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Digdowniseiso, Kumba; Subiyanto, Bambang; Setioningsih, Retno

## Article

### What drives environmental disclosure? : evidence from mining companies listed on the Indonesia stock exchange

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#### Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

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# What Drives Environmental Disclosure? Evidence from Mining Companies Listed on the Indonesia Stock Exchange

Kumba Digdowiseiso\*, Bambang Subiyanto, Retno Setioningsih

Faculty of Economics and Business, University of National, Jakarta, Indonesia. \*Email: [kumba.digdo@civitas.unas.ac.id](mailto:kumba.digdo@civitas.unas.ac.id)

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## ABSTRACT

This study aims to analyse the effects of environmental performance, profitability, and leverage on the environmental disclosure in mining industry sector companies listed on the Indonesia Stock Exchange. The sample of this study was 15 mining companies which were selected by using a purposive sampling technique. We collected the company's annual report over the period 2014–2021. The results showed that environmental performance had a positive and significant effect on environmental disclosure. In this case, the Corporate Performance Rating Program (PROPER) rating was able to prove that there was a significant influence between the Global Reporting Initiative (GRI) as a form of its responsibility and the extent of environmental disclosure. In addition, profitability produced a negative and significant effect on environmental disclosure. The company considered that it was no longer necessary to carry out environmental disclosure when the company has made a profit annually because the company's environmental performance was good. Finally, leverage had a negative and significant effect on environmental disclosure. Thus, when the leverage of the company reached the maximum point, the company chose to pay off the debt, instead of conducting environmental disclosure.

**Keywords:** Environmental Performance, Environmental Disclosure, Profitability, Leverage, Indonesia

**JEL Classifications:** Q500, Q510, Q560

## 1. INTRODUCTION

Companies generally make profit as the main goal for the interests of shareholders. However, companies should not only focus their attention on generating profits, but they also have some responsibilities for the surrounding environment as the environmental consequences arise from their operational activities (Totok, 2014). In the last few years, there have been problems regarding pollution and environmental damage due to the company's operating activities. Take the example of How Are You Indonesia (HAYI, Ltd.) located in South Cimahi District, West Java that has been proven to pollute the environment in the Citarum Watershed through the disposal of liquid waste from textiles. According to the Ministry of Environment and Forestry (MoEF), HAYI, Ltd. received a sentence from the Panel of Judges to pay material compensation of USD 830,000. This act of environmental pollution is an extraordinary crime because it has a direct impact

on public health, economy and ecosystem damage and has a widespread impact for the future (MoEF, 2020). The next case was MoEF sealed the former mining pit of Cahaya Energi Mandiri (CEM, Ltd.) and Multi Harapan Utama (MHU, Ltd.), which is located in City of Samarinda and Tenggarong, respectively. The two ex-mining holes have formed a pool of water with a depth of almost 30 m. The negligence of the company, which did not immediately rehabilitate it, has resulted in the death of children's lives with as many as 13 victims in 10 mining company areas (MoEF, 2016).

Based on the Environmental Complaint Reports, in 2019, MoEF received a total of 470 reports based on environmental and forestry categories. In 2020, there was an increase in complaints by 275 reports, followed by a rise in charges by 710 reports in 2021. Therefore, the problem of pollution and environmental damage in Indonesia is very worrying for the survival of the community.

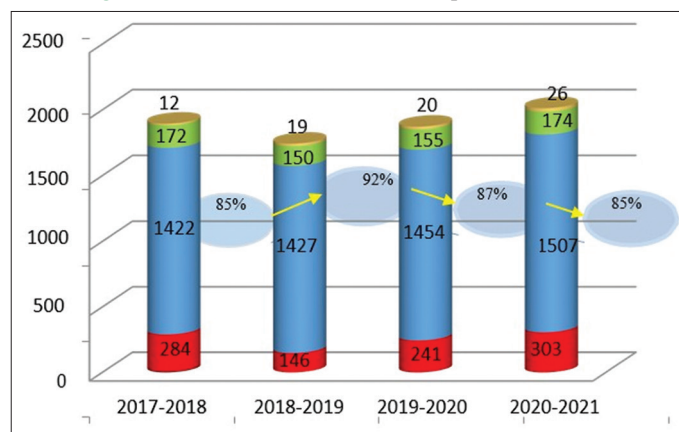
In line with this view, protecting the environment is a human duty and one of the company's obligations. According to Chrysanti and Noviarini (2015), companies have a big responsibility in protecting the environment because the environment plays a major role in the future given the depletion and deteriorating natural resources in Indonesia.

