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The Influence of Managerial Ownership and Firm Size on Corporate Environmental Disclosure

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ABSTRACT

Companies in the primary and chemical industry sector are involved in producing chemical substances. These industries process raw materials obtained through mining, agriculture, and other sources into materials, chemical substances, and chemical compounds to become final and intermediate products used in different industries. This study aims to investigate and prove the effect of managerial ownership and firm size on corporate environmental disclosure. The ratio used in this study is the percentage of managerial shares, total company assets, and corporate environmental disclosure reports.

This is quantitative research with the type of ex-post facto (cause and effect) research. The population of this study is a manufacturing company in the primary and chemical industry sector listed on the Indonesia Stock Exchange. The sample was selected using a purposive sampling method to obtain ten samples of primary and chemical industry companies from 2017 to 2021. The data analysis method used in this study was Eviews 12 software.

The results of the model estimation test show that the selected model, the Random Effect Model (REM), becomes a regression analysis method. This study indicates that partially managerial ownership does not significantly affect environmental disclosure. Moreover, firm size gives positive findings and significantly affects corporate environmental disclosures. The R-Square value of this study is only 3.8% because the results of the F test state that managerial ownership and simultaneous firm size do not significantly affect corporate environmental disclosures.

Keywords: environmental disclosure; firm size; managerial ownership

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INTRODUCTION

Following the advances in technology, information, and globalization flow, companies try to always follow market demands dynamically. In addition, companies are not only required to seek profit. Moreover, they must also pay attention to social responsibility in the community. From an economic point of view, the company is expected to get the highest profit. However, from the social aspect, companies must contribute to society by improving the quality of society and the environment. According to (Andreas et al., 2015), companies that pay attention to corporate social and environmental responsibility can improve their reputation from the trust of the surrounding community, consumers, and investors towards company performance. It will also make a good impact on company sales which will ultimately increase company profits. In Indonesia, manufacturing companies dominate environmental pollution cases. It is supported by the phenomena of natural damage and complaints about environmental pollution in several media (Kamil & Primasari, 2021).

Several complaints regarding environmental pollution cases by manufacturing companies in the primary industrial sector and supported by the media also highlight this chemical substance. Head of the DKI Environment Agency, Andono Warih, stated: "We were subject to administrative sanctions against PT Mahkota Indonesia on the basis that the emission in question violated, exceeded the established quality standards." This was conveyed when the DKI Jakarta Environment Agency conducted inspections of two factories whose chimneys were proven to have polluted and polluted the air. The two factories proven to have violated the DKI Jakarta governor's regulations are PT Mahkota Indonesia and PT Hong Xin Steel (Alfons, 2019). Financial accounting standards in Indonesia do not require companies to disclose social information, especially information regarding corporate responsibility for the environment. Therefore, the case occurs in practice. Companies will consider the costs and benefits that will be obtained when they decide to disclose social information. As a result, from year to year, there is an increase in cases regarding environmental damage received by the Ministry of Environment. In 2017, there were 529 cases received. In 2018, it increased to 902 cases received. In 2019, there were 1,426 cases received (Kamil & Primasari, 2021).

The object of this research is a firm engaged in primary and chemical industries listed on the IDX. Companies in the primary and chemical industry sector are involved in producing chemical substances. These industries are involved in processing raw materials obtained through mining, agriculture, and other sources into materials, chemical substances, and chemical compounds that can be final products or intermediate products used in other industries. According to Deputy IV of the Minister of Environment for the Management of B3 Waste and Garbage, Dra. Masnellyarti Hilman, M.Sc as the Ministry of Environment, in Pramesti's writing, said that industry in Indonesia is the most significant contributor to B3 waste compared to households. The industries in Indonesia that are the most dangerous in producing B3 waste are the oil and gas and the chemical industries. These industries are widely spread in Eastern Indonesia. Concerning B3 waste management among industries, out of 1,002 industries, only 62% have complied with proper environmental standards (Hakim, 2016). In addition, in the 2017-2021 period, it is known that there were various reports regarding environmental pollution cases and inconsistent increases in the value of the Environmental Quality Index.

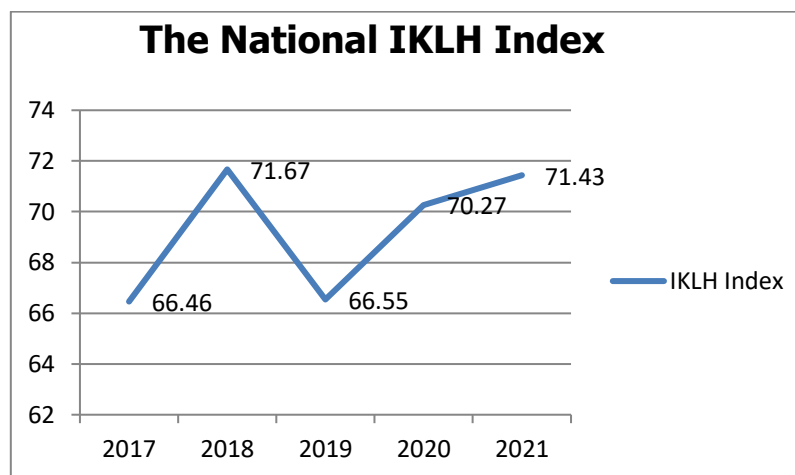


Figure 1. 2017-2021 Environmental Quality Index Values (*Indeks Kualitas Lingkungan Hidup/IKLH*)

Sigit Reliantoro, Director General of Pollution Control and Environmental Damage, Ministry of Environment and Forestry, revealed that the Environmental Quality Index in 2018 increased by 5.21 from the previous year. In 2017, the National IKLH score is 66.46 whereas in 2018 the National IKLH score is 71.67. However, in 2019 the IKLH value decreased from 2018 to 5.12. IKLH value in 2019 is 66.55. In 2020, IKLH experienced an increase again which is 3.72. The national IKLH score in 2020 is 70.27. In 2021 the national IKLH value is 71.43. It means the IKLH score in 2021 also increased by 1.16 points from the previous year's which is 70.27. It is due to an increase in the value of the Air Quality Index and Seawater Quality Index. Twenty-eight provinces have succeeded in achieving the 2021 IKLH target, while six provinces have yet to be able to reach the target. The provisional IKLH value for 2021 is in the excellent range (Kehutanan, 2021). Based on the background of the problems described above, the researcher is interested in conducting further research on corporate environmental disclosures by raising the topic "The Influence of Managerial Ownership and Firm Size on Corporate Environmental Disclosure."

