

Environmental Responsibility of Indonesian Manufacturing Companies

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Abstract

Manufacturing companies have responsibility to participate in reducing the environmental problems impacted by their operations. This study aims to identify the efforts of Indonesian manufacturing companies in abating environmental impacts caused by their production processes and to understand the behaviour of manufacturing companies in providing environmental information to their stakeholders. The population of this study are all manufacturing companies listed on the Indonesia Stock Exchange (IDX) and PROPER in 2012-2016. By employing purposive sampling, the study collected 135 data from 27 companies. On average, Indonesian manufacturing companies earned grade of 3 (Blue) in implementing PROPER. The extent of environmental disclosure is only around 38%. Environmental disclosure of manufacturing companies is influenced by rete of environmental performance and company size. Environmental performance is significantly affected by profitability and size. Leverage does not influence environmental performance, environmental disclosure, and profitability. The level of environmental disclosure is mostly descriptive and does not have a specific time frame. Indonesian manufacturing companies should improve their environmental performance and environmental disclosure.

Keywords: Environmental disclosure; Environmental performance; Proper; Profitability.



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1. Introduction

Environmental issues resulted from company operations have occurred multiple times in Indonesia (Yanto Heri and Muzzammil, 2016). This shows that the companies have not maximally anticipated the environmental impacts (Wulandari and Kiswanto, 2016). According to the report of the Ministry of Environment and Forestry that there are 125,540,827.76 tons of B3 waste from 269 companies of mining, energy and oil & gas sectors, manufacturing sector, agro-industrial sector and facilities and services sector (KEMENLHK, 2017) Further, this ministry also releases information that the results of performance assessment show only 247,837.49 tons (0.32%) of B3 waste are treated in 2016.

The Government's attention to the importance of waste treatment generated by companies is expressed in Law Number 32 Year 2009 on the Environmental Protection and Management and Government Regulation of the Republic of Indonesia Number 74 on the Management of Hazardous and Toxic Materials. The Government also releases Law No. 40 Year 2007 on Limited Liability Companies with article 74 paragraph (1) stating that: A company which operates business activities in the field of and/or related to natural resources is required to implement Social and Environmental Responsibilities. In addition, the Government's concern on the environmental performance indicators is followed up by the implementation of the Corporate Performance Rating in Environmental Management Program (PROPER) conducted by the Ministry of Environment and Forestry (Yanto H. *et al.*, 2017b).

Environmental performance disclosure attached in the annual report is the companies' good commitment on environmental preservation which would influence stakeholders' decision to support and invest in the companies. On the basis of triple bottom lines (economy, social and environment), the companies are required to be accountable not only for their financial condition, but also for social and environmental issues related to their activities.

However, the practice of environmental disclosure in Indonesia is still considered low. From the three themes of Corporate Social Responsibility (CSR) disclosure, the environment indicator is rated 5%, the economy indicator is rated 48%, and the social theme is rated 25% (Nurkhin, 2009). The research conducted by Djajadikerta and Trireksani (2012) also shows that corporate social and environmental disclosure practice in Indonesia is still classified low and mostly contains only declarative information without clear time frame. This is contradictory to the high demand of environmental disclosure (Suhardjanto D. and Choiriyah, 2010a).

Pratiwi (2015) in her research explains that the quality and scope of information disclosure expressed in annual financial statement are quite helpful for investors to make investment decision. Any failure to make adequate disclosure may result in market failure (Ghozali *et al.*, 2014). This potential market failure then justifies the Government's intervention in compelling the companies to make adequate disclosure. Moreover, Epstein and

Freedman (1994) contend that 35.7% investors in their survey required audit of environmental disclosure made by the companies.

Many studies on the environmental disclosure have been conducted in Indonesia and other countries. Some studies try to measure how company's size influences the comprehensiveness of its environmental disclosure. The research conducted by Sulaiman *et al.* (2014), Aulia and Agustina (2015), Yanto Heri and Muzzammil (2016) and Hadjoh and Sukartha (2013) show that a company's size significantly influences the comprehensiveness of its environmental disclosure. Meanwhile, Suhardjanto Djoko and Choiriyah (2010b) and Smith *et al.* (2007) find that a company's size does not influence the comprehensiveness of its environmental disclosure.

