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THE EFFECT OF ENVIRONMENTAL COSTS, GREEN ACCOUNTING, ENVIRONMENTAL RESPONSIBILITY DISCLOSURE, AND CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE (A STUDY OF ENERGY SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE 2019-2022 PERIOD)

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Abstract. This study aims to examine the effect of environmental costs, green accounting, environmental responsibility disclosure, and capital structure on the financial performance measured by the proxy of Return on Equity (ROE). The samples include 68 energy sector companies listed on the Indonesia Stock Exchange (IDX) between 2019 and 2022 selected through purposive sampling technique and analyzed by descriptive analysis and multiple linear regression. The results exhibit that environmental costs and green accounting have a negative but insignificant effect on financial performance which may be caused by other factors. In contrast, environmental responsibility disclosure has a positive significant effect, and capital structure is found to have a negative significant effect on financial performance. This study does not fully support legitimacy and stakeholder theories for several reasons. Companies need to increase attention to environmental issues through proper implementation of green accounting and maintain the proportion of their capital structure to gain positive sentiment from the public.

Keywords: Legitimacy, Environment, Stakeholders, Capital Structure, and ROE.

I. INTRODUCTION

Entering the current highly dynamic industrial revolution, companies strive to maximize profits. The public can judge a company's success or failure based on its financial performance. Various considerations, including the increasingly rapid global economic acceleration, require companies to achieve high profits through various means to continue operating and survive in their industries (Septiadi, 2016). However, it is unfortunate that their efforts to pursue profits are not balanced by their efforts to rehabilitate the surrounding area. This social and environmental issue has also become a hot topic in Indonesia, especially among the government, regulators, companies, and the general public, so that they can reform existing public policies (Kholmi & Nafiza, 2022). Sukoharsono & Andayani (2021:36) This issue has led to the emergence of a new sub-discipline in the field of accounting called environmental accounting, which focuses on the disclosure of non-financial information.

The surge in global industrial competition requires companies to continuously develop and sustainably manage both their internal resources and those of their stakeholders. The aspect we often pay attention to when issuers publish their annual reports is the financial aspect. Despite this, they still have contingencies or obligations regarding social and environmental conditions as they strive to achieve their primary goal of maximizing profits (Meiyana & Aisyah, 2019). Essentially, entity owners establish their own companies to generate profits from their business operations, aligned with their industry focus and financial performance, which can be measured through profitability ratios. Beyond the economic aspect, environmental factors should also be considered in the concept of maximizing profits.

The recent spate of disasters is partly due to corporate negligence in risk mitigation. Inefficient management of production resources and waste management has given rise to various environmental problems, which, if left unchecked, will worsen the socio-economic conditions of affected communities (Ramadhani et al., 2022). These issues have made people aware that the earth they live on is in critical condition and that a greater awareness is needed to improve everything. Law Number 40 of 2007 concerning Limited Liability Companies explains that "Social and Environmental Responsibility is a Company's commitment to participate in sustainable economic development to improve the quality of life and the environment, which is beneficial for both the Company itself, the local community, and society in general." The reality often occurs when companies exploit natural resources massively without thinking through their actions under the guise of increasing profits (Elviani et al., 2022).

The official website of the Central Statistics Agency (2024) recorded land use through logging or deforestation at 104,032.5 hectares (ha). This concerning fact further confirms the low level of environmental awareness among economic actors, both individuals and companies. They appear indifferent to their business activities. In their book, Sukoharsono & Andayani (2021:37) state that reporting on the Triple Bottom Line must comply with GRI (Global Reporting Initiative) guidelines so that stakeholders understand how the organization manages its resources for sustainable development. When entities consciously incorporate environmental elements into their business, they also understand the environmental costs they will incur (Evita & Syafruddin, 2019). Environmental costs can be determined by dividing the environmental allocation costs by the company's net profit after tax. Previous research discussing environmental costs on financial performance was conducted by Septiadi (2016) and Usemahu (2023) and this variable has a significant positive effect on financial performance.

In the long term, companies that disclose environmental costs can outperform their competitors by creating a positive image. These budgeted costs are grouped into specific accounts, known as green accounting. In addition to the classification of environmental costs carried out by companies, the expertise and accuracy of accounting information in minimizing negative environmental consequences from their activities is also one of the achievements of green accounting success (Astuti, 2012). When companies implement this factor, they are able to predict the entity's future readiness and can ensure environmental sustainability and conservation (Lestari & Khomsiyah, 2023). This is in line with research conducted by Dewi & Muslim (2022), Anggar et al. (2022), Wardianda & Wiyono (2023).

Legitimacy theory explains that when an organization strives to achieve economic, social, and environmental goals simultaneously, the benefits will be felt in the future, such as improved long-term financial performance and the acquisition of stakeholder trust. Furthermore, the environmental costs arising from the implementation of CSR activities by a

company align with the concept of green accounting, which involves costs to protect the environment and surrounding social conditions (Dewi & Muslim, 2022). The implementation of this green accounting-based recording will ultimately produce a separate report from the annual report called a sustainability or CSR report. Sukoharsono & Andayani (2021:62) state that the report consists of economic, environmental, and social aspects based on GRI guidelines. According to Financial Services Authority (OJK) Regulation Number 51/POJK.03/2017 concerning the implementation of sustainable finance for financial services institutions, issuers, and public companies, Chapter IV, Article 10 Paragraph 1 states, "FSIs, Issuers, and Public Companies are required to prepare a Sustainability Report." In this case, companies that have sold their shares to the public have an obligation to publish other reports relevant to environmental and social aspects according to the standards set by the OJK or the 2016 GRI 4 standards.

CSR disclosure in the environmental category consists of 34 items that must be reported by companies. Stakeholder theory states that company operations that intersect with Profit, People, and Planet attract stakeholder attention. Based on the results of previous research by Meiyana & Aisyah (2019), Shofia & Anisah (2020), and Kholmi & Nafiza (2022), it was stated that CSR disclosure significantly influences projected financial performance in the profitability ratio. This means that if a company discloses the required items in accordance with the GRI-4 guidelines, it is possible to increase the company's net profit after tax (Kholmi & Nafiza, 2022). Amidst the increasingly competitive Indonesian industrial market, all companies are competing to grow and develop sustainably to gain profits (Komara et al., 2016).