Environmental Disclosure

According to (Ghozali & Chariri, 2007), corporate environmental disclosure is a company's process of disclosing information related to company activities and their impact on social communities and environmental conditions. This environmental disclosure is the output of Social Responsibility Business Practices. Social Responsibility Business Practices are activities of adjusting and implementing business and investment operational practices that support improving people's welfare and protecting the environment, for example, building waste treatment facilities, choosing suppliers, and choosing environmentally friendly packaging.

The indicators used in environmental disclosure in this study were the Global Reporting Initiative (GRI) standard for the environmental category, which consisted of 30 items in its reporting. The measurement of the variable used a score disclosure dummy variable. If the company discloses an item, it is given a score of 1 or 0. If the company does not disclose an object, the calculation result of environmental disclosure is the result of the sum of the scores of the items disclosed.

$$\text{CED} = \frac{\text{Total items disclosed by the company}}{\text{The complete total of environmental disclosure items}}$$

Managerial Ownership

According to (Nursanita et al., 2019), managerial ownership is the owner/shareholder of the company's management who actively takes a role in making company decisions. According to (Sintyawati & S, Dewi, 2018), managerial ownership, namely shareholders, in this context also means owners from management who actively participate in decision-making in the company concerned. Significant managerial ownership within the company will be effective in supervising the company's activities. Managerial ownership will encourage management to improve company performance, deal with environmental problems, and make organizational policies because they own the company.

The indicator used to measure managerial ownership is the percentage of shares owned by management to the total number of shares owned by the company (Romadoni & Pradita, 2020).

$$MO = \frac{\text{Percentage of shares owned by management}}{\text{Total number of shares owned by the company.}} \times 100\%$$

Firm Size

According to (P. M. Sari et al., 2020), firm size is described as the size of a company shown in total assets, number of sales, average sales, and total assets." (Krisnando & Novitasari, 2021) stated that firm size is a scale where companies can be classified in various ways. Firm size is divided into three categories, namely: large companies, medium companies, and small companies.

The previous research that was done by (Ningrum et al., 2021) classified firm size into Small Business Administration (SBA), namely:

Table 1. Criteria of firm size

Firm Size	Employment Size	Asset Size	Sales Sizes
Family Company	1-14	Under \$100,000	\$100,000-500,000
Small Company	5-19	\$100,000-500,000	\$500,000-1million
Intermediate Company	20-99	\$500,000-5million	\$1million-10million
Large Company	100-499	\$5-25 million	\$10million-50 million

Sources: Adaptation from Small Business Administration (Restuwulan, 2013)

The indicator used to calculate firm size is as follows:

$$SIZE = LN (\text{Total Asset})$$

Agency Theory

According to (Siallagan, 2020), the agency relationship theory requires delegation of authority either in whole or in part from the principal to the agent. The principal monitors the agent's performance through an accountability mechanism. Agency theory emphasizes the importance of company owners (shareholders) handing over company management to professional staff called agents who understand better how to run the day-to-day business. In this theory, accounting is a system of accountability. Accounting is used as a medium to account for the management of a company or institution to its employer (principal) (Ervina et.al., 2022). The purpose of environmental disclosure

in financial accounting is as a side of the agent's responsibility to the principal for the impact of the company's operations. In this context, accounting in agency theory is a decision-making side.

Stakeholder Theory

According to (Anggusti, 2019), the stakeholder theory states that the primary obligation of management is not to maximize the company's financial success but to ensure its survival by balancing the conflicting demands of various stakeholders. The company must be managed by its stakeholders, customers, suppliers, owners, employees, and local communities.

Based on the Decision of the Constitutional Court of the Republic of Indonesia No. 53/PUU-VI/2008, company management solely aimed at the interests of shareholders is not consistent with the principles of economic democracy adopted by the State of Indonesia. The company's management must be directed to the welfare of the Indonesian people. Therefore, the company must be managed by considering the interests of all stakeholders, including the employees of the company. Management of the company that pays attention to the interests of all stakeholders is not only the company's moral responsibility, but it is also a legal obligation carried out by the company.

According to (Freeman & McVea, 2001), the primary concern of the stakeholder approach is the company's survival, which is stated by Freeman "attainment of organizational goals." Based on the understanding above, it can be concluded that stakeholder theory is the company's operational activities that are not only beneficial to the entity itself. Furthermore, it must also be beneficial to stakeholders (shareholders, creditors, government, society, consumers, suppliers, analysts, and other parties).

Accounting Sharia Theory

Sharia accounting deals with recognizing, measuring, and recording transactions and fairly disclosing the rights and obligations (Pratama et al., 2017). The concept of accounting in Islam emphasizes accountability based on the Qur'an. Caring for the environment is one form of manifestation of corporate responsibility in disclosing reports about its environment (Muhammad, 2022). The importance of environmental issues was then initiated by the presence of views on environmental jurisprudence (Fiqh Al-Biah). The fiqh is a set of rules for human ecological behavior established by competent scholars. In addition to hadiths, environmental jurisprudence is also sourced from the Al-Qur'an, one of which is in fragments of the firman Allah QS: Al-A'raf: 85.

... وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا ۗ ذَلِكُمْ خَيْرٌ لَّكُمْ إِن كُنتُمْ مُؤْمِنِينَ ۝

Meaning: "Don't do damage on Earth after (created) well. That is better for you if you are believers." (QS: Al-A'raf: 85).

Based on the explanation above, Islamic accounting theory recommends recording all types of transactions involved, no matter how small the nominal. Here with the aim and intention to avoid disputes in the future and accordance with Sharia accounting principles, namely: Accountability, fairness, and truth.

Green Accounting

Green accounting is an accounting science that recognizes the existence of environmental cost factors in the results of company activities. Green accounting is a combined approach that provides a data transition from financial accounting and cost accounting to improve material efficiency and reduce environmental impacts as well as risks while reducing environmental protection costs (Abdullah, 2020).

The concept of green accounting describes efforts to combine environmental benefits and costs into making economic decisions (Abdullah, 2020). Environmental accounting can be a tool for environmental management and communication to the public regarding operational activities carried out by companies. Some companies or industries have been responsible for the surrounding environment and society. However, currently, there is no standard regarding environmental accounting disclosure items. Moreover, several institutions have issued environmental disclosure recommendations, including the Economic and Social Council of the United Nations (ECOSOC-UN), Ernst and Ernst, the Institute of Chartered Accountants in England and Wales (ICEAW), and the Global Reporting Initiative (GRI). Voluntary factors dominate the motivation behind companies to report environmental problems.

Managerial Ownership towards Corporate Environmental Disclosures

According to (Siallagan, 2020), the agency relationship theory requires delegation of authority either in whole or in part from the principal to the agent. The principal monitors the agent's performance through an accountability mechanism. Agency theory emphasizes the importance of company owners (shareholders) handing over company management to professional staff called agents who understand better how to run the day-to-day business. In this theory, accounting is an accountability system. Accounting is used as a medium to account for the management of a company or institution to its employer (principal).

Managerial ownership can be taken as a consideration in environmental disclosure. Based on agency theory, when managerial ownership of a company is high, it can reduce agency problems in the company. Agency issues are conflicts of interest inherent in any relationship where one party is expected to act in the other party's best interest. In companies, agency problems usually refer to conflicts of interest between management and shareholders. If the company's management has share ownership, the company's management will automatically be more focused and concerned with company performance and environmental disclosure. The manager will be careful in making company decisions because it will affect himself as the company's shareholders. Disclosure of the company's environment that is high and productive will make a sustainable company and prevent costs that will be incurred later by the impact of the company's operational activities on the environment.

This research also carries the theory of Sharia accounting where several companies whose shares are registered as shares must undoubtedly carry out the concept of Sharia accounting. Sharia accountants has several Sharia principles that support this research. Sharia accounting deals with recognizing, measuring, and recording transactions and fairly disclosing their rights and obligations (Pratama et al., 2017). The more informative a manager provides information about the company; the more manager automatically fulfills principles that align with Sharia accounting theory. It is in line with research conducted by (Oktafianti & Rizki, 2015) and (G. A. C. N. Sari et al., 2018) which found that managerial ownership had a positive and significant effect on environmental disclosure.

Based on this description, the hypotheses in this study can be formulated:

Ha: Managerial ownership has a positive and significant effect on environmental disclosure.

H0: Managerial ownership has no significant effect on environmental disclosure.

Firm Size Towards Corporate Environmental Disclosures

According to (P. M. Sari et al., 2020), firm size can describe the size of a company as indicated by total assets and total sales. It also aligns with stakeholder theory which states stakeholders can control company resources. Activities that are carried out by larger organizations or companies that have more stakeholders are more inclined to satisfy their stakeholders to keep their companies operating. It is also supported by the concept of green accounting theory. According to the United

States Environmental Protection Agency the United States Environment Protection Agency (US-EPA) about environmental accounting: "An important function of environmental accounting is to present environmental costs to company stakeholders which can encourage in identifying ways to reduce or avoid costs. While at the same time, the company is improving the quality of the environment."

It is consistent with research conducted by (Oktafianti & Rizki, 2015), (Dicko et al., 2015), (Rizka, 2020), and (Kiswanto et al., 2020) which found that firm size had a positive and significant effect on environmental disclosure.

Based on this description, the hypotheses in this study can be formulated:

Ha: Firm size has a positive and significant effect on environmental disclosure.

H0: Firm size has no significant effect on environmental disclosure

Managerial Ownership and Simultaneous Firm Size Towards Environmental Disclosure

According to (Mutmainah & Indrasari, 2017), environmental disclosure is the disclosure of information relating to the environment in the company's annual report. According to (Ghozali & Chariri, 2007), corporate environmental disclosure is a company's process of disclosing information related to company activities and their impact on social communities and environmental conditions. In this way, the company will get positive benefits, namely: attention, trust, and support from the community. Environmental disclosure aims to provide relevant and significant information for users' decision-making regarding financial statements. In previous studies, there was no simultaneous test (t-test) between the two independent variables above managerial ownership and firm size.

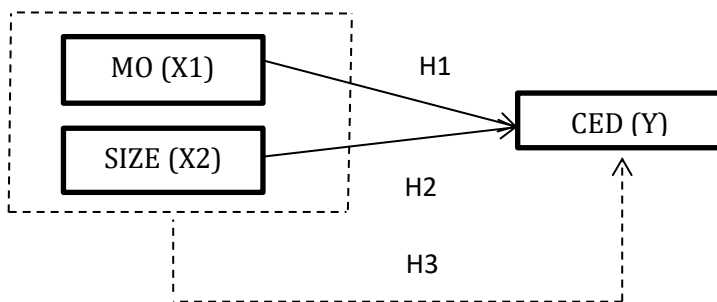
Based on this description, the hypotheses in this study can be formulated:

Ha: Managerial ownership and simultaneous firm size have a significant effect on environmental disclosure.

