



Effect of Leverage and Firm Performance on Sustainability Report Disclosure with Firm Size as Moderation

Firda Febrila¹, Maylia Pramono Sari²

Universitas Semarang^{1,2}

firdafebrila24@students.unnes.ac.id¹, mayliapramonosari@mail.unnes.ac.id²

ABSTRACT

Using company size as a moderating variable and firm value as a control variable, this study aims to investigate the effects of leverage and firm performance on sustainability report disclosure. The expanding stakeholder knowledge of environmental, social, and corporate governance concerns, as well as the growing need for corporate responsibility and openness in sustainability policies, are the driving forces behind this research. Panel data regression analysis is used in this study's quantitative methodology to examine firms listed on the Indonesia Stock Exchange between 2022 and 2024. While financial indicators and company characteristics are used to quantify leverage, firm performance, firm size, and firm value, sustainability reporting disclosure is assessed using an index created in compliance with reporting guidelines. E-views 12 software is used for data processing and analysis. The findings indicate that the disclosure of sustainability reports is not significantly impacted by leverage. The disclosure of sustainability reports is negatively and significantly impacted by firm performance as determined by awards. company performance has a greater impact on the disclosure of sustainability reports, but company size does not attenuate the association between leverage and sustainability reports. This study is restricted to the model's variables and the observation period. The findings show that corporate attributes and reputation have a greater impact on sustainability disclosure practices than financial structure. In the case of Indonesian enterprises, this study makes a contribution by emphasizing the moderating impact of company size in the link between firm performance and sustainability report disclosure.

Keywords: Sustainability Report Disclosure; Leverage; Firm Performance; Firm Size.

1. INTRODUCTION

In contemporary business practices, sustainability issues are a major concern, especially for organizations that have a big influence on the environment and society. The existence and effects of corporate operations frequently clash with, or even damage, other parties' interests (Afifah et al., 2022). Through

the triple bottom line idea, businesses are now expected to be accountable for social and environmental issues in addition to maximizing profits. (Suhartini et al., 2024). Creating a sustainability report is one approach to carry out this obligation. In addition, the Indonesia Stock Exchange promotes non-financial information openness as a means of responsibility to stakeholders and

*Corresponding author's e-mail: firdafebrila24@students.unnes.ac.id

investors. In reality, the Global Reporting Initiative's (GRI) worldwide criteria are often followed while preparing sustainability reports. The three dimensions of evaluation are economic, social, and environmental, in line with the GRI criteria. All of these elements seek to provide internal and external stakeholders transparency in the measurement and disclosure of a company's sustainable development initiatives. (GRI, 2021).

Sustainability reporting is being seen as a strategic part of business reporting rather as an extra reporting tool as worldwide awareness of climate change and sustainability concerns rises. Environmental, social, and governance (ESG) factors are now taken into account by rating agencies and institutional investors when evaluating a company's long-term prospects. (Wulandari et al., 2025). This demonstrates that sustainability disclosure has direct implications for a company's future competitiveness and business sustainability.

Sustainability reporting has become increasingly important due to growing stakeholder demand for RSG transparency. According to World Economic Forum (WEF), investors increasingly consider ESG disclosure in assessing corporate sustainability and long-term performance.

The energy sector is one of the sectors with high environmental risks, such as carbon emissions, environmental pollution, ecosystem degradation, and intensive exploitation of natural resources (Resmi et al., 2025). Operational characteristics that directly impact the environment place energy companies in the spotlight of the public and regulators. Therefore, energy sector companies face increasing pressure due to global energy transition policies,

carbon emission reduction targets, and stakeholder demands for environmentally responsible business practices. The energy sector is considered one of the industries with the highest environmental risks because its operations directly contribute to carbon emissions and environmental degradation. This pressure comes from investors, governments, communities and non-governmental organization who are increasingly demanding responsible and sustainable business practices (Lulu, 2021).

Stakeholder theory suggests that in order to preserve their credibility and reputation, businesses with high levels of risk and substantial public exposure should improve their sustainability reporting disclosures. The actual situation, however, demonstrates that sustainability reporting in energy-related businesses listed on the Indonesia Stock Exchange is still inconsistent. 55 out of 91 firms, or around 60.44% of energy corporations, have not released sufficient sustainability reports, according to the Global Reporting Initiative (GRI) index. This suggests a discrepancy between corporate reporting procedures and regulatory requirements. Because it affects a company's reputation, investment choices, and interactions with different stakeholders, research on sustainability report disclosure is becoming more and more crucial. (Meidiyustiani & Arief, 2025). Transparent sustainability disclosure can increase public trust, enhance a company's reputation, and potentially improve firm performance.

Furthermore, variations in disclosure levels also indicate that internal company factors influence management decisions regarding the extent and quality of sustainability information disclosed. These factors can include financial



condition, funding structure, operational capabilities, and strategies for building public image and legitimacy.

