

Company Size, Profitability, and Growth on Abnormal Stock Return with Carbon Emission Disclosure

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DOI: [10.36347/sjebm.2021.v08i07.002](https://doi.org/10.36347/sjebm.2021.v08i07.002)

| Received: 16.05.2021 | Accepted: 13.06.2021 | Published: 29.07.2021

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Abstract

Original Research Article

The capital market is an alternative investment that provides investors with the opportunity to earn profits, which is known as stock profits. The more desirable a stock will cause abnormal stock returns, namely the difference between the actual profit and the expected profit. Carbon Emission Disclosure (CED) in financial statements is one of the drivers that affect stock prices on stock returns. Several factors that influence the disclosure of carbon emissions, namely the company size where larger companies have higher pressure than small companies, so companies will increase information disclosure to build a good social image and gain legitimacy as part of the company's business strategy. Disclosure of carbon emissions can be used as a form of company effort to gain legitimacy and a good image in the eyes of stakeholders, profitability provides companies with resources to gain public confidence that business profits can be made in line with disclosure of carbon emissions, and company growth shows carbon emission information is able to provide confidence in stakeholders on the company's sustainable prospects in the future. The population in this study are manufacturing companies listed on the Indonesia Stock Exchange in 2018-2020. The sampling technique was carried out using purposive sampling which resulted in 240 samples from 2018-2020. The tool used to test the hypothesis uses Path Analysis with SPSS version 22. The results show that company size, profitability, and company growth have a positive effect on CED, while CED has a negative effect on abnormal stock returns, company size and company growth have positive effect on abnormal stock returns, while profitability has no positive effect on abnormal stock returns.

Keywords: Capital Market, Abnormal Stock Return, Carbon Emission Disclosure, Company Size, Profitability, Company Growth.

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I. INTRODUCTION

The capital market is an alternative investment that is in demand by investors because of the opportunity to benefit from investment or commonly referred to as stock profits. The more a stock is in demand by investors, the more affected the stock price and it will cause abnormal stock returns (Cordeiro and Tewari, 2015). This shows that abnormal returns act as an indicator of how much interest and market response to the company's shares. One of the market drivers that can make stock prices have an impact on stock returns is the disclosure of carbon emissions in the company's annual report. Transparent and detailed reports on corporate environmental responsibilities, especially carbon emissions, are very important for investors and other stakeholders because they rationalize their expectations for the sustainability of a company (Gray, 2010; Liao et al., 2015; Meng, et al., 2014).

There are several economic factors that influence voluntary carbon disclosure, namely company

size, profitability, and growth. Larger company sizes have higher social and political pressure than small companies, so companies will increase the disclosure of company information to build a good social image to gain legitimacy as part of their business strategy. Disclosure of carbon emissions can be used as a form of company effort to gain legitimacy and a good image in the eyes of stakeholders. The advantage of providing companies with a pool of resources for environmental mitigation and reporting activities (Kalu et al., 2016). Disclosure of carbon emissions can be used as a means to achieve public confidence in how business profits can be made in line with disclosure of carbon emissions. Companies that continue to grow will generally have good prospects, this will certainly be responded positively by investors so that it will have an effect on increasing stock prices. The index (SRI)-KEHATI on the Indonesia Stock Exchange (IDX) shows a 10 percent higher share price increase in 25 issuers who are committed to reducing carbon emissions (Tempo.co, 2013). This phenomenon shows

that information on carbon emissions is able to provide confidence to stakeholders on the prospects of sustainable company in the future.

This study provides a more comprehensive research framework to investigate whether company size, profitability, and company growth with other factors such as disclosure of carbon emissions are able to encourage better business performance and are able to provide tangible results to investors in the form of abnormal stock returns.

II. LITERATURE REVIEW

2.1. Legitimacy Theory

Companies in maximizing financial strength for the long term, social responsibility is a must to be disclosed in order to gain legitimacy from social actors where the company is located. The factor that underlies the legitimacy theory is the social contract that occurs between the company and the community where the company operates and uses economic resources (Ghozali, 2007).

2.2. Stakeholder Theory

Stakeholder theory explains that the company is not an entity that only operates for its own interests but must provide benefits to its stakeholders. The existence of a company is strongly influenced by the support provided by stakeholders to the company (Ghozali, 2007). To maintain the company's relationship with its stakeholders, companies can carry out environmental responsibility by disclosing carbon emissions, because there is community interest in companies that have environmental concerns (Salbiah, 2018).