H0: Managerial ownership and simultaneous firm size have no significant effect on environmental disclosure.

RESEARCH METHODS

This study used two independent variables, namely managerial ownership (MO) and firm size (SIZE). The dependent variable was also used that was corporate environmental disclosure (CED). The data used in this study was panel data. Panel data is a combination of time series data and cross-section data (Algifari, 2021). The time series data in this study included one object/individual based on annual period data, namely company data listed on the IDX for the 2017-2021 period. It is called cross-data because this research consists of several or many objects that were often called respondents. In this context the respondents are companies. There were several types of data used, namely data regarding total assets, manager shares, and outstanding shares. The following is the framework of this study:



Keterangan:

- Y : Environmental Disclosure
- X1 : Managerial Ownership
- X2 : Firm Size
- > : Relationship between partial variables
- - - - -> : Relationship between simultaneous variables

Figure 2. Theoretical framework

The data obtained is sourced from annual reports and sustainability reports of primary and chemical industrial companies listed on the IDX for the 2017-2021 period which can be downloaded on the idx.com website or the company's official website.

Table 2. Sample criteria

No.	Sample Criteria	Total
1	Population Primary and chemical industrial companies listed on the BEI for the 2017-2021 period.	93
2	Non-Criteria Primary and chemical industrial companies unlisted on the BEI for the 2017-2021 period.	(0)
3	Companies that do not regularly report annual reports and sustainability reports from 2017-2021.	(71)
4	Companies that do not have a minimal managerial share ownership composition are included in the category of intermediate levels of managerial ownership (5% -25%).	(12)
The amount the criteria		10
Total observation data = total sample × length of the study period		50

Table 3. Sample data company

No.	Code	Name
1.	LMSH	Lionmesh Prima Tbk
2.	BRNA	Berlina Tbk
3.	INCI	Intanwijaya Internasional Tbk
4.	ALDO	Alkindo Naratama Tbk
5.	BAJA	Saranacentral Bajatama Tbk
6.	BRPT	Barito Pacific Tbk
7.	GDST	Gunawan Dianjaya Steel Tbk
8.	SRSN	Indo Acidatama Tbk
9.	MDKI	Emdeki Utama Tbk
10	BTON	Betonjaya Manunggal Tbk

The research approach used is a quantitative approach that was done by collecting, processing, presenting, and analyzing data quantitatively to provide a clear picture of the problem under study. (Wahidmurni, 2017) states that quantitative research is a method used to answer research problems related to data in the form of numbers and statistical programs. The type of research used is *expo facto* (cause and effect). To analyze the data, panel data regression analysis with the help of Eviews 12 software was used. (Algifari, 2021) states that the use of panel data regression with the help of Eviews 12 produces an output of selecting an estimation model which will later be tested for models that are worth choosing, including:

1. **Common Effect Model.** The Common Effect Model is the most straightforward technique for estimating the parameters of the panel data model that is by combining cross-section and time series data as a single unit without looking at differences in time and entities (individuals). The approach often used is the Pool least square method.
2. **Fixed Effect Model.** The Fixed Effect Model approach assumes that the intercept of each individual is different while the slope between individuals remains the same. This technique uses a dummy variable to capture intercept differences between individuals.
3. **Random Effect Model.** The random Effects Approach assumes that each company has different intercepts in which the intercepts are random or stochastic variables. This technique also considers that errors may be correlated across cross-sections and time series.

Of the three models above, CEM, REM, and FEM will be tested for the feasibility of the model to find out which model is selected, along with the feasibility test of the model according to (Algifari, 2021):

1. **Chow Test.** Chow test is a test to compare the standard effect model with the fixed effect. The hypothesis formed in the Chow test is as follows:
H0: Common Effect Model
H1: Fixed Effect Models
H0 is rejected if the probability of the chi-square cross-section is less than the significance value of 0.05. Conversely, H0 is accepted if the probability of the chi-square cross-section is greater than the significance of 0.05.
2. **Hausman Test.** The Hausman test is a test to compare the fixed effect model with the random effect model in determining the best model to be used as a panel data regression model. The hypothesis formed in the Hausman test is as follows:
H0: Random Effects Model
H1: Fixed Effect Models

H0 is rejected if the probability of a random cross-section is less than the significance value of 0.05. Conversely, H0 is accepted if the probability of a random cross-section is greater than the significance value of 0.05.

3. Lagrange Multiplier Test. The Lagrange multiplier test is a test to compare the random effect model with the common effect model in determining the best model to use as a panel data regression model. The hypothesis formed in the Lagrange multiplier test is as follows:

H0: Common Effect Model

H1: Random Effects Model

H0 is rejected if the probability of cross-section at Breusch-Pagan is less than a significance value of 0.05. Conversely, H0 is accepted if the probability of cross-section at Breusch-Pagan is more significant than a significance value of 0.05.