In Indonesia, one of the newest regulations on the environment has been stipulated in Law No. 32 of 2009 concerning Environmental Protection and Management. This law regulates an integrated systematic effort to preserve environmental functions and prevent environmental pollution, which includes planning, utilization, control, maintenance, supervision and law enforcement. It also regulates the prohibition of polluting, importing hazardous and toxic objects, entering waste into environmental media, clearing land by burning, and so on. However, the company makes a minimum disclosure regarding reports of all environmental activities that can be reported in the annual report (Ciriyan and Putra, 2016). In principle, such a regulation on environmental disclosure is already contained in the Financial Accounting Standards Requirements No. 1 of 2019 where the financial statements are reports that show the results of management's responsibilities related to the use of available resources that have been entrusted to them. Several entities provide financial reports containing environmental reports although such reports have been presented outside the financial statements. But, this rule can be one example of corporate environmental disclosure. Here, information regarding responsibility for the environment can also be disclosed in a sustainability report.

Purwanto and Nugroho (2020) stated that environmental disclosure is one of the processes carried out by companies in disclosing information related to the responsibility for the company's operational activities and to the impacts that arise on the social conditions of society and the environment. It can create harmony between the company, nature and humans. Besides, it can improve the company's good image so that the company is able to survive in its survival. One of the government programs to assess a company's environmental performance is by utilizing the so-called Corporate Performance Rating Program (PROPER). It is a program of corporate responsibility efforts in controlling pollution or environmental damage and managing waste, hazardous and toxic materials that have an impact on people's lives based on the applicable laws and regulations. MoEF has determined the PROPER measurement by giving five (5) colours starting from the best color, namely gold, then green, blue, red to black in a row as a bad rating. This rating assesses the environmental performance of a company in the context of conservatism so that it can control the environmental impact of the company's operations.

Figure 1 shows that there is an increasing number of PROPER participants annually. This indicates a good action, namely increasing the blue colour rating. Companies rated green experienced a significant decline from 2017 to 2018, before it rose again in 2020 and 2021. However, there were still few companies that obtained a gold colour rating. PROPER also stated the percentage of a company's compliance with its environmental responsibilities. In the period 2017-2018, the percentage of

**Figure 1:** Trend on PROPER over the period 2017-2021



Source: Authors' calculation

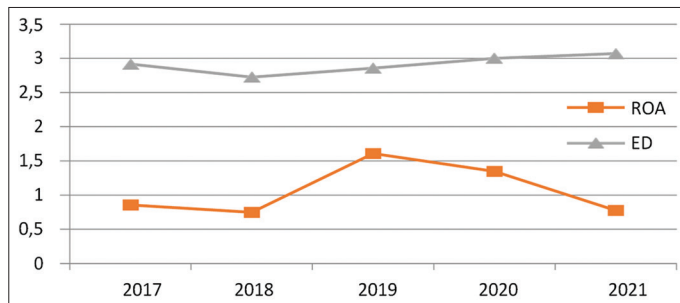
obedience was 85% and then increased to 92% in 2018-2019 period. In the period 2019-2020, the percentage of obedience was 87%, then there was a decrease in obedience over the period 2020-2021 by 2%.

Several factors affecting environmental disclosure indicate that there is a contradiction between the results of previous studies and other studies. For example, according to Clarkson et al. (2008), Noviani and Suardana (2019), and Sari et al. (2019), environmental performance has a positive effect on environmental disclosure. However, Purwanto and Nugroho (2020) argue that it has no influence. Furthermore, studies conducted by Andrikopoulos and Krikilani (2013) and Clarkson et al. (2011) state that profitability has a positive effect on environmental disclosure, while Akbaş and Canikli (2019) argues that profitability has a negative influence to environmental disclosure. Different results are also found in the studies of Dibia and Onwuchekwa (2015) and Kalash (2020) where profitability has no effect on environmental disclosure. The last factor studied in this research is leverage. Kalash (2020) states that leverage has a positive effect on environmental disclosure while Dibia and Onwuchekwa (2015), Ohidoa et al. (2016), van de Burgwal and Vieira (2014), and Akbaş and Canikli (2019) prove that leverage has no effect on environmental disclosure.