Other studies are conducted to examine how leverage influences the comprehensiveness of company's environmental disclosure. The results of research conducted by Sulaiman *et al.* (2014) and Yanto Heri and Muzzammil (2016) show that leverage significantly influences the comprehensiveness of company's environmental disclosure, while the results of research conducted by Suhardjanto Djoko and Choiriyah (2010b) show that leverage variable does not significantly influence the comprehensiveness of company's environmental disclosure. Many studies have also been conducted on how profitability variable influences environmental disclosure. The research conducted by Aulia and Agustina (2015), Yanto Heri and Muzzammil (2016), and Suhardjanto D. and Choiriyah (2010a) shows that profitability significantly influences the comprehensiveness of environmental disclosure, while the research conducted by Sulaiman *et al.* (2014) shows that profitability does not significantly influence company's environmental disclosure.

According to the considerations above, the authors have decided to restudy the variables potentially influencing the comprehensiveness of company's environmental disclosure that there is still gap between previous studies. These variables comprise company size and leverage. In addition, the author also presents profitability and environmental performance as the intervening variables. Based on the signaling theory, a company with good financial condition would disclose more comprehensive environmental information. Environmental performance is also deemed to be able to strengthen the influence of exogenous variable on endogenous variable. Previous researches conducted by Aulia and Agustina (2015), He and Loftus (2014) and Fontana *et al.* (2015) show consistent results that environmental performance significantly influences the comprehensiveness of company's environmental disclosure.

This research focuses on manufacturing companies since their activities are relatively complex, thus they tend to produce more wastes. Yuliawati and Sukirman (2015) explain that manufacturing companies highly contribute to environmental and social issues. This research is limited to the manufacturing companies which participate in PROPER organized by the Ministry of Environment and Forestry.

2. Literature Review

There are three main theories employed in this research, comprising legitimacy theory, stakeholder theory, and signaling theory. Legitimacy theory focuses on interactions between company and the community (Ghozali *et al.*, 2014) and states that organization continuously seeks for a way to secure their operations within applicable limitations and norms in the community. This theory explains the reasons company conducts environmental disclosure. Environmental disclosure is deemed medium which connects company and the community, which would influence community's view of the company, thus a good legitimacy could be created.

The second theory, stakeholder theory, explains the relationship between company and stakeholders. According to (Ghozali *et al.*, 2014), the stakeholder theory states that company is not an entity which operates only for its own interest, but it should give benefit to its stakeholders. This theory assumes that to exist, a company needs support from the stakeholders, thus any activities it performs should be in line with stakeholders' expectations. A strategy to maintain this relationship is to perform its environmental responsibility in the form of environmental disclosure.

Signaling theory explains why a company is encouraged to present financial statement information to external parties. According to this theory, company's environmental activities present information to investors of better expected return in the future. Appropriate environmental disclosure as expected by stakeholders is a signal of good news for the public that a company has good future prospects.

Yanto Heri and Muzzammil (2016) found that a bigger company would have better access to capital market, thus it will have more funds to expand its operating activities. Besides, they also contend that a bigger company is likely to have bigger economic of scale, thus its production costs per unit could be reduced significantly to increase its profitability.

In addition, a company with higher asset value tends to be more flexible to manage its assets; thus it would have better chance of achieving its targeted profit. Niresh and Velnampy (2014) contended that goods may be manufactured with far lower costs by a big company. The research conducted by Kartikasari and Merianti (2016) shows that company size significantly influences profitability. According to the reviews above, the study formulates the following hypothesis:

H₁ : Company Size Significantly Influences Financial Performance

The stakeholder theory also explains the relationship between company's leverage and financial performance. A company with high leverage tends to enhance its financial performance as a form of responsibility to its creditors. It would attempt to deliver a message to its creditors that it is able to well manage its finance, thus the creditors' trust could arise to keep the company's future activities funded. In addition, a company with high leverage may also obtain high loan from its creditors, the fund of which may be utilized by the company to generate higher profit.