To achieve optimal environmental management, it is crucial for companies to manage their capital structure so that profits can be utilized for the company's environmental responsibilities. Capital structure is a crucial element in a company's business operations, and managers often face qualitative and quantitative considerations related to spending policies (Santika & Sudiyatno, 2011). One commonly used solvency ratio is the Debt to Equity Ratio (DER). A company's financing source from debt can impact financial stability and bankruptcy risk. Studies cited by Gustiana & Zupiyardi (2022), Suryaningrum & Ratnawati (2023), and Sari & Setyaningsih (2023) indicate that capital structure does not significantly impact financial performance. High levels of debt financing operational activities will increase the risk of bankruptcy. DER, as a financial ratio, can be a negative signal for investors when making investment decisions when the ratio value exceeds the company's capital (Gustiana & Zupiyardi, 2022).

The sample used in this study is companies in the energy sector that are or have been listed on the Indonesia Stock Exchange, meeting several requirements. Companies engaged in the production, distribution, and sales of energy are referred to as energy sector companies. Energy can be in the form of natural gas, petroleum, coal, electricity, geothermal, solar, wind, and others. Energy resources are explored, converted into energy, transmitted, and distributed. Another reason for selecting this sector is because it is one of the largest contributors to greenhouse gas (GHG) emissions on earth, accounting for 36% in 2019 (Margireta & Khoiriawati, 2022). According to the official CNBC Indonesia website (2023), the energy sector index was one of eleven indices that strengthened by around 0.39% when the Jakarta Composite Index (JCI) declined in 2023.

During the Covid-19 pandemic, several companies in this sector did not immediately destabilize their stocks, but instead increased energy consumption due to high demand (Latif

et al., 2022). Therefore, it can be concluded that this sector is relevant to the variables studied because it contains economic-environmental elements. Furthermore, the scarcity of research on environmental accounting in energy sector companies has motivated researchers to examine it using the previously defined variables. Another reason for this research is the continued inconsistency of previous research, which serves as the background for further research using the most recent years, from 2019 to 2022. This study's results can serve as a reference for future research. The factors that will serve as independent variables here include environmental costs, green accounting, environmental responsibility disclosure, and capital structure, with financial performance as the dependent variable. The population used as the sample is also rarely studied because the variables address environmental issues or problems in energy sector companies. Therefore, it can be concluded that the energy sector can attract the attention of investors because it is one of the sectors that is taken into account in the global economic order (Margireta & Khoiriawati, 2022).

This study aims to examine and observe the influence of environmental cost variables, green accounting, environmental responsibility disclosure, and capital structure on the financial performance of energy sector companies listed on the Indonesia Stock Exchange for the 2019-2022 period. This research, which examines these variables, is expected to benefit parties such as companies, the government, and the public, and to test legitimacy and stakeholder theories within the research observation period. Furthermore, the expected practical benefits can open new insights for companies, investors, and potential investors, so that they always pay attention to non-financial aspects and implement environmental accounting voluntarily to attract the attention of stakeholders themselves.

II. LITERATURE REVIEW

A. Legitimacy Theory

Organizational legitimacy is an achievement of their actions in adjusting their activities to prevailing social norms and values and encouraging entities to make changes that can benefit related parties (Dowling & Pfeffer, 1975). Deegan (2002) in his article also emphasized that business entities are encouraged to focus and strive towards disclosing information that explains social and environmental practices by involving companies, countries, individuals, and groups that will ultimately form an integrated system.

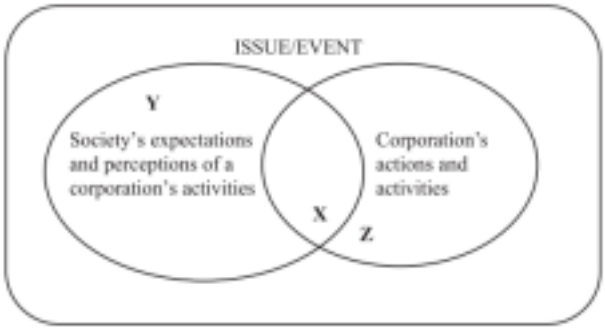

Figure 1. Corporate Legitimacy (Source: O'Donovan, 2002)

The goal of corporate legitimacy based on the image below is to ensure the area in the middle (denoted by X) is expanded to reduce the limitations or distance of the entity with public perception (O'Donovan, 2002). Essentially, legitimacy theory is inseparable from the link between company performance, especially economic, and operational activities towards the

environment, so that the integration of both is very decisive for the company's position. Legitimacy can be achieved by entities when they have made efforts through social activities and can be a positive signal to society (Mousa & Hassan, 2015).

B. Stakeholder Theory

Freeman et al. (2010:4) in their book state that stakeholder theory has been developed over the past decades, addressing issues of value creation and trade, the ethics of capitalism, and managerial mindsets. This theory, along with legitimacy theory, is fundamental to business ethics because companies are obligated to make appropriate and accurate decisions at every level of the entity's hierarchy in carrying out their managerial roles. Roberts (1992) defines how the impact of stakeholder presence influences management decisions regarding entity actions and information disclosure.

The role of stakeholders has a significant impact on the company, therefore the two main functions of this theory in the objectives of business ethics are a method to support distributive justice beyond the limitations of the capitalist structure by helping external parties of the company other than shareholders and becoming a basis for analyzing the environmental responsibility of the entity (Kaler, 2006). The practice of environmental responsibility is included in the Corporate Social Responsibility (CSR) report or sustainability report and the public needs to know what activities have been carried out by them.

C. Financial performance

Warren et al. (2018:666) explain that the primary purpose of accounting is to provide relevant and accurate information for use by users of financial statements. Rist and Pizzica (2015:1) state that there are several ways to assess an entity's financial performance, but generally, one of the easiest is using a ratio. This tool, called a ratio, transforms the data contained in financial statements into concise information to understand the company's condition. Calculations related to an organization's efficiency can be seen in annual reports using several ratios, one of which is profitability analysis.

This study uses profitability ratios to measure a company's financial performance because they involve the profits or gains generated by the organization's management efforts. The profitability ratio tested in this study uses Return on Equity (ROE) because it is a derivative or breakdown of the DuPont Analysis Ratio. The DuPont ratio reflects a company's profitability ratio, which is more compact, as ROE. Return on Equity reflects the net profit earned on shareholders' equity.