Aside from the research gap, the analysis of the annual report data of the mining companies over the period 2014-2021 shows that there is a business phenomenon, namely between profitability and environmental disclosure (Figure 2). Companies that possess a higher profitability have not made a complete environmental disclosure according to the Global Reporting Initiative (GRI). In principle, GRI is an institution that issues guidelines in environmental disclosure that increases the company's responsibility to the environment in the long term. Therefore, research related to environmental disclosure needs to be re-done to determine the level of corporate responsibility for the survival of the community in the future.

On the basis of the business phenomenon and research gap described above, the authors assume that there is a problem regarding environmental disclosure so that it needs to be investigated further considering issues related to the environment. Thus, to analyse

**Figure 2:** Business Phenomenon Between Profitability and Environmental Disclosure



Source: Authors' calculation

empirical evidence about the effect of environmental performance, profitability and leverage on environmental disclosure, this research was conducted. The rest of the paper is organized as follows: Section II depicts literature review on the determinants of environmental disclosure. Section III presents the data and methodology used in this research. Section IV reports empirical results and discussions based on the econometric model. We also provide concluding remarks as the next section.

## 2. LITERATURE REVIEW

In this study, we use legitimacy theory as a focal point to explain the nexus between public and corporate, where community belief should be in line with company expectations (Dowling and Pfeffer, 1975). According to Ghazali and Chariri (2007), it is a status of a company that exists when the company's value system aligns with the social value system. It emphasizes that the company must protect the company's operational activities so that the company exists within the limits and the norms applied in the society. Legitimacy can be expressed as the company's recognition of the community which aims to gain trust, develop and maintain the company in the future (Deegan, 2002). Thus, legitimacy theory focuses on the company and society within the social contract. In this context, companies are required to pay attention to their environment because social expectations will always change in the future (Deegan, 2002).

Lindblom (1994) states that if the company's legitimacy is being questioned, the company should implement an aggressive strategy that must be informed to its shareholders. One of which is related to the changes in the company's activities and performance drastically. However, the company can choose to gradually change the views of its stakeholders without altering the actual behaviour of the company. For example, turning its attention on the issues involved and encouraging emotional engagement (Guthrie and Abeysekera, 2006).

Legitimacy theory requires companies to show attitudes and behaviours that are in accordance with social norms in the company's operational activities (Guthrie and Abeysekera, 2006). This action can be achieved if the company makes environmental disclosures and reports it through an annual report and/or sustainability report. Disclosure is useful as management considerations regarding social values or attracting the attention

of the community regarding the negative impacts of operational activities (Lindblom, 1994). Several previous studies conducted an assessment of the voluntary disclosure of annual reports and assessed that the reporting of environmental and social information was a method used by companies to respond to the public demands (Guthrie and Abeysekera, 2006).

Now, the problems that occur in the business environment are increasingly being considered by companies in carrying out their operational activities. To overcome this, the company tries to disclose more detailed information which aims to improve the reputation of the company (Gray et al., 2001). Environmental disclosure is a form of the company's concern for the environment and reports it through an annual report. It is a sustainable matter that is widespread for all group of companies to improve their annual reports and hence, overcome environmental problems (Sahay, 2004). The responsibility of environmental disclosure can be seen by how many companies implement obligations stated on the standards of Global Reporting Initiative (GRI), in which those must be reported in their annual financial reports (van de Burgwal and Vieira, 2014; Purwanto and Nugroho, 2020).

Environmental disclosure is very important because it is used for consideration in making social, economic or political decisions for the community, investors and the government. The company is obliged to report the implementation related to the environment as a form of the company's concern for the environment and society. This is because environmental disclosure is mandatory for companies which has been regulated in Law No. 40 of 2007 concerning limited liability companies (PT). In addition to the annual reports, companies are also required to report social and environment sides for which the company is responsible. Therefore, environmental disclosure is very crucial as the public can assess activities carried out by the company in maintaining the social environment that have been presented in the annual report (Deegan, 2002).

Environmental performance has become a very popular issue for stakeholders in the company because the company's operational activities may have a harmful impact on the environment (Hackston and Milne, 1999; Monteiro and Aibar-Guzman, 2010). The government and society also emphasize on companies to pay attention to their environmental responsibilities and disclose environmental information (Lu and Abeysekera, 2014). According to Akbaş and Canikli (2019), negative environmental impacts resulting from economic development such as climate change and global warming, natural disasters, and pollution have become the center of attention of governments and civil society organizations. This condition further increases the pressure on the company.