RESULTS DAN DISCUSSION

Model Estimation Selection

Common effect model

The Common Effect Model technique is the most straightforward technique for estimating the parameters of the panel data model that is by combining cross-section and time series data as a single unit without looking at differences in time and entities (individuals). The approach often used is the Pool least square method. The following are the results of the common effect model:

Table 4. Panel data regression using the common effect model

Dependent Variable: Corporate Environmental Disclosure				
Method: Panel Least Squares				
Date: 03/10/23 Time: 17:51				
Sample: 2017 2021				
Periods included: 5				
Cross-sections included: 10				
Total panel (balanced) observations: 50				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.078868	0.602711	-3.449197	0.0012
Managerial Ownership	-0.000803	0.000764	-1.050320	0.2989
Firm Size	0.091969	0.022204	4.141925	0.0001
Root MSE	0.143260	R-squared		0.291140
Mean dependent var	0.357533	Adjusted R-squared		0.260976
S.D. dependent var	0.171883	S.E. of regression		0.147762
Akaike info criterion	-0.928308	Sum squared resid		1.026174
Schwarz criterion	-0.813587	Log likelihood		26.20771
Hannan-Quinn criter.	-0.884622	F-statistic		9.651811
Durbin-Watson stat	0.395787	Prob(F-statistic)		0.000308

Fixed effect model

The Fixed Effect Model approach assumes that the intercept of each individual is different while the slope between individuals remains the same. This technique uses a dummy variable to capture intercept differences between individuals. The following are the results of the fixed effect model:

Table 5. Panel data regression using the fixed effect model

Dependent Variable: Corporate Environmental Disclosure				
Method: Panel Least Squares				
Date: 03/10/23 Time: 17:52				
Sample: 2017 2021				
Periods included: 5				
Cross-sections included: 10				
Total panel (balanced) observations: 50				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.221151	0.858706	-0.257540	0.7982
Managerial Ownership	0.000532	0.001239	0.429133	0.6702
Firm Size	0.020548	0.031555	0.651183	0.5188
Effects Specification				
Cross-section fixed (dummy variables)				
Root MSE	0.076075	R-squared		0.800110
Mean dependent var	0.357533	Adjusted R-squared		0.742247
S.D. dependent var	0.171883	S.E. of regression		0.087264
Akaike info criterion	-1.834199	Sum squared resid		0.289369
Schwarz criterion	-1.375313	Log likelihood		57.85497
Hannan-Quinn criter.	-1.659453	F-statistic		13.82768
Durbin-Watson stat	1.081479	Prob(F-statistic)		0.000000

Random effect model

The Random Effects Model assumes that each company has different intercepts in which the intercepts are random or stochastic variables. This technique also considers that errors may be correlated across cross-sections and time series. The following are the results of the random effect model:

Table 6. Panel data regression using the random effect model

Dependent Variable: Corporate Environmental Disclosure				
Method: Panel EGLS (Cross-section random effects)				
Date: 03/12/23 Time: 16:54				
Sample: 2017 2021				
Periods included: 5				
Cross-sections included: 10				
Total panel (balanced) observations: 50				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
Effects Specification				
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420

Weighted Statistics			
Root MSE	0.240096	R-squared	0.078060
Mean dependent var	-0.350974	Adjusted R-squared	0.038828
S.D. dependent var	0.252592	S.E. of regression	0.247640
Sum squared resid	2.882297	F-statistic	1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)	0.148086
Unweighted Statistics			
R-squared	0.270358	Mean dependent var	-1.143796
Sum squared resid	8.615143	Durbin-Watson stat	0.326836

After the results of the common effect model, fixed effect, and random effect are obtained, then the chow test is carried out. This test is needed to choose the most appropriate model between the common effect and fixed effect models.

Model Feasibility Test

Chow test

Chow test is a test to compare the common effect model with the fixed effect. The hypothesis formed in the chow test is as follows:

H0: Common Effect Model

H1: Fixed Effect Models

Table 7. Chow test

Redundant Fixed Effects Tests			
Equation: FEM			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	10.750833	(9,38)	0.0000
Cross-section Chi-square	63.294534	9	0.0000

The results of the Chow test in the table above show that if the cross-section probability value is 0.0000 or <0.05 , then H0 is rejected. Therefore, the chosen model is the fixed effect. Next, a regression with a random effect model will be carried out to determine which model is correct. Regression results using the random effect model can be seen in table 7 so that H1 is accepted. It can be concluded that the fixed effect model is better than the common effect model so that the Hausman test will be carried out.

Hausman test

The Hausman test is a test to compare the fixed effect model with the random effect model in determining the best model to be used as a panel data regression model. The hypothesis formed in the Hausman test is as follows:

H0: Random Effects Model

H1: Common Effect Models

Table 8. Hausman test

Correlated Random Effects - Hausman Test			
Equation: REM			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.852340	2	0.2402

Based on the Hausman test results above, it can be seen from the random cross-section probability value equal to $0.24 > 0.05$. It means that H_0 is accepted and H_1 is rejected so that the Random Effect Model (REM) is chosen as the model.

Lagrange multiplier test

The lagrange multiplier test is a test to compare the random effect model with the common effect model in determining the best model to use as a panel data regression model. The hypothesis formed in the lagrange multiplier test is as follows:

H_0 : Common Effect Model

H_1 : Random Effects Model

Table 9. Lagrange multiplier test

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	33.95729 (0.0000)	2.248387 (0.1338)	36.20568 (0.0000)
Honda	5.827289 (0.0000)	-1.499462 (0.9331)	3.060235 (0.0011)
King-Wu	5.827289 (0.0000)	-1.499462 (0.9331)	1.984770 (0.0236)
Standardized Honda	7.127792 (0.0000)	-1.328405 (0.9080)	0.820041 (0.2061)
Standardized King-Wu	7.127792 (0.0000)	-1.328405 (0.9080)	-0.294330 (0.6157)
Gourieroux, et al.	--	--	33.95729 (0.0000)

Based on the results of the Lagrange multiplier test above, it can be seen from the random cross-section probability value at Breusch-Pagan which is $0.000 < 0.05$. It means that H_0 is rejected and H_1 is accepted so that the model chosen is the Random Effect Model (REM). In the random effect

selected model, there is no need for a heteroscedasticity test because the data is free from heteroscedasticity (Algifari, 2021).