D. Environmental Costs

Environmental costs include all costs incurred to reduce the negative impact of a company's business activities on its environment, specifically those charged to the products, processes, systems, and facilities owned by the organization to determine the cost of detecting production waste. Hansen and Mowen (2007:780) describe environmental costs as "environmental costs are associated with the creation, detection, remediation, and prevention of environmental degradation." Therefore, according to them, environmental costs are stated in four categories: prevention costs, detection costs, internal failure costs, and external failure costs.

Wijayanto et al. (2021) emphasize that companies must always consider all possible inputs and outputs of the resources they use and manage them as efficiently as possible to minimize

significant impacts on environmental sustainability. However, many entities still believe these costs can be burdensome because they require additional funds (Meiyana & Aisyah, 2019). These costs can be measured by comparing environmental costs with net profit after tax.

E. Green Accounting

The implementation of green accounting is considered to play a significant role in maintaining environmental sustainability because through these records and calculations, companies will understand the impact of their business practices (Cho & Patten, 2013). With the rapid development of this field, a concept called green accounting has emerged. Idowu et al. (2013:1033) state that green accounting refers to matters or information related to organizational actions that impact the environment. The implementation of green accounting is one of the entity's obligations to stakeholders because they are not only concerned with the company's financial performance, but also want to know how the company's operational activities relate to the environment (Ramadhani et al., 2022).

Green accounting also faces various challenges, particularly in determining the costs and benefits of a company's business processes (Astuti, 2012). Green accounting can be measured using dummy variables using environmental cost categories such as recycling costs, environmental research, environmentally related activities, and so on. A value of one is assigned when the cost component is present and a value of zero when the company does not have any of these environmental cost indicators (Angelina & Nursasi, 2021).

F. Environmental Responsibility Disclosure

Putri and Christiawan (2014) in their article explain that Corporate Social Responsibility (CSR), also known as business social responsibility, is a collaboration between an organization and its stakeholders. CSR is about how entities carry out their social-environmental activities so that the results will benefit all involved (Omran & Ramdhony, 2015). Reports disseminated by entities consist of two disclosures: mandatory disclosures and voluntary disclosures, which serve as supporting documents in facing market competition. Mandatory disclosures are disclosures that must include elements or components required by applicable accounting standards at the time. Voluntary disclosures, on the other hand, describe the explanation of information provided by entities as a form of added value to stakeholders that is not coercive in nature. (Darrough & Stoughton, 1990)

CSR disclosure is a voluntary disclosure that includes socio-environmental issues and how a company handles them. However, since the issuance of Financial Services Authority Regulation Number 51/POJK.03/2017 concerning the implementation of sustainable finance for financial services institutions, issuers, and public companies, it states that "FSIs, Issuers, and Public Companies are required to prepare a Sustainability Report" which has been effective as of January 1, 2020 for public companies. As a voluntary disclosure, CSR disclosure contained in the sustainability report or CSR report is regulated by the GRI (Global Reporting Initiative) standards or guidelines. Based on these guidelines, companies are required to disclose three categories for corporate social responsibility: economic, environmental, and social. The total aspects of the items disclosed consist of 91 items with a breakdown of 9 items in the economic category, 34 items in the environmental category, and 48 items in the social category. The measurement of CSR disclosure will later compare the number of items issued by the company with the total items for the environmental category.

G. Capital Structure

Prabansari and Kusuma (2005) explain that capital structure is closely related to capital investment, so it is also called financing capitulation, which is the accumulation of issued shares, issued bonds, and retained earnings from operations. Companies require an optimal capital structure to achieve optimal returns so that company stakeholders also benefit. A capital structure can be considered optimal if the amount of debt in financing is not greater than equity because investors pay more attention to companies with less debt to reduce risk (Santika & Sudiyatno, 2011).

The primary objective of establishing a company is to maximize available capital, converting it into profit, to finance its operational activities and enrich investors (Margaretha, 2003). Furthermore, the company utilizes these profits to fulfill its social and environmental responsibilities , legitimizing its position and maintaining public acceptance. The Debt-to-Equity Ratio (DER) used in this capital structure compares the proportion of debt to equity, which can serve as a signal for investors when making decisions about investing in the company (Gustiana & Zupiyardi, 2022).

H. Research Framework

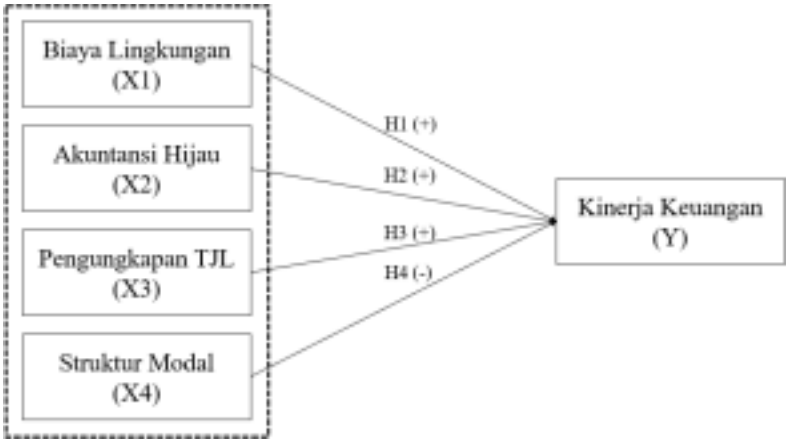

Figure 2. Research Framework (Source: Data processed by researcher, 2024)

Research Hypothesis:

1. *The Impact of Environmental Costs on Financial Performance*

Research by Septiadi (2016), Singh et al. (2016), Putri (2023), and Usemahu (2023) indicates that environmental costs have a significant, positive impact on financial performance. These costs appear in a company's financial statements due to corporate operations that have the potential to damage the environment, leading to litigation or mandatory provisions for environmental improvements or repairs. Legitimacy and stakeholder theory suggests that if an organization transparently discloses cost information, specifically by reducing costs, this serves as a positive signal to stakeholders, legitimizing the entity's position and maintaining public acceptance.

H1: Environmental costs have a significant positive effect on financial performance.