Assessment of environmental performance in Indonesia can be seen through the environmental management rating program (PROPER) by the MoEF. PROPER can influence companies to comply with applicable regulations in a bid to create a superior environment (i.e. environmental excellence). PROPER participants are selective, aimed at companies whose operations have a major impact on the environment. PROPER has a rating



from best to worst with marked Gold, Green, Blue, Red and Black colours (Table 1).

According to Brigham and Houston (2022), profitability is a summary of the net results of the company's operational activities in a certain period of time. Further, they state that profitability can be determined by calculating financial ratios to analyse the financial position, results of operations and the level of profit of a company. This can assess the progress of a company and is needed by the stakeholders in considering decision making. In principle, profitability can be calculated with several return and margin ratios such as return on assets (ROA), return on equity (ROE), return on investment (ROI), gross profit margin (GPM), and net profit margin (NPM) (Rokhmawati, 2016). In this research, we use ROA as a proxy indicator to measure profitability as it indicates the ability of a company generates profit from the assets used.

Meanwhile, according to Brigham and Houston (2022), leverage compares between total liability and total assets of the company. It shows how much the company uses funds through debt as fixed costs in an effort to level up profitability. The use of debt in the company will make the company provide more information to meet the demands of investors and creditors as creditors always monitor the funds lent to the company. The leverage ratio consists of debt to equity ratio (DER) and debt to total asset ratio (DAR) (Brigham and Houston, 2022). In this study, we utilize DER that can be calculated simply by dividing the company's total debt (including short-term liabilities) by shareholder equity. The lower this ratio, the higher the level of corporate funding provided by shareholders and the greater the protection for creditors (i.e., margin of protection) in the event of asset depreciation or major losses.

Companies that have good environmental performance tend to make environmental disclosures as a form of obedience to the law. According to Clarkson et al. (2008), companies that are able to show their environmental performance will get a good signal

from the surrounding environment. The purpose of the company reporting the environmental disclosure report is so that the public or stakeholders know that the company has carried out its responsibilities to the environment well so that it is able to attract sympathy and improve the company's image in the eyes of the community and the company will be considered legitimate and responsible. Therefore, our first hypothesis is that environmental performance has a positive and significant effect on environmental disclosure.

Based on the legitimacy theory, companies will always get pressure from the community so that companies pay more attention to environmental problem arising from their operations. Companies with high levels of profitability will easily cope with public pressure because they have resources that can be used to make environmental disclosures compared to companies with low levels of profitability (Ningtiyas and Riharjo, 2018). This makes it easier for them to gain legitimacy from the community. In line with this argument, Kipngetich (2019) states that profitability can affect environmental disclosure so that it can improve company performance. This resulted in environmental disclosure which can be trusted as a management approach to reduce social pressure and respond to social needs (Hackston and Milne, 1996). Thus, our second hypothesis is that profitability has a positive and significant effect on environmental disclosure.

According to Brigham and Houston (2022), leverage has a positive effect on environmental disclosure because companies will continue to increase the environmental disclosure actions when the company's funding is in high-risk conditions. Such actions can facilitate company to convince investors and creditors. However, the higher the leverage, the higher the risk of the company which can affect the company's net income (Kipngetich, 2019). Debt will cause interest to be paid by the company so that the company will reduce costs, especially costs for making environmental disclosures. Besides, the company has a great responsibility to creditors when the company's leverage is high so that creditors will monitor the company closely. This makes management more careful in reporting their performance. Hence, our third hypothesis is that leverage has a negative and significant effect on environmental disclosure.

### 3. DATA AND EMPIRICAL FRAMEWORK

In this study, the authors selected 15 mining companies as a sample. From a total population of 47 companies, the authors determine it based on the following criteria: (1) Mining companies listed on the Indonesia Stock Exchange during the 2014-2021 period; (2) Mining companies that publish the annual reports completely over the period 2014-2021; (3) Mining companies must experience profit over the period 2014-2021; and (4) Mining companies should include the Company Performance Rating Assessment Program (PROPER) in their annual report.