2.3. Agency Theory

Agency theory is an agency relationship as a contract in which one party (principal) uses another party (agent) to perform a particular service for their benefit, involving a delegation of decision-making authority by the agent (Jensen & Meckling, 1976). Information about CED does not always contain positive statements. However, with this disclosure, the company is considered more transparent in providing information to the public (Rahman et al. 2014). So, with the carbon emission disclosure by agents, the principal can use this information to make decisions.

2.4. Signaling Theory

According to Jama'an (2008) signaling theory suggests how companies should provide signals through financial statements. This signal is in the form of information that can describe all management activities in carrying out their functions as company managers to achieve company goals, namely the prosperity of stakeholders. Entities will disclose credible and responsible information that is positive as a sign of their success in carrying out their business (Luo and Tang

2014; Rahman et al. 2014; Bouten and Hoozee 2013; Luo et al. 2013).

2.5. Company Size

According to Masud Machfoedz (1994) in Ani Yulianti (2011), basically the size of the company is only divided into three categories, namely large companies, medium companies, and small companies whose categorization is based on the company's total assets. Company size is an indicator that can show the condition or characteristics of a company or organization, where there are several parameters that can be used to determine or determine the size (big/small) of a company. Parameters that can be used are total assets, sales, share value, and so on.

2.6. Profitability

Profitability is the company's ability to generate profits or earnings at the level of sales of assets and equity. According to Munawir (2012:33) profitability shows the company's ability to generate profits during a certain period. The profitability of a company is measured by the success of the company and the ability to use its assets productively, thus the profitability of the company can be known by comparing the profits earned in a period with the total assets or the amount of company capital.

2.7. Company Growth

Company growth according to Mardiyah (2001) is defined as the annual change of total assets. According to Brigham and Gapenski (1996) in Zulfina, high corporate growth requires greater external funding. Companies must choose the source of funding with the lowest cost. Profit growth is influenced by changes in the components in the financial statements. Profit growth caused by changes in financial statement components, for example growth in cost of goods sold, changes in operating expenses, changes in interest expense, changes in income tax and others.

2.8. Carbon Emission Disclosure (CED)

Carbon emission is the release of carbon into the atmosphere. Carbon emissions related to greenhouse gas emissions; major contributor to climate change. According to the ecolife website, one of the causes of climate change is global emissions that are released into the air that cause the impact of greenhouse gases. The greenhouse gases agreed in the Kyoto Protocol are carbon dioxide (CO₂), methane (CH₄), Nitrous Oxide (N₂O), Chloroflourocarbon (CFC), Hydroflourocarbons (HFCs), and Sulfur Hexafluoride (SF₆). The main greenhouse gas causing global warming is CO₂ gas from time to time continues to increase both globally. This happens because of the increase in the burning of fuel oil, coal and other organic materials.

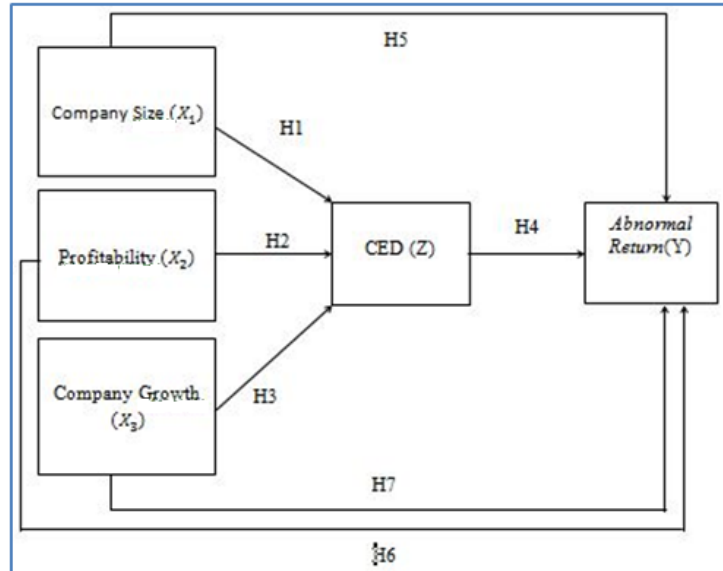
2.9. Abnormal Stock Return

Abnormal return is the difference between the actual rates of profit with the expected level of profit.