Leverage is one element that may have an impact on the disclosure of sustainability reports. A company's reliance on debt to fund its operations is reflected in its leverage. (Oktaviani & Amanah, 2019). Businesses with large debt loads typically reveal more details in their sustainability reports. High levels of leverage do not always mean that a business would cut back on the social and environmental initiatives it discloses in its sustainability report. High leverage indicates that the business has the money to carry out more of the initiatives listed in its sustainability report. (Yohana & Suhendah, 2023). However, on the other hand, financial pressure due to high debt can also lead to low levels of sustainability report disclosure (Carolina, 2021). This difference in argumentation has led to inconsistencies in the results of previous research on the influence of leverage on sustainability report disclosure.

Thus, leverage can be a double-edged sword in the context of sustainability disclosure. On the one hand, companies with high debt obligations may be forced to increase transparency to maintain creditor confidence. However, on the other hand, interest expenses and debt repayment obligations can limit resource allocation for sustainability activities and reporting (Risna Almatin & Saritua Simatupang, 2025).

The degree of sustainability report disclosure is believed to be influenced by corporate performance in addition to leverage. A company's reputation and dedication to sustainable practices might be positively indicated by its firm performance. (Zakarias & Bimo, 2021).

Companies with good performance tend to want to maintain their positive image by improving the quality of their disclosures. However, in practice, not all companies with good performance demonstrate high and comprehensive levels of sustainability report disclosure (Alfiana et al., 2024). There is even a possibility that the Company's performance does not affect the sustainability report (Triwacananingrum & Silphianie, 2023). This situation suggests the possibility that a company's performance may not necessarily reflect the overall quality of its sustainability report disclosures. Stakeholders have more confidence in a company's actions without the need to publish environmental responsibilities to the public. Disclosures are limited to providing additional information and do not influence policies taken by stakeholders to increase company profits (Putra & Natalia, 2023).

Additionally, high-performing businesses could be less concerned with sustainability reporting in favor of development plans and increasing profitability. On the other hand, failing businesses could employ sustainability disclosure as a legitimacy tactic to win back the public's trust. This emphasizes the significance of doing an empirical analysis of the connection between business performance and the disclosure of sustainability reports.

Firm size is another element that may have an impact on this connection. Larger businesses often provide more information because they have more resources, are more visible to the public, and are under more pressure from stakeholders. As a result, it is thought that business size may either increase or decrease the impact of leverage and firm performance on the publication of

sustainability reports. But in reality, not all big businesses have higher levels of transparency than smaller businesses. (Carolina, 2021).

Because larger businesses often have more organized reporting systems and larger financing capacities, it is crucial to investigate the function of company size as a moderating element. Consequently, the impact of leverage and business performance on sustainability disclosure may be explained by firm size. (Yohana & Suhendah, 2023).

Based on this occurrence, there is still a discrepancy in sustainability report disclosure between theory, legislation, and practice, especially in Indonesia's energy industry. Additionally, there is currently a dearth of research on the function of company size as a moderating element in the energy industry, and

previous studies on the impact of leverage and awards on sustainability report disclosure have also produced mixed findings. (Purnomo et al., 2022).

Therefore, this research is important to be conducted to analyze the effect of leverage and awards on sustainability report disclosure with firm size as moderating variable in energy sector companies listed on the Indonesia Stock Exchange. This study is expected to provide empirical evidence that enriches the literature on the determinants of sustainability disclosure, particularly in environmental sensitive sector. Furthermore, the results are expected to inform company management, regulators, and investors when considering improving the quality and consistency of sustainability reporting in Indonesia.

2. LITERATURE REVIEW

Stakeholder Theory

Stakeholders are parties that have a substantial interest in and influence over an organization's ability to implement its strategy and achieve its objectives. Stakeholders can directly or indirectly influence the company and can also be influenced by the company (Sabrina & Lukman, 2019). This includes entities or individuals with legitimate claims against the organization under international law or conventions. Stakeholder theory refers to the management of relationships between related parties and the company's responsibilities to those parties (Williams Rahaditama, 2022). The concept of stakeholder theory, developed by Freeman (1984), states that companies should not only aim to meet shareholder interest but also be responsible for generating value for all

stakeholders, such as employees, the environment, consumers, and natural resources. Companies need to maintain legitimacy and stakeholder support through information transparency, including disseminating sustainability reports.

In the energy sector, stakeholder pressure is relatively high due to the potential for significant environmental impacts in operational activities. Therefore, sustainability reporting is a strategic tool for maintaining reputation and social legitimacy.

Sustainability Report Disclosure

A company or organization that reports on the economic, environmental, and social effects of its operations is said to be involved in sustainability reporting. (Williams Rahaditama, 2022). This report demonstrates the firm's dedication to sustainable business practices and acts



as a channel of communication between the organization and its stakeholders regarding the significance of sustainability. Businesses use sustainability reports to share not only their financial results but also how their activities affect the environment and society. (Tobing et al., 2019).