The authors use the dependent variable of environmental disclosure as the object of analysis. As a metric of environmental disclosure, we utilize the environmental disclosure score contained in the annual report of the sample companies. A score is given to

**Table 1: PROPER category**

Color	Information
Gold	The company consistently demonstrates environmental excellence in the production and service processes and has ethics and responsibility towards the community in doing business
Green	The company manages the environment better than the management required by regulations (beyond compliance through the implementation of an environmental management system and utilizes resources efficiently and carries out social responsibility well
Blue	The company carries out environmental management in accordance with predetermined requirements or in accordance with applicable laws and regulations.
Red	The company carries out environmental management but has not complied with the requirements specified in the legislation
Black	Companies that intentionally commit acts or omissions that result in environmental pollution or damage and violate the regulations that have been regulated in the applicable laws and/or do not carry out administrative sanctions

Source: MoEF (2019)

each item of environmental activity disclosure contained in the annual report. To find out the extent of environmental disclosure, the researchers adopted previous studies such as Syahputra et al. (2019) and Purwanto and Nugroho (2020) who developed a checklist of GRI-G4 indicators with the Environment category consisting of 12 indicators with 34 items (Table 2). According to Syahputra et al. (2019) and Purwanto and Nugroho (2020), the

calculation of the environmental disclosure index is carried out by assigning a score to each disclosure item, then divided by a maximum score of 34.

On environmental performance, we utilize the environmental management rating program (PROPER) in companies by adopting the assessment of Syahputra et al. (2019) and Purwanto and

**Table 2: GRI-G4 disclosure indicators for environmental category**

Indicators/Aspects	Information
Ingredient	
G4-EN 1	Materials used by weight or volume
G4-EN 2	Percentage of materials used which are recycled input materials
Energy	
G4-EN 3	Energy consumption in the organization
G4-EN 4	Energy consumption outside the organization
G4-EN 5	Energy intensity
G4-EN 6	Reducing energy consumption
G4-EN 7	Reducing energy requirements for products and services
Water	
G4-EN 8	Total water intake by source
G4-EN 9	Water sources significantly affected by water withdrawal
G4-EN 10	Percentage and total volume of water recycled and reused
Biodiversity	
G4-EN 11	Operational sites owned, leased, managed within, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
G4-EN 12	Description of the significant impact of activities, products and services on biodiversity in protected areas and areas with high biodiversity value outside protected areas
G4-EN 13	Protected and restored habitat
G4-EN 14	Total number of species on the IUNC Red List and species on the national protected species list with habitats in areas affected by operations, by level of extinction risk
Emission	
G4-EN 15	Direct Greenhouse Gas (GHG) Emissions (scope 1)
G4-EN 16	Indirect energy Greenhouse Gas (GHG) emissions (scope 2)
G4-EN 17	Other indirect Greenhouse Gas (GHG) emissions (scope 3)
G4-EN 18	Greenhouse Gas (GHG) emission intensity
G4-EN 19	Reducing Greenhouse Gas (GHG) emissions
G4-EN 20	Emissions of Ozone Depleting Substances (BPO)
G4-EN 21	NOX, SOX and other significant air emissions
Effluent and waste	
G4-EN 22	Total water discharged by quality and purpose
G4-EN 23	Total weight of waste by type and method of disposal
G4-EN 24	The total number and volume of spills is significant
G4-EN 25	The weight of the waste considered hazardous according to the provisions of the Basel convention attachments I, II, III, and VIII transported, imported, exported, or processed, and the percentage of waste transported for international shipments
G4-EN 26	The identity, size, protected status, and biodiversity value of water bodies and associated habitats that are significantly affected by the organization's wastewater and runoff
Products and services	
G4-EN 27	The degree of mitigation of the impact on the environmental impact of products and services
G4-EN 28	Percentage of products sold and their packaging reclaimed by category
Obedience	
G4-EN 29	The monetary value of the significant fine and the total amount non-monetary sanctions because disobedient to environmental laws and regulations
Transportation	
G4-EN 30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting personnel work
Etc	
G4-EN 31	Total environmental protection expenditure and investment by type
Top suppliers for the environment	
G4-EN 32	Percentage of new suppliers screened using environmental criteria
G4-EN 33	Actual significant negative environmental impacts and potential in the supply chain and actions taken
Troubleshooting mechanism environment	
G4-EN 34	Number of complaints about environmental impacts that were filed, handled, and resolved through the official complaint mechanism

Source: Syahputra et al. (2019) and Purwanto and Nugroho (2020)

Nugroho (2020). They use PROPER to analyse the extent to which the company guarantees compliance with regulations based on its level. The annual report of 15 selected mining companies can not only produce the PROPER rating, but it also gives an insight on profitability ratio as measured by return on assets (ROA), and leverage ratio as gauged by debt to equity ratio (DER).