The expected profit rate is calculated using the market model, a model which states that the profit level of a stock is influenced by the market portfolio profit rate, namely the market return on day-t will be multiplied by the result of the sum of the alpha and beta coefficients obtained from the calculation of the regression equation

time series between stock returns (R_{it}) and market returns (R_{mt}). From the alpha and beta coefficients, the expected return for each stock or $E(R_i)$ can be calculated (Erwin Sitohang: 2002).

2.10. Conceptual Framework



2.11. Hypothesis Development

- H1: Company size affects the disclosure of carbon emissions in manufacturing companies listed on the Indonesia Stock Exchange.
- H2: Profitability affects the disclosure of carbon emissions in manufacturing companies listed on the Indonesia Stock Exchange.
- H3: Company growth affects the disclosure of carbon emissions in manufacturing companies listed on the Indonesia Stock Exchange
- H4: Disclosure of carbon emissions has an effect on abnormal stock returns in manufacturing companies listed on the Indonesia Stock Exchange
- H5: Company size has an effect on abnormal stock returns in manufacturing companies listed on the Indonesia Stock Exchange.
- H6: Profitability has an effect on Abnormal Stock Returns in manufacturing companies listed on the Indonesia Stock Exchange

H7: Company growth has an effect on abnormal stock returns in manufacturing companies listed on the Indonesia Stock Exchange.

III. METHOD

This research is an explanatory research that aims to test a theory or hypothesis in order to strengthen or even reject the existing research theory or hypothesis. The population in this study is manufacturing companies listed on the Indonesia Stock Exchange (IDX) in the 2018-2020 periods. The sample used was obtained using the purposive sampling method, namely the technique of determining the sample with certain considerations, Sugiyono (2012: 81). The data analysis technique used path analysis which was tested through SPSS Version 22.

IV. RESULT

Descriptive Statistic

Table-4.1: Deskriptive Statistic Results

Variables	N	Min	Max	Mean	Standar Deviasi
Company Size (X_1)	240	6,77	30,33	17,07	5,8839
Profitability (X_2)	240	-0,62	1,50	0,15	0,2895
Company Growth (X_3)	240	-1,39	3,29	0,63	0,6337
CED (Z)	240	0,39	0,67	0,52	0,0696
Abnormal Return (Y)	240	-1	3,55	0,06	0,5690

Source: Data processing with SPSS, 2021

Based on the results of the analysis, it can be seen for the Company Size variable, the average value (mean) is 17,07, the lowest value is 6,77 and the highest value is 30,33. The standard deviation is 5, 8839. The

results of the analysis for the Profitability variable show the average value (mean) of 0, 15, the lowest value of - 0, 62 and the highest value of 1, 50. The standard deviation is 0, 2895. The results of the analysis for the

Company Growth variable show the average value (mean) of 0,63, the lowest value of -1,39 and the highest value of 3,29. The standard deviation is 0.6337. The results of the analysis for the CED variable show the average value (mean) of 0, 52, the lowest value of 0, 39 and the highest value of 0, 67. The standard deviation is 0, 0696. The results of the analysis for the

Abnormal Return variable show the average value (mean) of 0, 06, the lowest value of -1 and the highest value of 3, 55. The standard deviation is 0, 5690.

4.1 Classic Assumption Test

4.1.1 Normality Test Data

Table-4.2: Normality Test Results

Variable	Value of Kolmogorov Smirnov	Description
Unstandardized Residual	0,200	normally distributed

Source: Data processing with SPSS, 2021

Based on the test results in the table, it can be seen that the probability or significance value of the research variable is greater than 0, 05. Thus, it can be

stated that the data in this study are normally distributed.

4.2. Path Analysis

Table 4.3 Results of Path Analysis					
Path	Standardized Beta	Sig	A	Description	
X1 → Y1	0,206	0,008	0,05	Significant	
X2 → Y1	0,252	0,006	0,05	Significant	
X3 → Y1	0,148	0,030	0,05	Significant	
X1 → Y2	0,208	0,003	0,05	Significant	
X2 → Y2	0,123	0,130	0,05	Not Significant	
X3 → Y2	0,054	0,373	0,05	Not Significant	
Y1 → Y2	0,165	0,004	0,05	Significan	