2. *The Impact of Green Accounting on Financial Performance.*

Green accounting is considered to have a crucial role because it acts as a bridge between entities and stakeholders by describing the costs that arise related to their impact on the environment (Dewi & Muslim, 2022). Ramadhani et al. (2022) also added that the implementation of green accounting is a form of corporate responsibility because stakeholders want to know the follow-up of the company's operational activities that are directly related to environmental sustainability. O'Donovan (2002) Legitimacy theory states that companies try to analyze issues or problems in their social environment to gain stakeholder trust. Stakeholder theory also explains that all entity actions should benefit all parties as much as possible. This statement aligns with research by Dewi & Muslim (2022), Dianty & Nurrahim (2022), Wardianda & Wiyono (2023), and Lestari & Khomsiyah (2023).
H2: Green accounting has a significant positive effect on financial performance.

3. *The Impact of Environmental Responsibility Disclosure on Financial Performance*

In legitimacy theory, with information published by a company credibly, it will have more profitable opportunities in the future and be useful for the existence of the organization (Faisal et al., 2012). Furthermore, stakeholder theory also emphasizes that organizations are required by various parties to find solutions to problems regarding information disclosure on CSR based on the limits determined by the GRI (Kaler, 2006). This explanation is in accordance with the results of research by Meiyana & Aisyah (2019) and Saifuddin & Wiyono (2023) which stated that CSR disclosure has a positive effect on company profitability. Research by Lestari & Khomsiyah (2023) which shows a significant and positive influence on the disclosure of sustainability reports by companies containing economic, environmental, and social issues.
H3: Disclosure of environmental responsibility has a significant positive effect on financial performance.

4. *The Influence of Capital Structure on Financial Performance*

Capital structure, measured by the Debt to Equity Ratio (DER), is considered less secure for creditors and investors because a high DER value means the company uses more debt financing (Sahid & Henny, 2023). Komara et al. (2016), Ngantung & Handoyo (2023), Cahyani & Puspitasari (2023), and Suryaningrum & Ratnawati (2024) concluded in their research that capital structure negatively impacts financial performance. Legitimacy theory explains that companies that seek to legitimize the public by disclosing financial data hope that stakeholders will be interested in investing. However, they certainly do not want to invest if the company's capital structure is predominantly debt. Stakeholder theory assumes that they, as primary stakeholders, influence the company's existence through both financial and non-financial performance (Rokhlinasari, 2015).
H4: Capital structure has a significant negative effect on financial performance.

III. RESEARCH METHODOLOGY

This type of research is quantitative. Quantitative research is often found in the field of accounting. This research is used to investigate a specific population or subject by collecting data using research instruments and analyzing the data statistically to test the hypotheses that have been made (Sugiyono, 2013:8). This study took a population of issuers operating in the energy sector taken from the Indonesia Stock Exchange. The number of companies in the energy sector that have been listed is 86 companies. The sample involved in this study were

energy sector companies that have been listed on the Indonesia Stock Exchange. Using the research period 2019-2022 using a purposive sampling technique, with 17 companies that met the criteria over four years of observation, resulting in a data sample of 68 companies.

The data used in this study is secondary data obtained from the IDX website, as well as annual reports and sustainability reports from each sample company's website. The data collection method used in this study is descriptive statistical analysis and multiple linear regression analysis using panel data. Panel data can also be referred to as a combination of cross-sectional and time series data. For more accurate results, the data was processed using applications such as Microsoft Excel 2019 and Eviews version 13.

IV. RESULTS AND DISCUSSION

A. Sample Characteristics

As of April 2024, there were 86 energy sector companies listed on the Indonesia Stock Exchange. Purposive sampling was used to select 17 energy sector companies that met the specified criteria. All eligible companies were subjected to a total of 68 observations.

Table 1. Results of Descriptive Statistical Tests

Descriptive Statistics						
	N	Minimum	Maximum	Mean	Std. Deviation	Variance
ROA	484	-2,00	0,44	-1,2997	0,42937	0,184
ROE	484	-2,00	0,55	-1,0151	0,43233	0,187
NPM	484	-2,00	3,01	-0,8679	0,56081	0,315
Valid N (listwise)	484					

Source: SPSS 27 Output (2023)

The descriptive statistical test showed that the variance of ROA was 0.184, ROE was 0.187, and NPM was 0.315. These results indicate that the variance of ROA and ROE is close to zero (0), indicating that the ROA and ROE variables have a normal data distribution. Meanwhile, the NPM variable has a relatively high variance of 0.315, indicating that the data in that variable has a less than normal distribution. It can be concluded that of the three variables, two of which, Return on Assets and Return on Equity, have a normal data distribution. Meanwhile, the Net Profit Margin variable has a less than normal data distribution.

Then, the mean value of ROA is -1.2997, ROE is -1.0151, and NPM is -0.8679. The mean of these three variables has a negative value due to the effect of data transformation, namely the researcher transformed the data using a logarithm with a base of 10 to all samples of the research variables. Then, for the maximum value of each variable is ROA of 0.44, ROE of 0.55, and NPM of 3.01. It can also be seen that the samples included in the data analysis technique are in accordance with the previously determined number of samples, namely 484 samples.

B. Data Analysis Results

Table 1. Descriptive Statistics

	BL	AH	PTJL	SM	KK
Mean	0.118373	0.955882	0.419118	1.621711	0.068116
Median	0.022724	1.000000	0.352941	1.011552	0.090155
Maximum	4.021865	1.000000	0.911765	24.84892	0.614960
Minimum	-1.767931	0.000000	0.058824	0.050454	-2.543396
Std. Dev.	0.596148	0.206883	0.264456	3.123861	0.363490
Skewness	4.095085	-4.439912	0.382196	6.255175	-5.416279
Kurtosis	30.28548	20.71282	1.747312	46.43971	40.59957
Observations	68	68	68	68	68

Source: Data processed by Eviews 13 (2024)

The financial performance variable, denoted by ROE, shows an average level of 0.0681. The average environmental cost for all sample companies is 0.1184. This indicates that the majority of entities are aware of the importance of disclosing environmental costs in their reports. The average obtained for this variable is 0.96, which is close to 1. The average disclosure of environmental responsibility is 0.4191. In other words, the sample companies still disclosed fewer than 17 items in each of their sustainability reports for four consecutive years. The mean or average capital structure is 1.6217 or 162.17%. It can be concluded that the energy sector companies in this sample use a larger proportion of debt in their capital structure to carry out corporate activities.