With regards to Table 3, it is clear that on average, the number of environmental disclosure is quite low. However, environmental performance, on average, is categorized as well. Profitability and leverage are also, on average, quite moderate.

In estimating the effects of environmental performance, profitability, and leverage on environmental disclosure, we utilize the fixed effects (FE) regression in a static panel dataset since the previous hausman and chow test indicate that FE is more suitable than random effects (RE) and pooled least squared (PLS) models, respectively. Therefore, the following benchmark model at cross-company level will be used:

$$ED_{it} = \beta_0 + \beta_1 EP_{it} + \beta_2 PRO_{it} + \beta_3 LEV_{it} + u_i + \Theta_t + \varepsilon_{it} \quad (1)$$

where the subscript  $i$  denotes the province,  $t$  denotes observation period, which is 2014-2021, and  $\varepsilon_{it}$  is the corresponding error term. The main interest throughout this article lies in the coefficient  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$ , which measures the impacts of environmental performance, profitability, and leverage on tourism, respectively. In the models, we also incorporate the company and period fixed effects to control the issue of time-invariant ( $u_i$ ) and time-variant ( $\Theta_t$ ) unobserved factors, respectively. Such a method is expected to reduce cross-sectional dependence due to spatial effects and unobserved common factors. Hence, in the fixed effects (FE) model, we incorporate both income group and period fixed effect. Specifically, the inclusion of  $u_i$  will at least tackle some unobserved preferences of societies in a certain company, and may thus simultaneously determine the degree of environmental disclosure.

#### 4. EMPIRICAL RESULTS AND DISCUSSION

The regression results are listed in Table 4, which shows various determinants of environmental disclosure. It is important to note that environmental performance was significantly and positively correlated with environmental disclosure. The estimated coefficient implies that a one additional point increases in EP will increase environmental disclosure by 15.11 points, *ceteris paribus* respectively. However, there were a significant and negative association between profitability and leverage and environmental disclosure. Precisely, it indicates that a one additional point increases in PRO and LEV will respectively decrease environmental disclosure by 63.45 and 8.75 points, holding other variables fixed.

Companies that have a good environmental performance tend to disclose more environmental information to the public. In this study, the PROPER rating of mining companies is able to prove that there is a positive influence of the global reporting initiative (GRI) as a form of responsibility on the disclosure of environmental information. Our result is somehow consistent

**Table 3: Summary of statistics on environmental disclosure equation**

Variables	Obs.	Mean	Std. Deviation	Min	Max
Environmental Performance	120	3.59	0.67	3	5
Profitability	120	0.11	0.11	$2 \times 10^{-4}$	0.46
Leverage	120	0.77	0.60	0.19	3.38
Environmental Disclosure	120	29.12	19.36	5.88	64.71

Source: Authors' calculation

**Table 4: Fixed effects (FE) regression on environmental disclosure equation**

Independent variables	(1)
Environmental performance	15.11*** (2.94)
Profitability	-63.45*** (17.91)
Leverage	-8.75*** (3.30)
Company FE	Yes
Year FE	Yes
Observation	120
Group	15
Within R-squared	0.42

Number of parentheses are robust standard error. Asterisks denote: \*\*\*Significant at 1%; \*\*Significant at 5% level; \*Significant at 10% level

with the theory of legitimacy in which companies unveil the environmental information in their annual report to minimize the occurrence of the legitimacy gap. By doing so, they must comply with the laws and regulations related to the corporate social obligations. Therefore, our study corroborates the results of Clarkson et al. (2008), Noviani and Suardana (2019), and Sari et al. (2019) which state that environmental performance has a positive effect on environmental disclosure.

Regarding on profitability, in order to carry out environmental disclosure, companies must spend larger costs which can affect the profitability. For example, a company builds a place for captive breeding of extinct animals or for processing waste to be environmentally friendly. Based on this argument, companies will prefer to fulfil their obligations to their investors and creditors rather than incur costs for environmental disclosure. Hence, our result confirms the findings of Dewi and Yasa (2017) where profitability has a negative effect on environmental disclosure. However, the findings do not corroborate the legitimacy theory where companies with high levels of profitability have more resources, particularly in conducting environmental disclosure, when compared to companies with low levels of profitability (Dibia and Onwuchekwa, 2015; Ningtiyas and Riharjo, 2018).