Classic Assumption Test

Normality test

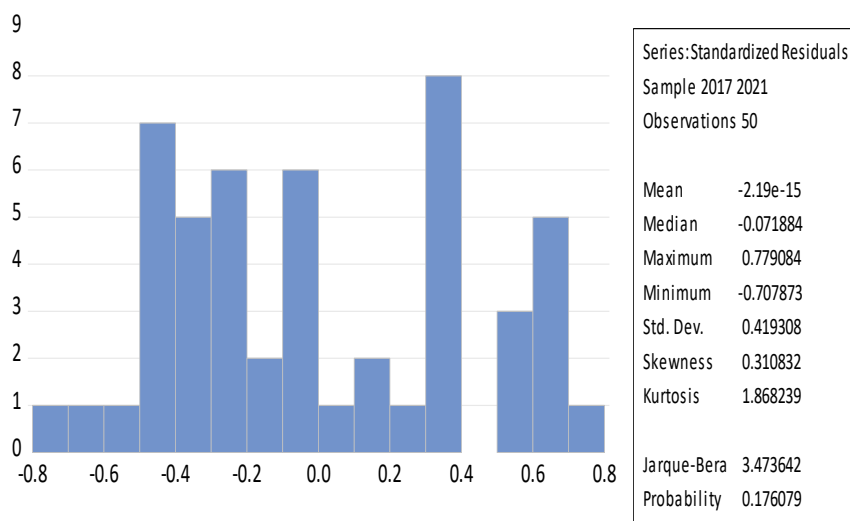


Figure 2. Normality test from Eviews 12

In the figure above, it is known that the Jarque-Bera probability value is $0.17 > 0.05$, meaning that the data in this study are normally distributed.

Multicollinearity test

Table 10. Multicollinearity test

Variance Inflation Factors			
Date: 03/11/23 Time: 17:48			
Sample: 1 50			
Included observations: 50			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	27.44379	8916.932	NA
Managerial Ownership	0.008315	37.96055	1.012730
Firm Size	2.485384	8752.492	1.012730

Based on the test above, the centered VIF value for each variable X_1 and X_2 is $1.012 < 10$, so it can be concluded that the model is free from multicollinearity.

Autocorrelation test

Based on the Tabel 11, obtained Dw value of $0.976 < 2$ dan $0.976 > -2$. According to (Santoso, 2015), there is no correlation if the value of $DW < 2$ and $DW > -2$.

Tabel 11, Autocorrelation test

Dependent Variable: Corporate Environmental Disclosure				
Method: Panel EGLS (Cross-section random effects)				
Date: 03/12/23 Time: 16:54				
Sample: 2017 2021				
Periods included: 5				
Cross-sections included: 10				
Total panel (balanced) observations: 50				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
Effects Specification				
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420
Weighted Statistics				
Root MSE	0.240096	R-squared		0.078060
Mean dependent var	-0.350974	Adjusted R-squared		0.038828
S.D. dependent var	0.252592	S.E. of regression		0.247640
Sum squared resid	2.882297	F-statistic		1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)		0.148086
Unweighted Statistics				
R-squared	0.270358	Mean dependent var		-1.143796
Sum squared resid	8.615143	Durbin-Watson stat		0.326836

Significant Test

Coefficient determinant

The coefficient of determination is used to measure how much influence the independent variable can explain the dependent variable by looking at the value of the Adjusted R-Square. The greater the Adjusted R-Square value is, the better the ability of the variance and the independent variable to explain the dependent variable is. Adjusted R-Square values can be seen in the table below.

Table 12. Coeffisien determinant

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
Effects Specification				
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420
Weighted Statistics				

Root MSE	0.240096	R-squared	0.078060
Mean dependent var	-0.350974	Adjusted R-squared	0.038828
S.D. dependent var	0.252592	S.E. of regression	0.247640
Sum squared resid	2.882297	F-statistic	1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)	0.148086

Based on the table above, the Adjusted R-Square value is obtained coefficient of determination of 0.038 or 3.8%. Rate 3.8% shows that the percentage of the influence of the independent variables, namely managerial ownership and firm size on the dependent variable, namely environmental disclosure, is only 3.8%. In other words, the variation of the independent variables used in the model can explain 3.8% of the variation in the dependent variable. In comparison, the remaining 96.2% is influenced by other variables outside this research.

Partial test (t test)

The t-test aims to determine whether the independent variables or independent variables, namely Managerial Ownership (MO) and Firm Size (SIZE), partially from each of the independent variables affect the dependent variable, namely Disclosure of Company Environment. If the significance value is less than 0.05 ($p < 0.05$), it can be concluded that the independent variables partially have a significant effect on the dependent variable.

Table 13. Partial test (t test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463

Managerial ownership (MO)

It is known that the coefficient of managerial ownership (MO) has a positive value of 0.01 which indicates that variable X1 has a positive influence on Y. The higher the managerial ownership is, the higher the company's environmental disclosure is. In addition, it can be seen from the t-statistic value of 0.09 and the significant value of the managerial ownership variable is 0.92 where the value is greater than 0.05 ($0.92 > 0.05$). So, it can be concluded that the managerial ownership variable has a positive and insignificant effect on corporate environmental disclosures.

Firm size (SIZE)

It is known that the coefficient of firm size (SIZE) has a positive value of 3.98 which indicates that the variable X2 has a positive influence on Y. It means the higher the company's size, the higher the disclosure of the company's environment is. In addition, it can be seen from the t-statistic value of 2.04 and the significant value of the firm size variable is 0.04 where the value is less than 0.05 ($0.04 < 0.05$). So, it can be concluded that the firm size variable has a positive and significant effect on corporate environmental disclosure.