Chow Test

Table 2. Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.467124	(16,47)	0.0084
Cross-section Chi-square	41.459333	16	0.0005

Source: Data processed by Eviews 13 (2024)

The results of this test show that the P-value for the cross-section Chi-Square is less than the established significance level of 0.05, or 0.0005 < 0.05. In conclusion, the selected regression model is the Fixed Effect Model (FEM). Therefore, the next test is the Hausman Test.

Hausman test

Table 3. Hausman Test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.208819	4	0.0159

Source: Data processed by Eviews 13 (2024)

Based on the Hausman test results above, the P-value for the random cross-section is 0.0159. This indicates that the value is less than the set significance level of 5% or 0.05, so the selected model is the Fixed Effect Model (FEM). Therefore, there is no need to continue with the Lagrange Multiplier Test because this test determines the best model between the Common Effect Model (CEM) and the Random Effect Model (REM).

C. FEM Multiple Linear Regression Analysis Results

Table 4. FEM Regression Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.179187	0.123897	1.446256	0.1574
BL	-0.017057	0.038178	-0.446787	0.6571
AH	-0.003872	0.112630	-0.034379	0.9727
PTJL	0.231225	0.137062	1.687004	0.0982**
SM	-0.124721	0.008072	-15.45136	0.0000*

Source: Data processed by Eviews 13 (2024)
Information:
*Alpha 5%
**Alpha 10%

KK = 0.179 - 0.017BL - 0.004AH + 0.231PTJL - 0.125SM

It is known that the constant value in the equation above is 0.122, which means that if each independent variable such as environmental costs (X1), green accounting (X2), environmental responsibility disclosure (X3), and capital structure (X4) is considered constant or has a value of 0, then the value for the dependent variable or financial performance (Y) is 0.179.

The environmental cost variable (X1) has a negative regression coefficient of 0.017. The conclusion is that if every independent variable other than environmental costs is considered constant or has a value of 0, then every one percent increase in environmental costs will decrease financial performance (Y) by 0.017.

The green accounting variable (X2) obtained a regression coefficient of 0.004 with a negative direction so that it can be concluded that if other independent variables are considered constant or have a value of 0, then green accounting with a value of one will reduce the level of financial performance (Y) by 0.004.

The environmental responsibility disclosure variable (X3) obtained a regression coefficient of 0.231 with a positive direction. This means that if the other independent variables are assumed to be constant or have a value of 0, then each increase in environmental responsibility disclosure by one item will increase financial performance (Y) by 0.231.

The capital structure variable (X4) has a regression coefficient of 0.125 with a negative direction. Therefore, it can be concluded that if the other independent variables are assumed to be 0 or constant, then every one percent increase in capital structure formulated with DER will decrease financial performance (Y) by 0.125.

Goodness of Fit Test (F Test)

The Goodness of Fit Test or F Test is a statistical test used to test whether the regression model obtained by the researcher is suitable for use or not.

Table 5. Goodness of Fit Test (F Test)

R-squared	0.882281	Mean dependent var	0.068116
Adjusted R-squared	0.832188	S.D. dependent var	0.363490
S.E. of regression	0.148903	Akaike info criterion	-0.722753
Sum squared resid	1.042093	Schwarz criterion	-0.037317
Log likelihood	45.57360	Hannan-Quinn criter.	-0.451162
F-statistic	17.61283	Durbin-Watson stat	2.131608
Prob(F-statistic)	0.000000		

Source: Data processed by Eviews 13 (2024)

Based on the results of the F test in table 4.9, it is known that the calculated F value is 17.613 which is greater than the F table, which is 2.515 (F-calculated > F table). Then the significance value itself is 0.000 so it can be concluded that the value is less than the predetermined significance level of 0.05 (Sig. < 0.05). So the conclusion is that there is a statistically significant difference between the variables tested in the study and the regression model can be used.

Coefficient of Determination Test (R^2)

The coefficient of determination can be analyzed by examining the Adjusted R Square value for multiple linear regression analysis. The coefficient of determination ranges from zero to one. If the value is close to one, it can be concluded that all independent variables tested in the study are able to explain their effect on the dependent variable.

Table 6. Results of the Determination Coefficient Test (R^2)

R-squared	0.882281
Adjusted R-squared	0.832188
S.E. of regression	0.148903
Sum squared resid	1.042093
Log likelihood	45.57360
F-statistic	17.61283
Prob(F-statistic)	0.000000

Source: Data processed by Eviews 13 (2024)

As seen from the model summary display in Table 6, the coefficient of determination test for the Adjusted R Square value is 0.832 or 83.2%. Therefore, the financial performance variable here can be explained by the environmental cost and green accounting variables.
environmental responsibility disclosure and capital structure amounted to 83.2% and the remaining 16.8% (100%-83.2%) was explained by other variables outside the model.

Individual Parameter Significance Test (t-Test)

Partial testing, or t-tests, are conducted to test hypotheses or to assess the influence and direction of the independent variables on the dependent variable. Since the required significance levels are 5% and 10%, an independent variable is considered influential if its significance value exceeds 0.05 and 0.1, respectively (Sig. > 0.05 and 0.1).

Table 7. t-Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.179187	0.123897	1.446256	0.1574
BL	-0.017057	0.038178	-0.446787	0.6571
AH	-0.003872	0.112630	-0.034379	0.9727
PTJL	0.231225	0.137062	1.687004	0.0982**
SM	-0.124721	0.008072	-15.45136	0.0000*

Source: Data processed by Eviews 13 (2024)
Information:
*Alpha 5%
**Alpha 10%

The environmental cost variable (X1) obtained a value of 0.657 or greater than the established significance level of 0.05. It was concluded that environmental costs partially but not significantly negatively influence financial performance (Y) with a negative influence direction of -0.017. This does not align with H1: Environmental costs have a positive influence on financial performance. Therefore, H1 is rejected.

The green accounting variable (X2) obtained a value of 0.973, which is greater than the established significance level of 0.05. It was concluded that green accounting has a partial but insignificant negative effect on financial performance (Y) with a negative influence direction of -0.004. This contradicts the hypothesis that has been made, namely H2: Green accounting has a positive effect on financial performance. Therefore, H2 is rejected.

The environmental responsibility disclosure variable (X3) obtained a value of 0.098 or in other words, the value is smaller than the established significance level of 0.1. It was stated that the environmental responsibility disclosure variable has a significant positive effect on financial performance (Y) with a positive direction of influence of 0.231. This is in line with the previously made hypothesis because H3: Environmental responsibility disclosure has a positive effect on financial performance. Therefore, H3 is accepted.