Moving to the discussion of debt, companies that have a high level of leverage tend to use their resources to pay off their debts as they will always be supervised by its stakeholders. Increasing debt will be considered as a step back for managements because it can increase the risk of financial distress (Dibia and Onwuchekwa, 2015). In this case, managements tend to conceal the company's performance on environmental aspects to their stakeholders. Thus, our results are in line with the findings of Dibia and Onwuchekwa (2015) where leverage has a negative effect on environmental disclosure. However, we cannot confirm theory of legitimacy

where the higher the leverage, the higher the company to execute environmental disclosure as it makes easier for them to gain legitimacy from the community (Dowling and Pfeffer, 1975).

## 5. CONCLUSION

In this study, we investigated the determinants of environmental disclosure in the mining companies listed on the Indonesia Stock Exchange (IDX) over the period 2014-2021 by applying the fixed effects (FE) regressions. We found that environmental performance had a positive and significant effect on environmental disclosure. Meanwhile, both profitability and leverage had a negative and significant effect on environmental disclosure.

Our study is bound by certain limitations. First, our study does not capture the certain indicators of profitability and leverage. The relative importance of difference metrics will assist policymakers to identify and facilitate the design of efficient policies. Thus, a comprehensive measure of fundamental factors can evaluate precisely the impact of profitability and leverage on environmental disclosure. Second, the within R-squared of the model is about 0.42 which means that 42 percent of the environmental disclosure variables can be explained by environmental performance (X1), profitability (X2), and leverage (X3), while the remaining 58 percent is explained by other unknown factors that were not included in this study. Hence, the need to incorporate several control variables such as firm size and age, and concentration of ownership can add the variation of model.