Simultaneous test (F test)

Table 14. Simultaneous test (F test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.30026	6.479721	-2.206926	0.0322
Managerial Ownership	0.010919	0.117343	0.093054	0.9263
Firm Size	3.984244	1.946667	2.046700	0.0463
Effects Specification				
			S.D.	Rho
Cross-section random			0.333619	0.6580
Idiosyncratic random			0.240511	0.3420
Weighted Statistics				
Root MSE	0.240096	R-squared		0.078060
Mean dependent var	-0.350974	Adjusted R-squared		0.038828
S.D. dependent var	0.252592	S.E. of regression		0.247640
Sum squared resid	2.882297	F-statistic		1.989725
Durbin-Watson stat	0.976907	Prob(F-statistic)		0.148086

Based on the output of the evIEWS above, the value of F-statistic is 1.98 while Ftable with a level of $\alpha = 5\%$ is 3.20 thus, $F\text{-statistic} < F\text{table}$ ($1.98 < 3.20$), then it can also be seen at the probability value, namely of 0.148 which is greater than the significance level of 0.05 with an adjusted R-square value of 0.038, which means that the ability of the independent variable to influence the dependent variable is only 38%. Moreover, 96.2% is influenced by other independent variables. Therefore, it can be concluded that H_a is rejected and H_0 is accepted. It indicates that the variable managerial ownership and simultaneous firm size have no significant effect on corporate environmental disclosures.

This research aims to analyze and prove the effect of managerial ownership and firm size on corporate environmental disclosure in primary and chemical industry companies listed on the IDX in 2017-2021. There are three hypotheses tested in this study.

The influence of managerial ownership on corporate environmental disclosure

Based on testing, the first hypothesis that formulates that there is a positive and significant influence between managerial ownership on corporate environmental disclosure is rejected. Table 13 shows that the results on the managerial ownership variable have a T-statistic value of 0.09 which means it has a positive effect. The sense is that any increase in managerial ownership can also increase corporate environmental disclosure; conversely, any decrease in managerial ownership can decrease corporate environmental disclosure. The significant value of the managerial ownership variable is 0.92 where the value is greater than 0.05 ($0.92 > 0.05$) which means that the managerial ownership variable has no significant effect on corporate environmental disclosures.

According to agency theory, the higher managerial ownership is, the fewer agency problems within the company is, because the company's management also acts as a shareholder. However, the reality says that a high or low level of managerial ownership can only partially influence corporate environmental disclosures. Environmental disclosure in several countries, including Indonesia, is still voluntary. Companies will prefer to disclose information that will benefit the company. The fact is that

until now, there are still many environmental disclosures in Indonesia that are expressed in a narrative form and need to be more comprehensive. Companies can use environmental disclosure to attract the attention of stakeholders, especially investors. Investors will be interested in investing in companies that pay attention to the environment. Companies are considered to have a good image in society and prospects for future business continuity to make investors want more stock returns. This is what Prajogo Pangestu stated which was reported in the Jakarta Economic News news on Thursday, January 6, 2022 "The fifth richest man in Indonesia, Prajogo Pangestu, does not hesitate to spend deeply to buy up shares in the petrochemical and energy company he founded, namely, PT Barito Pacific Tbk (BRPT). The purpose of purchasing BRPT shares is to increase ownership for investment." Technically, high managerial ownership means that the manager acts as the investor.

High managerial ownership in a primary industrial and chemical company can only partially make company managers consistent in disclosing environmental reports. The data shows that companies with high managerial ownership tend to report inconsistently on sustainability reports, for example, Lionmesh Prima Tbk, Intanwijaya Internasional Tbk, Barito Pacific Tbk, and Betonjaya Manunggal Tbk. Barito Pacific, with relatively high managerial ownership that has an annual average of around 71.84, has not reported a sustainability report every year consistently. Even some companies in the primary and chemical industry, such as Berlina Tbk, Alkindo Naratama Tbk, Saranacental Bajatama Tbk, Gunawan Dianjaya Steel Tbk, Indo Acidatama Tbk, and Emdeki Utama Tbk which have a high percentage of managerial share ownership. They do not report sustainability reports every year. The company discloses that its environmental report needs to be more comprehensive. The company chooses to report it in the annual report only to cancel the company's obligations.

From the results of this study, H01 is accepted that managerial ownership has no significant effect on corporate environmental disclosure, while Ha1 is rejected. This research's results align with research results from Arini Rizka in 2020 that show managerial ownership does not have a significant effect on corporate environmental disclosures because corporate environmental disclosures in Indonesia are still voluntary and still depend on each company's policies. It can be concluded that managerial ownership proxied as a variable (X) has no significant effect on disclosure of the company's environment as a variable (Y) in primary industrial and chemical companies listed on the IDX in 2017-2021.

The influence of firm size on corporate environmental disclosure

Based on testing, the second hypothesis formulates that there is an influence between firm size on corporate environmental disclosure. Table 13 shows that the results on the firm size variable have a T-statistic value of 2.04 with a positive value with a significant value of the firm size variable of 0.04 where the value is smaller than 0.05 ($0.046 < 0.05$) which means that managerial ownership variable has a positive and significant effect on corporate environmental disclosure. From the results of this study, Ha2 is accepted that firm size is positive and has a significant impact on corporate environmental disclosure, while H01 is rejected. Based on the second hypothesis, testing formulates that there is an influence between firm size on corporate environmental disclosure. Table 13 shows that the results on the firm size variable have a T-statistic value of 2.04 with a positive value with a significant value of the firm size variable of 0.04 where the value is smaller than 0.05 ($0.046 < 0.05$) which means that managerial ownership variable has a positive and significant effect on corporate environmental disclosure. From the results of this study, Ha2 is accepted that firm size is positive and has a significant impact on corporate environmental disclosure, while H01 is rejected.