The capital structure variable (X4) obtained a value of 0.000, or less than the established significance level of 0.05. It was concluded that capital structure has a significant effect on financial performance (Y) with a negative direction of influence of -0.125. This is in line with the previously applied hypothesis that H4: Capital structure has a negative effect on financial performance. Therefore , H4 is accepted.

D. Discussion

1. Environmental Costs Have No Significant Negative Impact on Financial Performance

The majority of the samples tested did disclose their environmental costs in their annual reports, but entities sometimes still neglected environmental expenditures, resulting in underreporting. Environmental costs were not effectively recorded at the end of the accounting period, ultimately impacting net profit after tax (Aziza & Sukoharsono, 2021). Legitimacy theory suggests that companies will continually strive to gain stakeholder trust by creating a positive business culture through environmental rehabilitation to achieve sustainable development (Putri & Christiawan, 2014).

Rokhlinasari (2015) stated in stakeholder theory that companies can continue to exist in the future by publishing information other than financial aspects required by stakeholders.

Disclosure of non-financial aspects is seen as a bridge between company management and the public. The results of this review align with research by Kinasih et al. (2022), Khairunisa & Pohan (2022), Cahyani & Puspitasari (2023), and Dewi & Nurleli (2024), which describe that environmental costs have no significant negative effect on financial performance. However, other studies conducted by Septiadi (2016) and Usemahu (2023) indicate a significant positive effect on financial performance.

2. Green Accounting Has No Significant Negative Impact on Financial Performance

Of the total companies tested, there were only three companies that did not implement green accounting in their books for certain years. The main purpose of the implementation was to minimize the negative environmental effects caused by the company's operational activities and to meet stakeholder expectations that they were not only focused on the level of profit returns (Astuti, 2012). However, the company's efforts in this matter did not seem to be visible in the observation period because of the short time period and this statement is in accordance with the legitimacy theory whose benefits are only felt later.

The results of this hypothesis test align with research conducted by Rosaline & Wuryani (2020), Angelina & Nursasi (2021), Handoko & Santoso (2023), and Suryaningrum & Ratnawati (2024), which found that green accounting had no significant effect on financial performance, with a negative relationship. However, different tests conducted by Ramadhani et al. (2022), Lestari & Khomsiyah (2023), and Wardianda & Wiyono (2023) demonstrated that green accounting variables had a significant positive effect on financial performance.

3. Environmental Responsibility Disclosure Has a Significant Positive Impact on Financial Performance

The legitimacy tactic of publishing reports on environmental responsibility is not uncommon for organizations operating with natural resources (O'Donovan, 2002). However, this is a long-term strategy, so its economic impact will not be immediately visible in the company's financial performance. Publication of environmental responsibility in a sustainability report based on the GRI index can be a positive signal for companies to improve their image among stakeholders, thus giving the entity the opportunity to achieve increased profits in the future from the repeated publication of sustainability reports each year.

The aforementioned opinion is supported by Septiadi (2016), Shofia & Anisah (2020), Kholmi & Nafiza (2022), Lestari & Khomsiyah (2023), and Saifuddin & Wiyono (2023) in their research, which states that environmental responsibility disclosure has a significant and positive impact on financial performance as measured by profitability ratios. Different test results are shown in research conducted by Saputra (2020) and Azizah & Cahyaningtyas (2021), which revealed that many environmental responsibility disclosures disseminated through mandatory sustainability reports have not been implemented properly because companies are simply fulfilling their obligations.

4. Capital Structure Has a Significant Negative Effect on Financial Performance

Legitimacy theory states that entities must create a positive impression by restructuring their capital composition to convince the public that the company's financial condition is sound and that long-term problems will not arise. Stakeholder theory emphasizes the need to align perceptions or views between the company and its stakeholders. Investors tend to think twice before investing in companies with high levels of debt. Corporations need to reassure them through more effective and efficient fund management (Rokhlinasari, 2015).

The negative impact of capital structure on financial performance confirms that companies are taking greater debt financing measures to adapt to their business environment. This statement aligns with research conducted by Komara et al. (2016), Mandasari & Rikumahu (2023), Cahyani & Puspitasari (2023), Sahid & Henny (2023), and Suryaningrum & Ratnawati (2024), which found that capital structure, as measured by the debt-to-equity ratio (DER), significantly negatively impacts financial performance. The higher the level of debt used to finance an entity's activities, the lower its financial performance.

V. CONCLUSION

A. Conclusion

Environmental cost variables have an insignificant, but negative, influence on financial performance. Companies consider costs incurred to address environmental issues to be a routine obligation that must be paid by the entity each period and are not yet voluntary. Green accounting variables have an insignificant, but negative, influence on financial performance. The majority of companies have implemented green accounting practices as a step toward achieving sustainable economic development. The benefits of green accounting practices are not yet fully understood by them because many environmental-related items or account categories are not presented separately in the financial statements, which are also included in the annual report.

The environmental responsibility disclosure variable has a significant, positive effect on financial performance. Companies that have incurred environmental costs and classified them appropriately should disclose this in their sustainability reports. This disclosure is also regulated by the GRI standards and OJK regulations. The capital structure variable has a significant, negative effect on financial performance. This indicates that capital structure, as measured by the DER proxy, does have a significant influence, but its impact is not favorable for profit.

B. Implications

The results of this study do not align with legitimacy theory, even though the company has disclosed environmental costs and implemented green accounting. Meanwhile, stakeholder theory suggests that organizations have considered their interests in non-financial information, but it has not yet fully attracted stakeholders. The variable of environmental responsibility disclosure has a significant positive effect, and capital structure has a significant negative effect on financial performance.

The findings of this study have practical implications for companies, particularly in the energy sector, to continually adapt to an increasingly dynamic business environment and implement the Triple Bottom Line (TBL) concept as a fundamental organizational philosophy. Competitive advantages, such as prioritizing environmentally-based accounting, are needed to attract public attention for the sake of the entity's sustainability, which will ultimately improve long-term financial performance.

C. Suggestion

Based on the research findings and conclusions outlined previously, several recommendations may be helpful for various parties. Companies must consistently implement environmentally-based accounting, including environmental costs, green accounting, and

environmental responsibility disclosure. Furthermore, attention should be paid to maintaining the composition of the debt-based capital structure.