The level of transparency in sustainability reports is usually measured using a transparency index based on items in the GRI standards (Kumar et al., 2023). This measurement is conducted using a content analysis method that assigns a score to each item disclosed in a company's report. These scores are then summed and divided by the total number of items required to be disclosed to obtain a disclosure score index. A higher index score indicates more extensive disclosure in a company's sustainability report.

Leverage

A financial ratio called leverage shows how much a business depends on debt to fund its operations and assets. Greater reliance on outside financial sources is indicated by high leverage, which leads to fixed liabilities in the form of principle and interest payments. In order to lessen information asymmetry and default risk, companies with high levels of leverage are typically under more pressure from creditors and investors to provide transparent information. A high degree of leverage indicates that a business has enough cash on hand to finance the extra initiatives it discloses in its sustainability reporting. (Yohana & Suhendah, 2023). However, on the other hand, financial pressure due to high debt can also lead to low levels of sustainability report disclosure (Carolina, 2021).

Firm performance

Firm performance is the overall performance of an organization over a specific period, where the company's operational activities influence its performance by utilizing the company's asset resources (Triwacananingrum & Silphianie, 2023). Firm performance is an indicator that shows the level of success of a company in managing resources to achieve predetermined goals, both financially and non-financially. Good performance reflects a company's ability to generate profits, increase firm value, and maintain market competitiveness. In this study, firm performance is represented by awards received as a form of external recognition, as well as its achievements and reputation.

Firm Size

Firm size is a characteristic that indicates the size of a company, generally measured by total assets, total sales, or market capitalization. (Yohana & Suhendah, 2023) state that firm size is a scale used to assess the size of a company. Larger companies tend to have more adequate resources, higher levels of public exposure, and stricter oversight from regulators and stakeholders. According to Salim et al., (2023), firm size is defined as the size of an entity, measured by assets, taxes paid, and profits earned. From a stakeholder theory perspective, large companies face stronger pressure to meet the expectations of various parties by providing transparent and accountable information, including in the form of sustainability report disclosures.

Firm Values

According to (Setyawati & Fidiana, 2023), Investors' opinion of a company,

which is frequently correlated with its stock price, is known as firm value. Firm value, which is often determined by market ratios such as the Price to Book Value (PBV) ratio or comparable metrics, represents the market's assessment of a company's performance and prospects. Investor confidence in a company's long-term profit creation and growth prospects is reflected in firm value. business valuation is included as a control variable in this study to guarantee that market perception is taken into consideration while analyzing the impact of leverage and business performance on sustainability report disclosure. It is anticipated that the research findings will give a more accurate picture of the link between the primary factors looked at in this study by using company valuation as a control variable.

The Effect of Leverage on Sustainability Report Disclosure

Leverage reflects a company's dependence on debt to finance its operational activities (Oktaviani & Amanah, 2019). A higher leverage ratio reflects a company's high dependence on debt (Gunawan & Sjarief, 2022). This reflects the increased financial risk faced by the company due to the need to make regular interest and principal payments. The effect of leverage on sustainability reporting is supported by stakeholder theory. According to stakeholder theory, creditors are key stakeholders with a direct interest in a company's stability and sustainability. High-leverage companies are under more pressure to exhibit sustainable business practices and a dedication to risk management, including social and environmental risk. Increasing openness, lowering information asymmetry, and increasing creditor confidence in the company's long-term prospects can all be achieved through the disclosure of sustainability

reports. Put another way, a company's requirement to show responsibility through more extensive information sharing increases with leverage. (Yohana & Suhendah, 2023).

The debt-to-equity ratio (DER) is used in this study to measure leverage. By comparing total debt to total equity, DER assesses a company's debt management performance. The following is the research hypothesis based on the above arguments:

H1: Leverage has a positive effect on sustainability report disclosure.

The Influence of Firm Performance on Sustainability Report Disclosure

Corporate performance reflects a company's ability to achieve its operational and strategic goals. In this study, corporate performance is represented by awards received and measured using a dummy variable, with a value of 1 given to companies that received an award and a value of 0 to companies that did not. Awards reflect external recognition of the quality of corporate performance (de Villiers et al., 2026). According to stakeholder theory, companies with good performance tend to disclose broader sustainability information to maintain their reputation and fulfill stakeholder expectations. Companies receiving awards are generally motivated to preserve their positive image by increasing transparency through sustainability reporting. Zakarias & Bimo (2021) and Triwacananingrum & Silphianie (2023) found that company performance positively influences sustainability report disclosure. Companies with better performance are expected to provide broader sustainability disclosures. Therefore, the relationship between corporate performance and sustainability report disclosure still needs to be tested



empirically. Based on these arguments, the research hypothesis is:

H2: Corporate performance has a positive influence on sustainability report disclosure.

Firm Size Moderates the Effect of Leverage on Sustainability Report Disclosure.

According to R. Edward Freeman's stakeholder theory, companies are accountable not only to shareholders but also to all stakeholders, such as creditors, investors, the government, and the public. In a leveraged context, pressure from creditors, key stakeholders concerned with corporate transparency and accountability, increases. The higher the leverage, the greater the creditors' attention to the company's condition. Therefore, companies tend to enhance their sustainability reports to demonstrate transparency and accountability (Ambarwati et al., 2022).