This research's results are in line with research from Kiswanto et al. (2022), Riska (2020), Ayu et al. (2017), Oktafiani et al. (2015), and Nugraha (2015) which stated that firm size results are positive and have a significant effect on corporate environmental disclosure. It means that the larger the firm's size is, the higher the environmental disclosure made by the company is. It is supported by the stakeholder theory which states that large companies that have more stakeholders than small companies will provide the best possible and transparent information regarding environmental disclosures in order to be more responsible and satisfy their stakeholders.

The influence of managerial ownership and simultaneous firm size on corporate environmental disclosure

Based on testing, the third hypothesis in this study which formulated that there is a significant influence between managerial ownership and simultaneous firm size on corporate environmental disclosure is rejected. Simultaneously, the F test shows that the independent variables do not significantly influence the dependent variable. This is proven by the results of the F-statistic, which is equal to 1.98. At the same time, F_{table} with a level of $\alpha = 5\%$ is equivalent to 3.20, thus $F\text{-statistic} < F_{table}$ ($1.98 < 3.20$), then it can also be seen at the probability value, which is equal to 0.148 which is greater than the significance level of 0.05 so that H_a is rejected and H_0 is accepted.

Managerial ownership and simultaneous firm size have no significant effect on corporate environmental disclosures. Field data shows that in Indonesia, managerial ownership and simultaneous firm size do not affect environmental disclosure. It is shown that not all companies report their environment comprehensively. Environmental disclosures still tend to be ignored. Many large companies and companies with high managerial ownership need to be more consistent in preparing and disclosing their environmental reports in a sustainability report. Companies still tend to report environmental disclosures only as a default. It is proven to the present; environmental disclosure is voluntary and there is no standard for corporate environmental disclosure. The company said that the decisions of their respective companies still dominated its environmental reports.

This is contrary to the Sharia accounting theory stated by Pratama et al. (2017), Sharia accounting is related to the recognition, measurement, and recording of transactions and the disclosure of rights and obligations fairly. The assumption is that every transaction must be based on the principle of accountability or accountability based on the Qur'an surah Al-Baqarah: 282, where every transaction must be accounted for in the form of notes or reports. Based on Surah Al-A'raf: 85. It can be concluded that Allah SWT forbids humans to do earth damage. It is why every company's operational activities must be accountable for the activities that have good and bad impacts on the social community and the environment. One condition that companies comply with Islamic accounting is to disclose reports regarding the environment as transparently as possible.

The coefficient of determination in this study was seen based on the Adjusted R-Square value of 0.038 or 3.8%. The value of 3.8% indicates that the percentage influence of the independent variables, namely managerial ownership and firm size on the dependent variable, namely environmental disclosure, is only 3.8%. This value is considered very small. In other words, the variation of the independent variables used in the model can explain 3.8% of the variation in the dependent variable. In comparison, the remaining 96.2% is influenced by other variables outside this study.

Other variables outside this study that can affect environmental disclosure and are part of the 96.2% of the coefficient of determination are Government Regulations, Good Corporate Governance, Industry Type, Profitability, Environmental Performance, Media Exposure, Leverage, and Environmental Certification. This is supported by previous research, such as the research from Putra et al. (2021), and Kiswanto et al. (2020) yielded findings that Profitability significantly affects

Environmental Disclosure. Good Corporate Governance significantly affects Environmental Disclosure. It is supported by research by Gusti Ayu et al. (2018). Industry type significantly affects Environmental Disclosure which is supported by research from Sari et al. (2018). Industry type significantly affects Environmental Disclosure which is supported by research by Nugraha et al. (2015) and Ayu et al. (2017). Environmental Performance significantly impacts Environmental Disclosure which is supported by research from Sari et al. (2018), and Ayu et al. (2017).

It can be concluded that the variables of managerial ownership and simultaneous firm size have no significant effect on corporate environmental disclosures in primary and chemical industrial companies listed on the IDX from 2017 to 2021.

CONCLUSION

Based on the results of research and discussion of research regarding the effect of managerial ownership and firm size on corporate environmental disclosure in primary and chemical industry companies listed on the IDX in 2017-2021, it can be concluded as follows:

1. Managerial ownership with MO indicators results does not significantly affect corporate environmental disclosures. This is indicated by the T-statistic value of 0.09, with a significant value of the managerial ownership variable of 0.92, where the value is greater than 0.05 ($0.92 > 0.05$). It means that the managerial ownership variable has no significant effect on corporate environmental disclosure. High managerial ownership will also result in increased corporate environmental disclosures. However, this has little impact because this decision-making depends on the policies of each company. Companies with high managerial ownership need to be more fully consistent in reporting sustainability reporting.
2. Firm size with the SIZE indicator results is positive and significantly affects corporate environmental disclosure. This is indicated by the T-statistic value of 2.04 with a significant value of the firm size variable of 0.04, where the value is smaller than 0.05 ($0.04 < 0.05$), which means that the firm size variable has a positive and significant effect on corporate environmental disclosures. The bigger the company, the higher the environmental disclosure of the company is. It is because large companies have more stakeholders than small companies, so they will provide the best possible and transparent information regarding environmental disclosures. Therefore, they are more responsible and satisfy their stakeholders.
3. Managerial ownership and simultaneous firm size do not have a significant effect on corporate environmental disclosures. Simultaneously, the F test shows that the independent variables do not significantly influence the dependent variable. This is evidenced by the results of the F-statistic, which is equal to 1.98. At the same time, Ftable with a level of $\alpha = 5\%$ is equivalent to 3.20, thus F-statistic $<$ Ftable ($1.98 > 3.20$), then it can also be seen at the probability value, which is equal to 0.148, which is greater than the significance level of 0.05. The results of this F test affect the value of the coefficient of determination obtained, which is equal to 3.8%.

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