental disclosure. One reason for measuring a company's environmental disclosure using the Bloomberg environmental disclosure score was that it is objective, as it provides environmental information on 60 different environmental data points, including energy consumption and emissions, waste, environmental initiatives, and environmental policies (Qiu et al., 2016). The source data included company annual reports, press releases, sustainability reports, and third party research (Hassan & Romilly, 2018).

Environmental disclosure is represented by Bloomberg score based on a company's environmental disclosure level (Hassan, 2018). The Bloomberg environmental disclosure score is based on a company's level of environmental disclosure. This score is part of the Bloomberg ESG disclosure score, which quantifies companies' transparency in reporting environmental, social, and governance data and used in recent academic studies, such as Bernardi and Stark (2018); Nollet et al., (2016); and Qiu et al., (2016). The ESG score includes environmental, social, and governance measurements. Environmental disclosure is part of the environmental measurement. This variable is an indicator of environmental transparency. Environmental disclosure score = (environmental score disclosure/100). Bloomberg summarized companies' environmental disclosure score, and the higher their score, the more transparent their environment-related issues.

Multiple regression analysis was used to test the hypotheses. This statistical application is suitable for cross sectional data and has independent variables in a nonmetric or category-size (dichotomous) scale, which are stated as dummy variables, such as certain data in the study by Ghozali (2018).

## RESULTS AND DISCUSSION

### Descriptive Statistical Analysis

According to the Bloomberg data, 29 Asia-Pacific countries entered the emerging-market, namely, Bangladesh (BD), Brunei, Cambodia, China (CH), Cook Island, Fiji (FS), French Polynesia, India (IN), Indonesia (IJ), Kazakhstan (KZ), Kyrgyzstan (KB), Laos (LS), Macao (US), Malaysia (MK), Marshall Islands, Mongolia (MO), Myanmar, Nepal (NK), Northern Mariana Islands, Pakistan (PA), Papua New Guinea (AU), Philippines (PM), Samoa, Sri Lanka (SL),

**Table 2.** Sample Companies by Country

Country	Total	%
China	46	86.8
India	4	7.5
Indonesia	1	1.9
Thailand	2	3.8
Total	53	100



**Table 3.** Descriptive Statistics

<b>Variables and indicators</b>	<b>N</b>	<b>Mini- mum</b>	<b>Maxi- mum</b>	<b>Mean</b>	<b>Median</b>	<b>Standard deviation</b>
- Government ownership	53	0.0001	0.9634	0.3230	0.1197	0.3487
- International operations	53	2.0000	112.0000	16.1698	6.0000	24.4766
- Board independence	53	0.3333	0.6667	0.4181	0.3750	0.0901
- Environmental disclosure	53	7.7500	62.7900	20.9811	16.2800	13.7571

Tajikistan, Thailand (TB), Turkmenistan, Uzbekistan, and Vietnam (VN). Table 2 presents an analysis of the sample companies based on their country of origin in Asia–Pacific grouped into different emerging-market categories according to the Bloomberg data.

Table 2 shows that most of the 53 emerging-market companies were in China. The total number of sample companies in China was 46 out of 53 companies or 86.8%. The remaining 7.5%, or 4 (four) companies, were in India. Only 1 sample company, or 1.9%, was in Indonesia. The other sample companies were in Thailand (2 companies or 3.8%). These results show that the sample companies were in only 4 of the 29 countries in Asia–Pacific that entered the emerging-market in the Asia-Pacific. China was the dominant country, because it is currently intensifying its implementation of effective environmental policies and regulations through its “Environmental Protection Law” and “State Environmental Protection Administration” (Chang et al., 2015). This implementation was triggered by alarming environmental issues in the form of deteriorating health from CO<sub>2</sub> emissions, air pollution, and hazardous environmental waste (Shahab et al., 2018). The emergence of these issues resulted from the government’s excessive focus on economic growth (through massive production and manufacturing) at the expense of sound environmental policies, management, regulations, and performance (Wang et al., 2019).

The number of sample companies was analyzed using descriptive statistics. Table 3 presents the descriptive statistics of all the variables. However, the variable of institutional pressure with the industry type indicator was analyzed separately using descriptive statistics, as it used dummy variables.

Table 3 lists the descriptive statistics of the research variables for the sample of 53 companies. The government ownership, international operations, and board independence variable, which was the independent variable in this study, the dependent variable in this study was environmental disclosure. Table 3 also shows that the government ownership measured by government share ownership in companies (in percentage). The results indicate that the sample companies had the lowest government ownership at 0.01%. In other words, in some sample companies, the government shares were only 0.01% of the total company shares. By contrast, the highest government ownership in the sample companies was 96.34%, which means that the highest share ownership in the sample companies was nearly entirely dominated by the government, as it was close to 100%. Moreover, the mean value of government ownership in the sample companies was 32.30%. The international operations variable is measured by the number of stock markets, the lowest research result is 2%, while the highest score for international operations is 112%

The board independence was measured by the percentage of independent commissioners on a company’s board. The average board independence in the sample companies was 41.81%. The lowest board independence score was 33.33%, whereas the highest board independence score was 66.67%. The environmental disclosure variable was measured by the environmental disclosure score from the Bloomberg data. According to Table 3, the sample companies had an environmental disclosure score of 20.98 on average. The lowest environmental disclosure score was 7.75, whereas the highest environmental disclosure score was 62.79.