However, the ability to make such disclosures depends on firm size. Larger companies have more resources to prepare comprehensive sustainability reports than smaller companies. This means that firm size may strengthen the relationship between leverage and sustainability report disclosure (Yohana & Suhendah, 2023). Based on this argument, the research hypothesis is:

H3: Firm size moderates the effect of leverage on sustainability report disclosure.

Firm Size Moderates the Influence of Firm Performance on Sustainability Report Disclosure.

In this research, the company's achievements are used to gauge its success. Awards show that a company's performance is seen favorably by outside parties and demonstrate the company's capacity to uphold its credibility and image. In order to preserve stakeholder confidence and corporate legitimacy, companies that perform well typically reveal more comprehensive sustainability information. However, corporate size may have an impact on the level of sustainability disclosure. (Yohana & Suhendah, 2023). Larger companies generally have greater financial resources, more structured reporting system, and higher public visibility than smaller companies. In addition, large companies tend to experience stronger stakeholder pressure, encouraging them to provide broader sustainability disclosure in order to maintain their credibility and legitimacy. Therefore, firm size may strengthen the effect of firm performance on sustainability report disclosure (Listiani & Fadjar, 2025). Based on this argument, the research hypothesis is:

H4: Firm size moderates the effect of firm performance on sustainability report disclosure.

Based on the literature review and hypothesis development described above, this research examines the effect of leverage and firm performance on sustainability report disclosure, with firm size as a moderating variable. The relationships between the variables in this study are presented in the following conceptual framework.

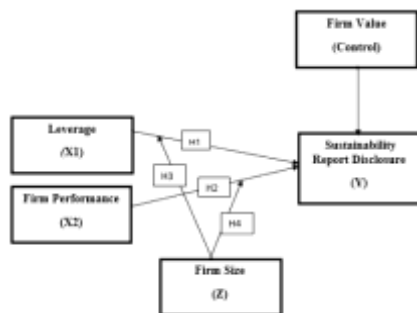


Figure 1: Conceptual Framework

Figure 1 shows that leverage and firm performance are considered to influence sustainability report disclosure. Firm size acts as a moderating variable, strengthening this relationship, while firm value is included as a control variable to control for the influence of other factors outside the main research model.

3. RESEARCH METHOD

Data Samples

Using company size as a moderating variable, this study employs a quantitative methodology to investigate the impact of leverage and business performance on sustainability report disclosure. Secondary data from annual reports and corporate sustainability reports were used.

All 91 firms in the energy industry that were listed on the Indonesia Stock Exchange between 2022 and 2024 make up the study population. Sampling was done in order to provide 78 datasets that might be used in this investigation.

Table 1: Sample selection methods

Criteria	Total
Population: Energy companies listed on the Indonesia Stock Exchange stock data	91
Sampling based on criteria (purposive sampling):	
1. Energy companies listed on the Indonesia Stock Exchange in 2022-2024	(16)
2. The firm that issued report annual and or sustainability report in 2022-2024	(39)
3. Companies that disclose sustainability reports with Global Reporting Initiative (GRI) reference	(10)
Research sample	26
Total sample (n x research period)	78

Variable measurement and technical analysis

Sustainability report disclosure, as determined by a disclosure index based on the 2021 GRI requirements, is the dependent variable in this study. The disclosure evaluation, which consists of 89 disclosure elements, includes social, environmental, and economic issues in compliance with GRI Standards. A dummy variable is utilized; if a corporation reveals the standard criteria, it receives a score of one (1), and if it does

not, it receives a score of zero (0). A total score is calculated by adding the scores for each firm after all things have been scored (Williams Rahaditama, 2022). The disclosure index is then calculated as a percentage by dividing each company's overall score by the total number of disclosure items that should have been revealed. This index shows how thorough and detailed a company's sustainability report is. The more comprehensive the company's sustainability disclosure, the higher the index score.



Leverage and company performance are the study's independent variables. The Debt-Equity Ratio (DER), which is calculated by dividing total debt by total equity, is used to calculate leverage (Pramono et al., 2025). In this study, the DER ratio is used to characterize a company's capital structure and degree of reliance on outside funding sources. A high DER number suggests that the firm has more debt than equity, which may have an impact on how it discloses information to investors and creditors. A dummy variable (1 if the company earned an award and 0 otherwise) is used to quantify firm performance, which is represented by awards received. (de Villiers et al., 2026). These awards include awards related to financial performance, governance, and sustainability that are recognized nationally and internationally. The use of awards as a performance indicator is based on the assumption that companies that receive external recognition tend to have better reputations and performance.