Source: Data processing with SPSS, 2021

Based on Table 4.2, to analyze the first path, it can be explained that between Company Size (X1) and CED (Z) has a significant effect. It can be seen from the result that the significance value is 0,008 which is smaller than = 0,05. The second path between Profitability (X2) and CED (Z) has a significant effect of 0,006 which is smaller than = 0,05. The third path between Company Growth (X3) and Abnormal Return (Y) has a significant effect of 0,030 which is smaller than = 0,05. The fourth path between Company Size (X1) and Abnormal Return (Y) has a significant effect of 0,003 which is smaller than = 0,05. The fifth path between Profitability (X2) and Abnormal Return (Y) has an insignificant effect of 0.130, which is greater than = 0,05. The sixth path between Company Growth (X3) and Abnormal Return (Y) has an insignificant effect of 0,373, which is greater than = 0,05. The seventh path between CED (Z) and Abnormal Return (Y) has a significant effect of 0,004.

coefficient is negative, meaning that the higher the company size, the higher the CED (H1 is accepted).

The company size has a positive relationship with the disclosure of carbon emissions, the larger a company, the greater the social pressure received in voluntary disclosure than small companies (Choi *et al.*, 2013). The larger the size of a company, the more visible its operational activities as well as the contribution to the surrounding environment will be and this can be used by certain parties to pressure the company to pay attention to environmental problems.

The results of this study support previous research conducted by Freedman & Jaggi (2005) which also stated that large companies disclose more detailed information related to pollution. Azaria & Achyani (2015) found that company size affects the level of information disclosure in the company's annual report. Likewise, research conducted by Wang *et al* (2013) states that social and political pressures will be faced by large companies rather than small companies, so large companies will increase information disclosure to build a good social image. The social image is used as a company to gain legitimacy from the community or

V. DISCUSSION

5.1. Company Size has an effect on CED

The results of the path analysis on the t-test of the first hypothesis (H1) indicate that company size has an effect on CED by looking at the significance level of 0,008. The relationship shown by the regression

community where the company operates (Jannah & Muid, 2013).

5.2. Profitability affects CED

The results of the path analysis on the t-test of the second hypothesis (H2) indicate that profitability has an effect on CED by looking at the significance level of 0,006. The relationship shown by the regression coefficient is positive, meaning that the higher the profitability, the higher the CED (H2 is accepted).

Although environmental disclosure is still a voluntary disclosure, companies with better performance will be better able to do so, and the more detailed the disclosure area (Roberts, 1992). This argument is supported by Horváthová's (2010) findings that based on a meta-analysis of 64 research results starting from 1978 to 2008 showed the influence between environmental performance and economic performance was positive 55%, negative 15%, and the remaining 30% had no effect.

The results of this study are in line with previous research conducted by Mia (2011) who argues that companies with high profitability and corporate activities are more likely to become public attention and so that social and environmental disclosures need to be made to convince the public that company activities do not have too much impact on the social and environmental community. (Setyorini & Sudirman, 2012) explains that there is a positive relationship between the profitability of the company and the disclosure of the company's environment where when the company's profitability increases, the management has motivation in expanding the company's social and environmental disclosures.

5.3. Company growth affects CED

The results of the path analysis on the t-test of the second hypothesis (H2) indicate that the company's growth has an effect on CED by looking at the significance level of 0,030. The relationship shown by the regression coefficient is positive, meaning that the higher the company's growth, the higher the CED (H3 is accepted).

According to agency theory, to maximize profits, managers will publish information disclosures that can benefit themselves by attracting shareholders. By publishing this information, the company will continue to grow from year to year. The company's growth is basically influenced by several factors, namely external, internal, and the influence of the local industrial climate. Companies that are in a growing condition will be more conservative in utilizing their resources. Companies will utilize resources by focusing on improving performance and development in the economic sector. Companies that have higher growth opportunities prioritize economic goals rather than considering environmental sustainability (Prado-

Lorenzo *et al.*, 2009). So such conditions will create a contradiction between the drivers of economic growth and the disclosure of carbon emissions.

The results of this study are in line with previous research conducted by (Luo, Tang, & Lan, 2013) which also shows that there is a negative correlation between growth and carbon disclosure.

5.4. CED has an effect on Abnormal Return

The results of the path analysis on the t-test of the fourth hypothesis (H4) indicate that CED has an effect on Abnormal Return by looking at the significance level of 0,002. The relationship shown by the regression coefficient is positive, meaning that the higher the CED, the higher the Abnormal Return (H4 is accepted).

Agency theory is a collection of contracts (nexus of contracts) that exist within the company. As the business world develops, management is implicitly responsible not only to shareholders, but also to other stakeholders such as creditors, government, analysts, society, nature, and the environment. Therefore, stakeholders have the same rights as shareholders in obtaining information about the company.