The classical assumption test consists of normality testing, multicollinearity testing, and heteroscedasticity testing. The results of the normality testing in Table 4 (Normality test

**Table 4.** Hypothesis Testing Results

Model	Multicollinearity		Heteroscedasticity	Standardized Coefficients Beta	t	Sig.
	Tolerance	VIF				
(Constant)			.049		1.415	.164
Government ownership	.845	1.184	.955	.167	1.795	.080*
International operations	.731	1.369	.791	.485	4.857	.000**
Independence of board	.682	1.466	.281	.214	2.074	.044**
Normality test Statistic						.080
Asymp. sig. (2-tailed)						.200 <sup>c,d</sup>
F-test						11.687
p-value						0.000
R-squared						.203
Adjusted R-squared						.058

\*\*\*Sig. at 1%

\*\* Sig. at 5%

\* Sig. at 10%

statistics and Asymp. sig. [2-tailed] rows) explain that the data were normally distributed, with a Kolmogorov–Smirnov statistical test value of 0.080 and a significance level of 0.200, which is greater than 0.05. The multicollinearity column in Table 4 presents the multicollinearity test, indicating that all the variables had a tolerance value above 0.10 and a VIF value below 10. Thus, no signs of multicollinearity were observed (Ghozali, 2018). The heteroscedasticity column shows that heteroscedasticity did not occur, as no variables had a significance value below 5% (Ghozali, 2018). The results of the classical assumption test demonstrate that they met the criteria. The F-test value was 11.687, with a p-value of 0.000. The adjusted coefficient of determination (adjusted R-squared) of 0.058 and R-squared of 0.203 indicate that 20.3% of the variation in the dependent variable was explained by the variation in the independent variable.

Hypothesis testing was conducted by assessing the level of significance and direction (positive/negative) of the standardized beta coefficients of each equation (Ghozali, 2018). Table 4 shows that  $H_1$ ,  $H_2$ , and  $H_3$  were accepted. The first hypothesis, stated that government ownership has a positive effect on environmental disclosure. In Table 4, the government ownership had an effect on environmental disclosure, with a coefficient of 0.167 and t-count of 1.795. The positive effect of the government ownership on environmental disclosure was significant at the 0.080 level. This result means that government ownership had a positive effect on environmental disclosure at the 10% confidence level.

Table 4 also shows the acceptance of  $H_2$ . For  $H_2$ , the international operation was accepted at the 1% significance level. The international operations had a significant positive effect on environmental disclosure.  $H_2$  can be explained by the regression coefficient of type of industry on environmental disclosure of 0.485, a t-count of 4.857, and significance of 0.000. The international operations coefficient of environmental disclosure was 0.485, t-count was 4.857, and significance

### Summary of Hypothesis Testing

Table 5 presents a summary of the hypothesis test results based on the above discussion

**Table 5.** Summary of Hypothesis Testing

	Hypothesis	Results
H <sub>1</sub>	government ownership has a positive effect on environmental disclosure	Accepted
H <sub>2</sub>	international operation has a positive effect on environmental disclosure	Accepted
H <sub>3</sub>	board independence has a positive effect on environmental disclosure	Accepted

was 0.000.

In H<sub>3</sub>, the indicator of focus on the board independence was accepted at the 5% significance level. Board independence had a significant positive effect on environmental disclosure. Analysis of the data for H<sub>3</sub> is presented in Table 4. The board independence indicator for environmental disclosure had a coefficient of 0.214, a t-count of 2.074, and a significance of 0.044. The level of significance of the board independence was below 5% in a positive direction; thus, the board independence was accepted. Hence, the hypothesis that board independence has a positive effect on environmental disclosure, with the 5% significance level, was accepted.

These results indicate that H<sub>1</sub>, H<sub>2</sub>, and H<sub>3</sub> were proven empirically, which means that empirical the government ownership, international operations, and board independence indicator had a positive effect on environmental disclosure. The more the government ownership in a company, the more its environmental disclosure. As companies operate internationally, the increasing number of independent board members will also have a positive effect on environmental disclosure. Government ownership can be used to force companies to increase their environmental disclosure. Likewise, international operations can be used to force companies to expand their environmental disclosure. Moreover, board independence can increase environmental disclosure.

### Discussion

The main imperative finding in this study is the substantial positive effect of the three types of institutional pressure. This finding means that public companies whose shares are owned by the government conduct environmental disclosure. In other words, pressure or coercion from the government on companies to effectively conduct environmental disclosure exists. These results are consistent with those of Eng and Mak (2003); Firer and Williams (2005), stating that the government exerts pressure on the companies it owns to conduct environmental disclosure. Amran and Devi (2007) and Haji (2013) showed that government pressure has a positive effect on corporate social responsibility (CSR) disclosure. This finding contradicts that of Ali et al., (2017), stating that compared with developed countries, in developing countries, the government is not a determining factor of CSR disclosure. The conclusions of this study are the same as those of Cahaya et al., (2012) that the government exerts a strong influence on government-owned companies. This finding implies that governments in emerging markets are trying to take environmental issues seriously or at least force the companies they own to effectively conduct and communicate their environmental activities.