The moderating variable in this study is firm size, which is measured using the natural logarithm of total assets (Meutia et al., 2022). The goal of using natural logarithms is to improve data normalcy and reduce the possibility of significant variances between businesses. Firm size, which reflects a company's resource capability and level of public exposure, is thought to either improve or diminish the relationship between the independent variables and sustainability report disclosure. Furthermore, in this study, firm value is controlled by the Price-to-Book Value (PBV) ratio. In 2024, Alfiana et al. Market opinions of a company's performance prospects are represented by PBV. This study attempts to reduce estimate bias and guarantee a more accurate analysis of the impact of

leverage and business performance on sustainability report disclosure by using firm valuation as a control variable.

Panel data regression was used for data analysis. Eviews 12 software was used for data processing in this study in order to get more precise and methodical estimation findings. The Chow test, the Hausman test, and the Lagrange Multiplier test were used in regression model selection to determine if a general effects model, a fixed effects model, or a random effects model was the most suitable. In order to prevent model definition problems and guarantee that the model accurately captures the features of the panel data, this step is essential. Interaction variables between leverage and firm size as well as between firm performance and firm size were utilized to investigate the moderating impact. The purpose of testing these interaction variables is to ascertain if the link between the independent and dependent variables in the research model is strengthened or weakened by company size. The following is the panel data regression equation model:

Model 1 (Main Effect Model):

$$SRD_{it} = \alpha + \beta_1 LEV_{it} + \beta_2 FP_{it} + \beta_3 SIZE_{it} + \beta_4 PBV_{it} + \varepsilon_{it}$$

Model 2 (Moderation Model):

$$SRD_{it} = \alpha + \beta_1 LEV_{it} + \beta_2 FP_{it} + \beta_3 SIZE_{it} + \beta_4 (LEV \times SIZE)_{it} + \beta_5 (FP \times SIZE)_{it} + \varepsilon_{it}$$

Information:

SRD_{it} = Sustainability Report Disclosure of Firm i in year t

α = Constant

β = Regression Coefficient

LEV = Leverage

FP = Firm Performance (award dummy)
 SIZE = Firm Size
 PBV = Firm Value (control variable)
 ε = Error Term

The first model is used to test the direct influence of independent variables on dependent variables, while the second model is used to test the moderating role of firm size through interaction variables.

1. RESULTS AND DISCUSSION

Results

Descriptive Statistics

An overview of the data characteristics of each variable utilized in the study is intended to be provided by the description of the research variables. The dependent variable sustainability report disclosure the independent variable business financial performance the moderating variable firm size and the control variable firm value are among the factors examined. The minimum, maximum, mean, and standard deviation values of the reach research variables are presented in

this study using descriptive analysis. Before performing panel data regression analysis, this information is crucial for understanding the data distribution, degree of variation, and overall trends of each variable. Descriptive analysis also aids in identifying potential extreme data, or outliers, that may have an impact on the model estimation's outcomes. Table 2 displays the description of the research variables based on the findings of the descriptive statistical analysis using Eviews 12 software

Table 2: Descriptive Statistics

MEASURE S	Measures & Variables						
	SRD	LEV	FP	SIZE	PBV	LEV_SIZE	FP_SIZE
N	78	78	78	78	78	78	78
Mean	0.576538	1.218590	0.820513	30.35654	2.422051	37.43590	25.30654
Maximum	0.940000	7.200000	1,000,000	32.83000	23.74000	222.63000	32.83000
Minimum	0.110000	0.060000	0.000000	24.03000	0.360000	1.630000	0.000000
Std. Dev.	0.240437	1.215709	0.386244	1.705529	4.267636	38.00428	11.96076

Source : Processed data (2026)

The dependent variable (Y), sustainability report disclosure, has a mean value of 0.576538, according to the calculations in Table 2, meaning that the average level of sustainability report disclosure is around 57.65%. Significant

variations in the degree of sustainability report disclosure between organizations are indicated by the largest value of 0.94 and the smallest value of 0.11. Variation among firms is indicated by the standard deviation of 0.240437.



Companies typically have a debt level of 1.21 times their equity, according to independent variable 1's mean value of 1.218590. The lowest value is 0.06, and the highest is 7.20. Significant variations in leverage levels among businesses are indicated by the standard deviation of 1.215709. With a mean rating of 0.820513 for firm performance, 82% of businesses have won awards. This suggests that most of the sample's businesses have been honored or recognized. This variable is a fake variable if its maximum value is 1.00 and its minimum value is 0.00. Its standard deviation, which is 0.386244, shows that the sample's firms differ in their award status.

The mean value of the moderating variable, firm size, which is represented by size, is 30.35654. Its lowest value is 24.03, and its largest value is 32.83. The sample's size distribution is fairly uniform, as seen by its standard deviation of 1.705529. The company's market value is almost 2.42 times its book value, according to the control variable, firm value, which was determined using PBV and has a mean value of 2.422051. It has a maximum of 23.74 and a minimum of 0.36. With a standard deviation of

4.267636, the sample's firms' firm values differ significantly from one another.