The results of this study support previous research conducted by Bae Choi *et al.* (2013) that argue that there is a very strong call from the environment, business, and politics to respond to the threat posed by climate change. Disclosure of carbon emissions by the company can be assessed by readers of the annual report as a sign of the company's seriousness in dealing with the problem of global warming due to greenhouse gases.

5.5 Company Size has an effect on Abnormal Return

The results of the path analysis on the t-test of the fifth hypothesis (H5) indicate that company size has an effect on abnormal returns by looking at the significance level of 0,003. The relationship shown by the regression coefficient is positive, meaning that the higher the Company size, the higher the abnormal return (H5 is accepted).

Company Size is an indicator that can show the condition or characteristics of a company/organization, where there are several parameters that can be used to determine or determine the size (large/small) of a company. The measuring instrument used to measure company size in this study is the total assets owned by the company contained in the financial statements. The greater the assets owned by the company, the greater the size of the company.

5.6 Profitability has an effect on Abnormal Return

The results of the path analysis on the t-test against the sixth hypothesis (H6) indicate that Profitability has no effect on Abnormal Return by

looking at the significance level of 0,130, meaning that the higher the Profitability, the Abnormal Return will not change (H6 is rejected). If the company is less effective in utilizing its assets to generate profits, thereby reducing the interest of investors to buy the shares of the manufacturing company, the company's income will decrease which in turn the return will also decrease. If the manufacturing company that is the sample of this research is a company with a low ROA which makes the information received by investors less good and this makes their trading transactions low, and has an impact on the acquisition of returns.

The results of this study is different from previous research conducted by Mia (2011) who argues that companies with high profitability and corporate activities are more likely to become public attention and so that social and environmental disclosures need to be made to convince the public that company activities do not have too much impact on the social community environment. (Setyorini & Sudirman, 2012) explains that there is a positive relationship between the profitability of the company and the disclosure of the company's environment where when the company's profitability increases, the management has motivation in expanding the company's social and environmental disclosures.

5.7 Company growth has an effect on Abnormal Return

The results of the path analysis on the t-test against the seventh hypothesis (H7) indicate that the company's growth has no effect on abnormal returns by looking at the significance level of 0,373, meaning that the higher the company's growth, the abnormal return will not change (H7 is rejected). Company growth is highly expected by internal and external parties of the company, because good growth gives a sign for the development of the company, because good growth gives a sign for the development of the company. However, in manufacturing companies, company growth during the 2018-2020 periods tends to stagnate and decline in 2020 as a result of the Covid 19 Pandemic.

The results of this study are in line with previous research conducted by Myers (1977) which states that high growth companies provide more real options for investing in the future compared to companies that have low company growth. Companies that are growing will have a smaller external funding policy compared to companies that are not growing.

VI. CONCLUSION

Conclusion

Based on the results of the analysis and discussion explained above, it can be concluded as follows:

1. The results of the path test on the effect of Company Size on CED show a significant positive

effect. This proves that a high Company Size will increase CED.

2. The results of the path test on the effect of Profitability on CED show a significant positive effect. This proves that high Profitability will increase CED.
3. The results of the path test on the effect of Company Growth on CED show a significant positive effect. This proves that high Company Growth will increase CED.
4. The results of path testing on the effect of CED on Abnormal Return show a significant negative effect. This proves that a high CED will reduce Abnormal Return.
5. The results of the path test on the effect of Company Size on Abnormal Return show a significant positive effect. This proves that a high company size will increase abnormal returns.
6. The results of the path test on the effect of Profitability on Abnormal Return show an insignificant effect. This proves that high profitability means Abnormal Return does not change.
7. The results of the path test on the effect of Company Growth on Abnormal Returns show a significant positive effect. This proves that the company's high growth will not change.

Suggestion

1. Further research is expected to add other variables that can affect Abnormal Returns such as Earning Asset Quality, Audit Committee, Board of Commissioners, or other variables that can have a greater influence on Abnormal Return.
2. Further researcher is expected to increase the observation period so that the research results can be generalized specifically, especially related to Abnormal Return.