The government must also be firm in enforcing regulations regarding the liability of limited liability companies. If a company is proven to have violated the rules, it must not hesitate to impose appropriate penalties for the violations caused by the entity. It is also the government's responsibility to implement oversight functions to ensure environmental protection. Investors and potential investors should remain cautious when selecting companies in which to invest. Fundamental analysis and review are necessary to understand corporate actions, particularly in business environments that rely on natural resources for their operations.

Finally, for future researchers, it is hoped that they can examine these variables in companies in other sectors and can add several similar variables such as ISO 14001 environmental management certification, environmental performance based on the PROPER index, and greenhouse gas emissions or carry out different measurements from this study in order to obtain more accurate and optimal results .

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REFERENCES

Angelina, M., & Nursasi, E. (2021). Pengaruh Penerapan Green Accounting dan Kinerja Lingkungan Terhadap Kinerja Keuangan Perusahaan. Jurnal Manajemen Dirgantara, 14(2), 211–224. https://doi.org/10.56521/manajemen-dirgantara.v14i2.286

Astuti, N. (2012). Mengenal Green Accounting. Permana: Jurnal Perpajakan, Manajemen Dan Akuntansi, 4(1), 69–75.

Aziza, W. Q., & Sukoharsono, E. G. (2021). Evolusi Akuntansi Keberlanjutan. Syntax Literate: Jurnal Ilmiah Indonesia, 6(10), 5371–5388. https://doi.org/10.36418/syntax literate.v6i10.4376

Badan Pusat Statistik. (2024). Angka Deforestasi (Netto) Indonesia di Dalam dan di Luar Kawasan Hutan Tahun 2013-2022 (Ha/Th). Diakses dari website Badan Pusat Statistik. https://www.bps.go.id/id/statistics-table/1/MjA4MSMx/angka deforestasi--netto--indonesia-di-dalam-dan-di-luar-kawasan-hutan-tahun-2013- 2022--ha-th-.html

Cho, C. H., & Patten, D. M. (2013). Green accounting: Reflections from a CSR and environmental disclosure perspective. Critical Perspectives on Accounting, 24(6), 443– 447. https://doi.org/10.1016/j.cpa.2013.04.003

CNBC Indonesia. (2023). Dunia Memanas, Sektor Energi Makin Mengganas!. Diakses dari website CNBC Indonesia Research. https://www.cnbcindonesia.com/research/20230820230910-128-464479/dunia memanas-sektor-energi-makin-mengganas

Darrough, M. N., & Stoughton, N. M. (1990). Financial Disclosure Policy In An Entry Game. Journal of Accounting and Economics, 12(1–3), 219–243. https://doi.org/10.1016/0165-4101(90)90048-9

Deegan, C. (2002). Introduction: The legitimising Effect of Social and Environmental Disclosures - a Theoretical Foundation. Accounting, Auditing & Accountability Journal, 15(3), 282–311. https://doi.org/10.1108/09513570210435852

Dewi, S. F., & Muslim, A. I. (2022). Pengaruh Penerapan Corporate Social Responsibility (CSR) dan Green Accounting Terhadap Kinerja Keuangan. Jurnal Akuntansi Indonesia, 11(1), 73–84. https://doi.org/10.30659/jai.11.1.73-84

Dowling, J., & Pfeffer, J. (1975). Organizational Legitimacy: Social Values and Organizational Behavior. Pacific Sociological Review, 18(1), 122–136. https://doi.org/10.2307/1388226 Elviani, E., Oemar, F., & Seswandi, A. (2022). Analisis Pengaruh Biaya Lingkungan Terhadap CSR Dengan Kinerja Keuangan Sebagai Variabel Intervening. Sains Akuntansi Dan Keuangan, 1(1), 1–12. https://doi.org/10.55356/sak.v1i1.6

Evita, M., & Syafruddin. (2019). Pengaruh Biaya Lingkungan, Kinerja Lingkungan, Dan ISO 14001 Terhadap Kinerja Keuangan Perusahaan Pertambangan Studi Kasus Pada Bursa Efek Indonesia Tahun 2014-2017. Measurement, 13(1), 27–35.

Faisal, F., Tower, G., & Rusmin, R. (2012). Legitimising Corporate Sustainability Reporting Throughout the World. Australasian Accounting Business & Finance Journal, 6(2), 19– 34.

Freeman, R. E., Harrison, J. S., Wicks., A. C., Parmar, B. L., & Colle, S. De. (2010). Stakeholder Theory: The State of the Art. Cambridge University Press.

Gustiana, M., & Zupiyardi, Z. (2022). Pengaruh Intellectual Capital, Pengungkapan Corporate Social Responsibilty Dan Struktur Modal Terhadap Kinerja Keuangan. Jurnal Akuntansi, Keuangan Dan Teknologi Informasi Akuntansi, 3(2), 694–711. https://doi.org/10.36085/jakta.v3i2.3439

Hansen, D. R., & Mowen, M. M. (2007). Managerial Accounting (8th ed.). Thomson South Western.

Idowu, S. O., Capaldi, N., Zu, L., & Gupta, D. A. (2013). Encyclopedia of Corporate Social Responsibility. Springer Reference.

Kaler, J. (2006). Evaluating Stakeholder Theory. Journal of Business Ethics, 69(3), 249–268. https://doi.org/10.1007/s10551-006-9089-2

Kholmi, M., & Nafiza, S. A. (2022). Pengaruh Penerapan Green Accounting dan Corporate Social Responsibility Terhadap Profitabilitas (Studi Pada Perusahaan Manufaktur Yang Terdaftar di BEI Tahun 2018-2019). Reviu Akuntansi Dan Bisnis Indonesia, 6(1), 143– 155. https://doi.org/10.18196/rabin.v6i1.12998

Komara, A., Hartoyo, S., & Andati, T. (2016). Analisis Pengaruh Struktur Modal Terhadap Kinerja Keuangan Perusahaan. Jurnal Keuangan Dan Perbankan, 20(1), 10–21. https://doi.org/10.26905/jkdp.v20i1.141

Latif, A., Raharja, G., Salsabilla, J., & Yuliarti, A. (2022). Performa Rasio Keuangan Pada Harga Saham Sektor Energi dimasa Pandemi Covid-19. ABDI JURNAL: ADI Bisnis Digital Interdisiplin Jurnal, 3(2), 139–149. https://doi.org/10.34306/abdi.v3i2.833