The interaction variable between leverage and firm size has an average value of 37.43590, with a maximum value of 222.6300 and a minimum value of 1.63000000. The standard deviation is 38.00428, which indicates a relatively large variation in interaction values between firms. Meanwhile, the interaction variable between firm performance and firm size has an average value of 25.30654, a maximum value of 32.83000 and a minimum value of 0.00. The standard deviation is 11.96076, which indicates differences in interaction values between firms, which are mainly influenced by variations in firm size and award status.

Chow Test

The Chow test is conducted to compare or select the best model between the Common Effect Model (CEM) and the Fixed Effect Model (FEM). Decision-making is done by looking at the probability value (p) for Cross-Section F. If the p value > 0.05, then the selected model is the Common Effect Model (CEM). However, if $p < 0.05$, then the selected model is the Fixed Effect Model (FEM).

Table 3: Chow Test

Effects Test	Statistics	df	Prob.
Cross-section F	5.560018	(25.46)	0.0000
Cross-section Chi-square	108.553917	25	0.0000

Source: Processed data (2026)

Based on the Chow test table above, the probability value of a random cross-section is lower than the 0.05 significance level ($p < 0.05$). Therefore, the best model to use is the Fixed Effects Model (FEM) method. Based on the Chow test

results, data testing was continued with the Hausman test.

Hausman test

The Hausman test is performed to compare or select the best model between the Fixed Effects Model (FEM) and the Random Effects Model (REM). The

decision is based on the probability (p) value for the Random Cross Section. If the p value is > 0.05 , the Random Effects

Model (REM) is selected. However, if the p value is < 0.05 , the Fixed Effects Model (FEM) is selected.

Table 4: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Random cross-section	9.149136	6	0.1654

Source: Processed data (2026)

Based on the Hausman test table above, the probability value of a random cross-section is greater than the 0.05 significance level ($p > 0.05$). Therefore, the best model to use is the Random Effects Model (REM) method. Based on the Hausman test results, data testing was continued with the Lagrange multiplier test.

Lagrange Multiplier Test

The LM test is used to determine whether the Random Effects Model (REM) is superior to the Common Effects Model (CEM). This test also confirms the inconsistent results of the Fixed Effects Model and the Random Effects Model in previous tests. If the p-value is > 0.05 , the Common Effects Model (CEM) is the preferred model. However, if $p < 0.05$, the Random Effects Model (REM) is preferred.

Table 5: Lagrange Multiplier Test

	Cross-section	Time	Both
Breusch-Pagan	21.24294 (0.0000)	1.978387 (0.1596)	23.22132 (0.0000)

Source: Processed data (2026)

Based on the Lagrange multiplier test table above, the Breusch-Pagan probability value is less than the 0.05 significance level ($p < 0.05$). Therefore, the best model to use is the Random Effects Model (REM) method.

Therefore, based on the Chow test, Hausman test, and Lagrange Multiplier test result, the Random Effects Model (REM) was selected as the most appropriate regression model in this study.

Table 6: Summary of Model Selection Test

Test	Decision Rule	Result	Selected Model
Chow Test	$p < 0.05$	FEM preferred	FEM
Hausman Test	$p > 0.05$	REM preferred	REM
LM Test	$p < 0.05$	REM preferred over CEM	REM

Therefore, the Random Effects Model (REM) was used in this study.

Normality Test

A normality test was performed to ensure that the residuals in the data regression model were normally distributed. This test was performed

using the Jarque-Bera test. The criterion for accepting data as normally distributed was a p-value > 0.05 . The results of the normality test are presented in Figure 2 below.

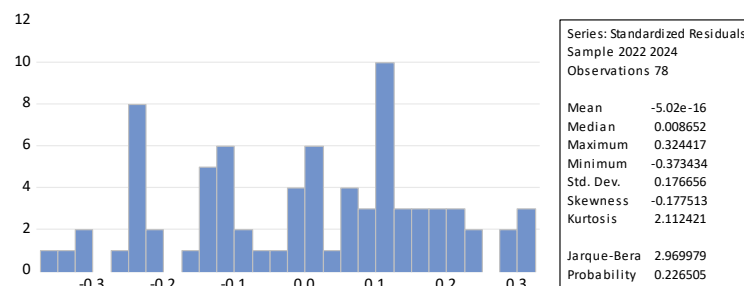


Figure 2: Normality Test

Source: Processed data (2026)

The test results show that the Jarque-Bera value is 2.969979 with a probability value of 0.226505. Since the probability value is greater than 0.05 ($p > 0.05$), indicate that the residuals are normally distributed, confirming that the normality assumption is met.

Multicollinearity Test

A multicollinearity test is performed to determine whether there is a high

correlation between the independent variables in the model. If the correlation value is above 0.80, this may indicate the presence of multicollinearity. If no correlation value exceeds 0.80 between the main variables, it can be concluded that the regression model is free from multicollinearity problems. Therefore, the independent variables used in this study are suitable for inclusion in a panel data regression model. The results of the multicollinearity test are presented in Table 7 below.