REFERENCES

1. Atang, H., Isye, S. A., Ardi, G., & WiratriYustia, P. (2018). Going Green: Determinants of Carbon Emission Disclosure in Manufacturing Companies in Indonesia. *International Journal of Energy Economics and Policy*, 8(1), 55-61.
2. Cahya, B. T., & Hanifah, U. (2017). Relevansi carbon emission disclosure dan karakteristik perusahaan pada perusahaan yang terdaftar di Jakarta Islamic Index. *Jurnal Ekonomi & Keuangan Islam*, Vol. 3 No. 2, 73-80.
3. Chendrawan, T. S. (2012). Pengaruh Likuiditas, Earnings Growth, Leverage, Dan Ukuran Perusahaan Terhadap Abnormal Return Saham Indeks Lq 45. *MANAJERIAL* Vol. 11, No. 21.
4. Choi, B. B., Lee, D., & Psaros, J. (2013). An Analysis of Australian Company Carbon Emission Disclosures. *Pacific Accounting Review*, 25(1), 58-79.
5. Clarkson, Peter, M., Yue, Li, Gordon, D., Richardson, Florin, P., Vasvari. (2008). Revisiting

- the Relation between Environmental Performance and Environmental Disclosure: An Empirical Analysis. *Accounting, Organizations and Society*, 33, 4-5, 303-327.
6. Chithambo, L. (2013). Karakteristik Company dan pengungkapan sukarela perubahan iklim dan informasi emisi gas rumah kaca. *International Journal of Energi dan Statistik*, 1(3), 155-169.
 7. Choi, B.B., Lee, D., Psaros, J. (2013). Analisis perusahaan Australia pengungkapan emisi karbon. *Pacific Akuntansi Review*, 25(1), 58-79.
 8. Cotter, J., Najah, M.M. (2012). Kelembagaan investor pengaruh pada praktek perubahan pengungkapan iklim global. *Australia Journal of Manajemen*, 37(2), 169-187.
 9. Darrough, Masako, N. (1993). "Disclosure policy and competition: Cournot vs Bertrand". *The Accounting Review*, 68(3) (Jul., 1993), 534-561
 10. Deegan, C. (2004). *Financial Accounting Theory*. McGraw Hill-Book Company, Sidney.
 11. Galani, D. G. (2012). Karakteristik Perusahaan dan kebijakan lingkungan. *Strategi Bisnis dan Lingkungan*, 21(4), 236-247.
 12. Anggraini, F. R. R., & Chariri, A. (2007). *Teori Akuntansi*. Badan Penerbit Universitas.
 13. Haque, S., & Islam, M. A. (2012, April). Stakeholder pressures and climate change disclosure: Australian evidence. In *Accounting & Finance Association of Australia and New Zealand (AFAANZ) Conference*.
 14. Irwhantoko, B. (2016). Carbon Emission Disclosure: Studi pada Perusahaan Manufaktur Indonesia. *Jurnal Akuntansi dan Keuangan*, 18(2), 92-104.
 15. Irwhantoko, B. (2016). Carbon Emission Disclosure: Studi pada Perusahaan Manufaktur Indonesia. *Jurnal Akuntansi dan Keuangan*, 18(2), 92-104.
 16. Kalu, J. B. (2016). Penentu sukarela pengungkapan karbon di sektor real estate perusahaan dari Malaysia. *Jurnal Manajemen Lingkungan*.
 17. Prado-Lorenzo, J. R.D.Á. (2009). Faktor-faktor yang mempengaruhi pengungkapan emisi gas rumah kaca di perusahaan di seluruh dunia. *Manajemen Keputusan*, 47 (7), 1133-1157.
 18. Prafitri, A., & Zulaikha, Z. (2016). Analisis pengungkapan emisi gas rumah kaca. *Jurnal Akuntansi Dan Auditing*, 13(2), 155-175.
 19. Rokhmawati, A., & Gunardi, A. (2017). Is going green good for profit? Empirical evidence from listed manufacturing firms in Indonesia. *International Journal of Energy Economics and Policy*, 7(4), 181-192.
 20. Mukhibad, H. (2018). Carbon Emission Disclosure and Profitability—Evidence from Manufacture Companies in Indonesia. *KnE Social Sciences*, 53-67.
 21. Sugiyono. (2008). *Metode penelitian pendidikan: (pendekatan kuantitatif, kualitatif dan R & D)*. Alfabeta.
 22. Widyaningsih, I. U., Gunardi, A., Rossi, M., & Rahmawati, R. (2017). Expropriation by the controlling shareholders on firm value in the context of Indonesia: corporate governance as moderating variable. *International Journal of Managerial and Financial Accounting*, 9(4), 322-337.