Lestari, A. D., & Khomsiyah, K. (2023). Pengaruh Kinerja Lingkungan, Penerapan Green Accounting, dan Pengungkapan Sustainability Report Terhadap Nilai Perusahaan. Jurnal Ekonomi Bisnis, Manajemen Dan Akuntansi (JEBMA), 3(3), 527–539. https://doi.org/10.47709/jebma.v3i3.2799

Margaretha, F. (2003). Tinjauan Persepsi Manajemen Terhadap Struktur Modal Perusahaan

"Go Public." Media Riset Bisnis & Manajemen, 3(1), 98–115. https://doi.org/10.25105/mrbm.v3i1.12626

Margireta, I. A., & Khoiriawati, N. (2022). Penerapan Pelaporan Sosial Pada Perusahaan Sektor Energi yang Sudah Terdaftar Di Bursa Efek Indonesia. Fair Value: Jurnal Ilmiah Akuntansi Dan Keuangan, 4(12), 5630–5637. https://doi.org/10.32670/fairvalue.v4i12.2094

Meiyana, A., & Aisyah, M. N. (2019). Pengaruh Kinerja Lingkungan, Biaya Lingkungan, Dan Ukuran Perusahaan Terhadap Kinerja Keuangan Dengan Corporate Social Responsibility Sebagai Variabel Intervening. Nominal: Barometer Riset Akuntansi Dan Manajemen, 8(1), 1–18. https://doi.org/10.21831/nominal.v8i1.24495

Mousa, G. A., & Hassan, N. T. (2015). Legitimacy Theory and Environmental Practices: Short Notes. International Journal of Business and Statistical Analysis, 2(1), 41–53. https://doi.org/10.12785/ijbsa/020104

O'Donovan, G. (2002). Environmental Disclosures In The Annual Report: Extending The Applicability and Predictive Power of Legitimacy Theory. Accounting, Auditing & Accountability Journal, 15(3), 344–371. https://doi.org/10.1108/09513570210435870

Omran, M. A., & Ramdhony, D. (2015). Theoretical Perspectives on Corporate Social Responsibility Disclosure: A Critical Review. International Journal of Accounting and Financial Reporting, 5(2), 38–55. https://doi.org/10.5296/ijafr.v5i2.8035

Peraturan Otoritas Jasa Keuangan Nomor 51/POJK.03/2027 tentang Penerapan Keuangan Berkelanjutan Bagi Lembaga Jasa Keuangan, Emiten, dan Perusahaan Publik. Diakses dari https://www.ojk.go.id/sustainable finance/id/peraturan/peraturan-ojk/Documents/SAL POJK 51 - keuangan berkelanjutan.pdf

Prabansari, Y., & Kusuma, H. (2005). Faktor-Faktor Yang Mempengaruhi Struktur Modal Perusahaan Manufaktur Go Public Di Bursa Efek Jakarta. SINERGI: Kajian Bisnis Dan Manajemen, 1–15. https://doi.org/10.20885/js.v0i0.935

Putri, R. A., & Christiawan, Y. J. (2014). Pengaruh Profatibilitas, Likuiditas, dan Leverage Terhadap Pengungkapan Corporate Social Responsibility (Studi Pada Perusahaan perusahaan yang mendapat penghargaan ISRA dan Listed (Go-Public) di Bursa Efek Indonesia (BEI) 2010-2012). Business Accounting Review, 2(1), 61–70.

Ramadhani, K., Saputra, M. S., & Wahyuni, L. (2022). Pengaruh Penerapan Green Accounting Dan Kinerja Lingkungan Terhadap Kinerja Keuangan Dengan Tata Kelola Perusahaan Perusahaan Sebagai Variabel Moderasi. Jurnal Akuntansi Trisakti, 9(2), 229–244. https://doi.org/10.25105/jat.v9i2.14559

Rist, M., & Pizzica, A. J. (2015). Financial Ratios for Executives. Apress. Roberts, R. W. (1992). Determinants of Corporate Social Responsibility Disclosure: An Application of Stakeholder Theory. Accounting, Organizations and Society, 17(6), 595– 612. https://doi.org/10.1016/0361-3682(92)90015-K

Rokhlinasari, S. (2015). Teori –Teori dalam Pengungkapan Informasi Corporate Social Responbility Perbankan. Al-Amwal: Jurnal Kajian Ekonomi Dan Perbankan Syariah, 7(1), 1–11. https://doi.org/10.24235/amwal.v7i1.217.g195

Sahid, I. M., & Henny, D. (2023). Pengaruh Green Intellectual Capital Index, Biaya Corporate Social Responsibility, Ukuran Perusahaan, Struktur Modal Dan Keputusan Investasi

Terhadap Kinerja Keuangan. Jurnal Akuntansi Trisakti, 10(2), 273–290. https://doi.org/10.25105/jat.v10i2.17683

Santika, R. B., & Sudiyatno, B. (2011). Menentukan Struktur Modal Perusahaan Manufaktur di Bursa Efek Indonesia. Dinamika Keuangan Dan Perbankan, 3(2), 172–182. Septiadi, N. L. E. I. (2016). Pengaruh Kinerja Lingkungan, Biaya Lingkungan, dan Luas Pengungkapan Corporate Social Responbility Terhadap Kinerja Keuangan Perusahaan.

Jurnal Akuntansi Profesi, 6(1), 21–31.

Sugiyono, P. D. (2013). Metode Penelitian Kuantitatif Dan Kualitatif Serta R&D. Alfabeta. Sukoharsono, E. G., & Andayani, W. (2021). Akuntansi Keberlanjutan (1st ed.). UB Press. Undang-Undang Republik Indonesia Nomor 40 Tahun 2007 tentang Perseroan

Terbatas. Diakses dari https://peraturan.bpk.go.id/Download/29563/UU Nomor 40 Tahun 2007.pdf

Warren, C. S., Reeve, J. M., & Duchac, J. E. (2018). Financial and Managerial Accounting (14th ed.). Cengage Learning.

Wijayanto, A., Winarni, E., & Mahmudah, D. S. (2021). Pengaruh Penerapan Akuntansi Lingkungan. Yos Soedarso Economics Journal, 3(1), 99–136. https://doi.org/10.53027/yej.v3i1.205