Table 7: Multicollinearity Test

	LEV	FP	SIZE	PBV	LEV_SI ZE	FP_SIZ E
LEV	1	0.14548 739...	0.20769 130...	- 0.0842695 ...	0.99863 338...	0.15999 637...
FP	0.14548 739...	1	0.61295 828...	0.08917 801...	0.16806 739...	0.99597 874...
SIZE	0.20769 130...	0.61295 828...	1	0.13677 273...	0.24783 204...	0.66678 159...
PBV	- 0.0842695 ...	0.08917 801...	0.13677 273...	1	- 0.0814479 ...	0.10187 830...
LEV_ SIZE	0.99863 338...	0.16806 739...	0.24783 204...	- 0.0814479 ...	1	0.18473 917...
FP_SI ZE	0.15999 637...	0.99597 874...	0.66678 159...	0.10187 830...	0.18473 917...	1

Source: Processed data (2026)

Based on Table 7, it can be seen that most of the correlation coefficients between independent variables are below

the 0.80 limit, such as the correlation between LEV and FP at 0.145, LEV and SIZE at 0.2007, and FP and SIZE at 0.613. These values indicate that the relationship between the main variables is still in the moderate category and does not indicate serious multicollinearity. However, there are very high correlations in the interaction variables, namely between LEV and LEV_SIZE at 0.998 and between FP and FP_SIZE at 0.995. This high correlation is normal because the interaction variable is the result of multiplying the main variable by SIZE. Overall, the results of the multicollinearity test indicate that the model does not experience significant multicollinearity problems, making it suitable for use in further regression analyze.

Simultaneous Test (F Test)

A simultaneous test using the F-statistic was employed to test whether all independent variables in the regression model jointly influence sustainability report disclosure. The F-test aims to determine the overall suitability of the regression model, namely whether the independent variables, consisting of leverage and firm performance, as well as interaction variables as a form of moderation, simultaneously influence the dependent variable. This test is conducted by comparing the probability value (Prob F-statistic) with the significance level used in the study, namely 0.05. The results of the simultaneous test (F-test) are presented in Table 8 below.

Table 8: Simultaneous Test (F Test)

Table 3: Simultaneous Test (F-Test)				
Weighted Statistics				
R-squared	0.334696	Mean dependent variable	0.240512	
Adjusted R-squared	0.278473	SD dependent var	0.132905	
SE of regression	0.112893	Sum squared residual	0.904885	
F-statistic	5.953031	Durbin-Watson stat	1.377246	
Prob(F-statistic)	0.000045			

Source: Processed data (2026)

Based on the test results in Table 8, the probability value (F statistic) is 0.000045. This indicates that the value is lower than the significance level (<0.05). Therefore, it can be concluded that all independent variables, namely leverage and firm performance, simultaneously have a significant influence on sustainability report disclosure.

Coefficient Determination (R^2)

Table 9: Coefficient of Determination (R^2)

R-squared	0.334696	Mean dependent variable	0.240512
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The coefficient of determination is used to measure the extent to which a regression model can explain variation in the dependent variable. The adjusted R^2 value used in this study is used because the model involves more than one independent variable. As shown in Table 9 below, the result of the coefficient of determination test are presented.



Adjusted squared	R-	0.278473	SD dependent var	0.132905
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Source: Processed data (2026)

Based on Table 9, the R-squared value is 0.33, and the Adjusted R-squared value is 0.27. This indicates that the independent variables, consisting of leverage and firm performance, contribute 27% to explaining variations in sustainability report disclosure. Meanwhile, the remaining 83% is explained by other factors outside the research model that are not included in the analysis.

Hypothesis Test (T-Test)

A partial hypothesis test (T-test) was conducted to determine the influence of each independent variable on sustainability report disclosure. This test aims to assess whether each variable has a significant influence individually at the 5% significance level ($\alpha = 0.05$). The results of the T-test are presented in Table 10 below.

Table 10: Hypothesis Test (T-Test)

Variable	Coefficient	Std. Error	T-Statistic	Prob.
C	-0.155123	0.783289	-0.198041	0.8436
LEV	0.755229	0.540934	1.396157	0.1670
FP	-3.575977	0.949377	-3.766659	0.0003
SIZE	0.017925	0.026568	0.674680	0.5021
PBV	-0.017877	0.006176	-2.894600	0.0050
LEV_SIZE	-0.024696	0.017317	-1.426150	0.1582
FP_SIZE	0.125231	0.032147	3.895588	0.0002

Source: Processed data (2026)

Based on Table 10, the partial test results show that the leverage (LEV) variable has a coefficient of 0.75 with a probability value of 0.16. A probability value greater than 0.05 indicates that leverage does not significantly influence sustainability report disclosure. Therefore, the first hypothesis (H1) is rejected.

Furthermore, the firm performance (FP) variable has a coefficient of -3.57 with a probability value of 0.0003. A probability value less than 0.05 indicates that firm performance has a negative and significant influence on sustainability report disclosure. Therefore, the second hypothesis (H2) is rejected.