A company's international operations are very important and exert a positive influence on environmental disclosure. This finding is consistent with that of Cahaya et al., (2012); Cahaya (2008). H<sub>2</sub> proves that companies with international operations conduct considerable environmental disclosure. Furthermore, companies operating in numerous countries feel the need to conduct environmental disclosure as their environmental responsibility, because the scale of their international operations receives substantial attention from the international public. In line with mimetic isomorphism in institutional theory, to compete with their international competitors, companies imitate their environmental disclosure practices. Therefore, this finding

implies that companies operating internationally must seriously consider their social responsibility in the form of environmental concerns and environmental disclosure to survive in the global market. The result of H<sub>2</sub> is also consistent with that of Ali et al., (2017) that in emerging markets, CSR reporting is highly influenced by external forces with internationalization, which causes differences with developed countries. Companies in emerging markets receive little pressure from the public regarding CSR disclosure.

A board consisting of independent members is a significant predictor of environmental disclosure. Companies linked to government ownership can create pressure on companies because the government is responsible to the public or the environment (Ghazali, 2007). Based on the statement of (Saraswati et al., 2020), companies with government ownership carry out more CSR activities than companies with no relationship with the government. According to Dieleman and Widjaja (2019), the government can play a dominant role because its authority can control resources, especially in developing countries. This finding shows that normative pressure on board independence has a positive effect on environmental disclosure. Companies with high board independence have superior environmental disclosure and are highly effective. H3 is proven and supports the study of Kathy Rao et al. (2012) but contradicts that of Nurhayati (2005) and Cahaya et al., (2012).

## CONCLUSION

This study provides several new contributions to business strategy and the environmental literature by examining the role of government ownership, international operating, and board independence variable that have a positive effect on environmental disclosure. By using data with the criteria for an emerging market public company in the Asia Pacific, considering the low number of companies that have environmental disclosure scores on emerging markets in the Asia Pacific in 2018, this study found that of government ownership, international operating, and board independence have a positive effect on environmental disclosure. This finding is in line with the predictions of the theoretical framework of this study that draws insights from the perspectives of institutional theory and institution theory.

The government ownership variable has a positive effect on environmental disclosure, which illustrates the coercive isomorphism by the government. Companies owned by the government are more highlighted by the community. Government-owned companies are considered to focus on the prosperity of shareholders and are willing to meet the government's needs and legitimacy. Government environmental regulations can pressure companies to comply with them and disclose related activities in reporting. Therefore, companies that hold the majority share of the government will provide more environmental and social responsibility because the government provides liability to the environment.

The second, international operation variable has a positive effect on environmental disclosure. International operations define mimetic pressure as a situation in which a company meets the expectations of its constituent markets. Companies with international operations must adapt socially and culturally, and there are several differences from customer needs to country regulations that the international community has monitored. International operations provide an opportunity to get many stakeholders. It can emphasize companies to do CSR, then report sustainability reports. Companies need to be more proactive on social and environmental responsibility.

The third, board independence variable has a positive effect on environmental disclosure. This concept shows a positive relationship between normative pressure and environmental disclosure communication with stakeholders. The company makes environmental disclosures to maintain the image in the eyes of the company's stakeholders. An independent commissioner may focus on long-term environmental investments and management so as not to neglect investments, such as seeking corporate environmental disclosures. The company's financial performance cannot influence independent commissioners, but it is possible to consider more

socially and environmentally responsible long-term sustainable development goals.

The findings of this study have several implications as follows: First, for regulators and the government with environmental management regulations. More detailed regulations organizing environmental management can make companies put pressure on institutions, especially related to government ownership variable, industry type variable, and board independence variable to increase more resources to minimize environmental impacts and costs. This will increase the implementation of EMA in the company and is expected to improve performance and environmental disclosure. Therefore, this study can become a reference for regulators in developing regulations related to environmental management. Second, for companies and managers in the implementation of good environmental management. The results of this study can be applied to companies to respond to institutional pressure on the environment. Companies can determine by using government ownership, international operating, and board independence variable in developing approaches and determining appropriate policies to improve performance and environmental disclosure. Third, for stakeholders, with the hope that there will be environmental management in business activities.

Some limitations of this research includes the generalization must be carried out carefully since the population of this study is very particular with similarities in emerging markets of Asia Pacific and over nations that have great diversity in terms of economic structure and level of development. Moreover, this study is cross-sectional in an area that is quite wide and has specifications for emerging markets.

Future researches are suggested to develop longitudinal data to develop more detailed information so that it is more relevant to sustainable development. Future research should explore mediating factors that can increase the emergence of institutional pressure and also further increase environmental disclosure. For example, from the company's environmental performance factors, environmental accounting costs, and so forth. With the existence of institutional pressure, it will be able to increase environmental disclosure if institutional pressure can move the company to improve its environmental performance so that it will have a better environmental disclosure.

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