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## REFERENCES

- Akbaş, H.E., Canikli, S. (2019), Determinants of voluntary greenhouse gas emission disclosure: An empirical investigation on Turkish firms. *Sustainability*, 11(1), 1-24.
- Andrikopoulos, A., Krikiani, N. (2013), Environmental disclosure and financial characteristics of the firm: The case of Denmark. *Corporate Social Responsibility and Environmental Management*, 20(1), 55-64.
- Brigham, E.F., Houston, J.F. (2022), *Fundamentals of financial Management: Concise*. Boston, MA, United States: Cengage Limited.
- Chrysanti, A., Noviarini, D. (2015), The influence of corporate governance perception index, profit management, and industrial type to environmental disclosure. *Jurnal Ilmiah Wahana Akuntansi*, 10(2), 108-123.
- Ciriyan, N.K., Putra, I.M.P. (2016), Pengaruh ukuran perusahaan, profitabilitas, dan umur perusahaan pada pengungkapan informasi lingkungan. *E-Jurnal Akuntansi*, 17(3), 2091-2119.
- Clarkson, P.M., Li, Y., Richardson, G.D., Vasvari, F.P. (2008), Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations, and Society*, 33(4-5), 303-327.
- Clarkson, P.M., Overell, M.B., Chapple, L. (2011), Environmental reporting and its relation to corporate environmental performance. *ABACUS: A Journal of Accounting, Finance, and Business Studies*, 47(1), 27-60.
- Deegan, C. (2002), The legitimizing effect of social and environmental disclosures: A theoretical foundation. *Accounting, Auditing and Accountability Journal*, 15(3), 282-311.
- Dewi, I.A.P., Yasa, G.W. (2017), Pengaruh ukuran perusahaan, profitabilitas, tipe industri, dan kinerja lingkungan terhadap environmental disclosure. *E Journal Akuntansi*, 20(3), 2362-2391.
- Dibia, N.O., Onwuchekwa, J.C. (2015), Determinants of environmental disclosures in Nigeria: A case study of oil and gas companies. *International Journal of Finance and Accounting*, 4(3), 145-152.
- Dowling, J., Pfeffer, J. (1975), Organizational legitimacy: Social values and organizational behavior. *The Pacific Sociological Review*, 18(1), 122-136.
- Ghozali, I., Chariri, A. (2007), *Teori Akuntansi*. Semarang: Badan Penerbit Universitas Diponegoro.
- Gray, R., Javad, M., Power, D.M., Sinclair, D.A.R. (2001), Social and environmental disclosure and corporate characteristics: A research note and extension. *Journal of Business, Finance and Accounting*, 28(3-4), 327-356.
- Guthrie, J., Abeysekera, I. (2006), Content analysis of social, environmental reporting: What is new? *Journal of Human Resource Costing and Accounting*, 10(2), 114-26.
- Hackston, D., Milne, M.J. (1996), Some determinant of social and environment disclosure in New Zealand companies. *Accounting, Auditing and Accountability Journal*, 9(1), 77-108.
- Kalash, I. (2020), Environmental disclosure: Determinants and effects on financial performance? An empirical evidence from Turkey. *Sosyoekonomi*, 28(46), 95-115.
- Kipngetich, R.M. (2019), Effect of Liquidity Management on the Financial Performance of Insurance Companies in Kenya. Doctoral Dissertation, University of Nairobi.
- Lindblom, C.K. (1994), *The Implications of Organizational Legitimacy for Corporate Social Performance and Disclosure*. New York: Critical Perspectives.
- Lu, Y., Abeysekera, I. (2014) Stakeholders' power, corporate characteristics, and social and environmental disclosure. *Journal of Cleaner Production*, 64(1), 426-436.
- Ministry of Environment and Forestry. (2016), Kementerian L H K Lakukan Penyegehan Lubang Tambang Di Kalimantan Timur Yang Memakan Korban. Available from: [https://www.menlhk.go.id/site/single\\_post/533/kementerian-l-h-k-lakukan-%20penyegehan-lubang-tambang-di-kalimantan-timur-yang-memakan-korban](https://www.menlhk.go.id/site/single_post/533/kementerian-l-h-k-lakukan-%20penyegehan-lubang-tambang-di-kalimantan-timur-yang-memakan-korban) [Last accessed on 2022 Mar 20].
- Ministry of Environment and Forestry. (2019), Kriteria PROPER. Available from: <https://www.proper.menlhk.go.id/proper/kriteria> [Last accessed on 2022 Mar 20].
- Ministry of Environment and Forestry. (2020), PT HAYI Akan Bayar Ganti Rugi Lingkungan Rp 12 Milyar. Available from: <http://www.ppid.menlhk.go.id/berita/siaran-pers/5556> [Last accessed on 2022 Mar 10].
- Monteiro, S.M.D., Aibar-Guzman, B. (2010), Determinants of environmental disclosure in the annual reports of large companies operating in Portugal. *Corporate Social Responsibility and Environmental Management*, 17(4), 185-204.
- Ningtiyas, R.Y., Riharjo, I.B. (2018), Pengaruh Ukuran Perusahaan dan Kinerja Keuangan Terhadap Environmental Disclosure Pada Perusahaan Manufaktur Yang Terdaftar di BEI. *Jurnal Ilmu dan Riset Akuntansi*, 7(6), 1-21.
- Noviani, N.K.D., Suardana, K.A. (2019), Pengaruh ukuran perusahaan, political cost Dan Kinerja Lingkungan Terhadap Environmental Disclosure Dalam Laporan Tahunan. *E-Jurnal Akuntansi*, 28(3), 1904-1919.



- Ohidoa, T., Omokhudu, O.O., Oserogho, I.A.F. (2016), Determinants of environmental disclosure. *International Journal of Advanced Academic Research*, 2(8), 49-58.
- Purwanto, A.P., Nugroho, P.I. (2020), Factors influencing environmental disclosure in consumer goods industry and mining companies. *International Journal of Social Science and Business*, 4(1), 1-9.
- Rokhmawati, A. (2016), *Manajemen Keuangan*. Jakarta: CV Budi Utama.
- Sahay, A. (2004), Environmental reporting by Indian corporations. *Corporate Social Responsibility and Environmental Management*, 11(1), 12-22.
- Sari, W.H., Agustin, H., Mulyani, E. (2019), Pengaruh good corporate governance dan Kinerja Lingkungan terhadap Pengungkapan Lingkungan. *Jurnal Eksplorasi Akuntansi*, 1(1), 18-34.
- Syahputra, D., Helmy, H., Mulyani, E. (2019), Analisis pengungkapan lingkungan berdasarkan global reporting initiatives (GRI) G4. *Jurnal Eksplorasi Akuntansi*, 1(2), 678-693.
- Totok, M. (2014), *Corporate Social Responsibility*. Bandung: Alfabeta.
- van de Burgwal, D., Vieira, R.J.O. (2014), Environmental disclosure determinants in Dutch listed companies. *Revista Contabilidade and Finanças*, 25(64), 60-78.