For the moderating variables, the interaction between leverage and firm size has a coefficient of -0.02 with a probability value of 0.15 (>0.05). This indicates that firm size does not moderate the effect of leverage on sustainability report disclosure. Therefore, the third hypothesis (H3) is rejected.

Conversely, the interaction between firm performance and firm size has a coefficient of 0.12 with a probability value of 0.0002 (<0.05). This indicates that firm size strengthens the influence of firm performance on sustainability report disclosure. Therefore, the fourth hypothesis (H4) is accepted.

4.2. Discussion

The statistical test indicates that leverage does not have a significant

effect on sustainability report disclosure. Therefore, the first hypothesis (H1) in this study is rejected. This finding indicates that high or low corporate debt levels are not the main factors encouraging companies to increase sustainability report disclosure. This finding is consistent with the results of research conducted by (Williams Rahaditama (2022) and (Hermawan & Sutarti (2021), which showed that leverage does not have a significant effect on sustainability report disclosure. This contradicts the findings of (Yohana & Suhendah (2023), who found that leverage has a positive effect on sustainability report disclosure. Theoretically, based on stakeholder theory, companies with high leverage should be encouraged to increase transparency to send a positive signal to creditors. However, the results of this study indicate that the decision to disclose sustainability reports is more influenced by factors other than a company's funding structure. Based on stakeholder theory, highly leverage companies should be encouraged to increase transparency to reduce information asymmetry and build trust with creditors. However, the results of this study indicate that creditors tend to focus more on financial performance and debt repayment capacity than on non-financial disclosure, so leverage is not yet a primary determinant of sustainability report disclosure policy (Ambarwati et al., 2022).

Furthermore, the firm performance (FP) has a negative and significant influence on sustainability report disclosure. Therefore, the second hypothesis (H2) in this study is rejected. These results indicate that award-winning companies tend to have lower levels of sustainability disclosure. Theoretically, companies with a good reputation should be encouraged to

maintain legitimacy through increased transparency. However, these findings suggest a possible legitimacy substitution, where awards are considered sufficient to build a positive image, thereby reducing the incentive to increase disclosure (Alfiana et al., 2024). Thus, awards do not necessarily reflect a higher commitment to comprehensive sustainability reporting practices. This aligns with the findings of Putra & Natalia (2023), which stated that firm performance had no effect on sustainability report disclosure. However, these results contradict the findings of Alfiana et al., (2024) who stated that firm performance negatively impacts sustainability report disclosure, contradicts the findings (de Villiers et al., 2026) who stated that awards or rankings positively impact sustainability report disclosure.

For the moderating variable, the interaction between leverage and firm size indicates that firm size does not moderate the effect of leverage on sustainability report disclosure. Therefore, the third hypothesis (H3) is rejected. This indicates that neither large nor small companies use debt structure as the primary basis for determining the level of sustainability disclosure.

Conversely, the interaction between firm performance and firm size indicates that firm size strengthens the influence of firm performance on sustainability report disclosure. Therefore, the fourth hypothesis (H4) is accepted. This means that in larger firms, the influence of reputation on disclosure policy is stronger. Larger firms generally face higher public pressure, regulatory oversight, and stakeholder expectations, so reputation factors have a more significant impact on disclosure decisions.



2. CONCLUSION

This research aims to analyze the influence of leverage and firm performance on sustainability report disclosure, with firm size as moderating variable and firm value as a control variable. The results indicate that leverage has no significant effect on sustainability report disclosure. This suggests that high or low corporate debt levels are not the primary factor driving companies to increase sustainability report disclosure.

Conversely, corporate performance, as represented by awards, has been shown to have a significant negative effect on sustainability report disclosure. This suggests that companies that have received awards do not necessarily increase their level of sustainability disclosure; therefore, awards do not necessarily reflect a higher commitment to transparency.

As a moderating variable, firm size does not moderate the relationship between leverage and sustainability report disclosure. This indicates that firm size does not strengthen or weaken the effect of leverage on sustainability report disclosure. This means that for larger companies, the influence of firm performance on sustainability report disclosure is stronger. Larger companies tend to experience higher public pressure and stakeholder expectations, so when they reach a certain level of performance, their response in the form of disclosure becomes more significant.

Based on the research findings, companies are expected to utilize awards for their performance not only as a form of reputational legitimacy but also as an incentive to improve the quality and transparency of sustainability report disclosures. Companies that have received awards must consistently strengthen their commitment to sustainability reporting to meet

increasingly high stakeholder expectations. Furthermore, regulators such as the Financial Services Authority (OJK) are expected to continue encouraging improvements in the quality of sustainability report disclosures through stricter monitoring and evaluation, so that reporting is not merely a formality but truly reflects substantial sustainability practices. Investor and stakeholders can consider the result of this study in assessing companies, noting that awards received do not always align with the level of transparency in sustainability reporting. Future research is recommended to add other relevant variables, expand the observation period, and use different measurement proxies to gain a more comprehensive understanding of the determinants of sustainability report disclosure.

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