The study uses Debt Ratio (DR) as a proxy of leverage. DR is a company's total assets funded by its creditor. Higher DR shows that a company is at a higher risk, since it has higher debt in use for its assets purchase Murhadi (2015: 61). This company would be more carefully manage its assets in order to minimize the existing risks and to

gain maximum profit. The research conducted by [Ahmad *et al.* \(2015\)](#) shows that leverage significantly influences profitability. According to the literature reviews above, the study formulates the following hypothesis:

H₂: Leverage significantly influences financial performance

A bigger company tends to have higher attention from the community, thus it would always attempt to show its better performance. According to the stakeholder theory, a bigger company tries maintain its reputation in front of the stakeholders. Because of pressures the stakeholders impose on various matters, a bigger company could more carefully perform its activities which may affect its surrounding environment. This would then encourage the company to keep its environmental performance enhanced.

The results of research conducted by [Sari and Ulupui \(2014\)](#) show that company size positively influences PROPER. Management pays attention to company's reputation in front of the stakeholders, in which the management does not use the company's assets only for their own interest, but also for the shareholders owners' interest through environmental performance improvement ([Sari and Ulupui, 2014](#)). Therefore, the study formulates the following hypothesis:

H₃: Company size significantly influences environmental performance

A more profitable company would be able to manage its finance and has more funds than less profitable company. Therefore, profitable companies tend to improve their performance in other fields, including in the area of environment. A more productive company could have better awareness to conduct waste management through environmental performance improvement. Based on the stakeholder theory, such a company will fulfill the stakeholders' expectation of a good environmental management.

[Sari and Ulupui \(2014\)](#) explain that with high profitability, the management of a company will improve its environmental management, since with high gains, such a company will become public highlight. The research conducted by [Vinayagamoorthi *et al.* \(2015\)](#) shows that profitability significantly influences company's environmental performance. Therefore, the study formulates the following hypothesis:

H₄: Financial performance significantly influences environmental performance

The stakeholder theory explains the relationship between company's leverage and environmental performance. According to [Yanto Heri and Muzzammil \(2016\)](#), higher leverage means that creditors as stakeholders take important position in a company. A company with higher leverage will attempt to improve its performance, including in environmental matter. It will more often interact with creditors; thus it will be encouraged to have better image in front of the creditors. The studies conducted by [Kartikasari and Merianti \(2016\)](#) and [Mustika \(2015\)](#) show that leverage significantly influences environmental performance.

H₅: Leverage significantly influences environmental performance

The signaling theory states that a company with good performance would make more disclosures. This is considered as signal by the company for the stakeholders that the company is operating well. A good environmental performance will encourage the company to make these information disclosures to the stakeholders, with an expectation that it will present "good news" which will enhance the company's value in front of the stakeholders. These disclosures are conducted by the company in attempt to distinguish itself from companies with bad environmental performance.

[Aulia and Agustina \(2015\)](#) explain that environmental performance is management's consideration in making its environmental information disclosure. The relationship of these two variables may be explained using the voluntary disclosure theory. This theory predicts that a company with better environmental performance provides superior environmental disclosure both in quantity and quality ([He and Loftus, 2014](#)). The results of researches conducted by [Aulia and Agustina \(2015\)](#) and [He and Loftus \(2014\)](#) show that the environmental performance significantly influences environmental disclosure. [Yanto Heri *et al.* \(2017a\)](#) propose that environmental performance as reflected in PROPER is an environmental project performed by company in order to generate environmental information. Better PROPER implementation will generate more information which may be presented to stakeholders.

H₆: Environmental performance influences environmental disclosure

A bigger company shows higher responsibility to the community and the environment ([Yanto Heri and Muzzammil, 2016](#)). Bigger a company would have more interest in presenting more comprehensive social and environmental disclosure report ([Ramadhan and Prastiwi, 2014](#)). Environmental disclosure may be taken as medium for a company to show to the community that it has good environmental responsibilities. Therefore, such bigger company may maintain its reputation in front of the community. Company's disclosed information would also reduce any information asymmetry and create harmony between the company and the community.

The legitimacy theory explains how a big company fulfills the community's expectations through its environmental disclosure. According to [Sulaiman *et al.* \(2014\)](#), by fulfilling the community's expectation of environmental issues through its disclosure in annual report, a company may attempt to maintain its sustainability and growth. [Aulia and Agustina \(2015\)](#), [Sulaiman *et al.* \(2014\)](#), and [Yanto Heri and Muzzammil \(2016\)](#) show that the company size variable significantly influences environmental disclosure.

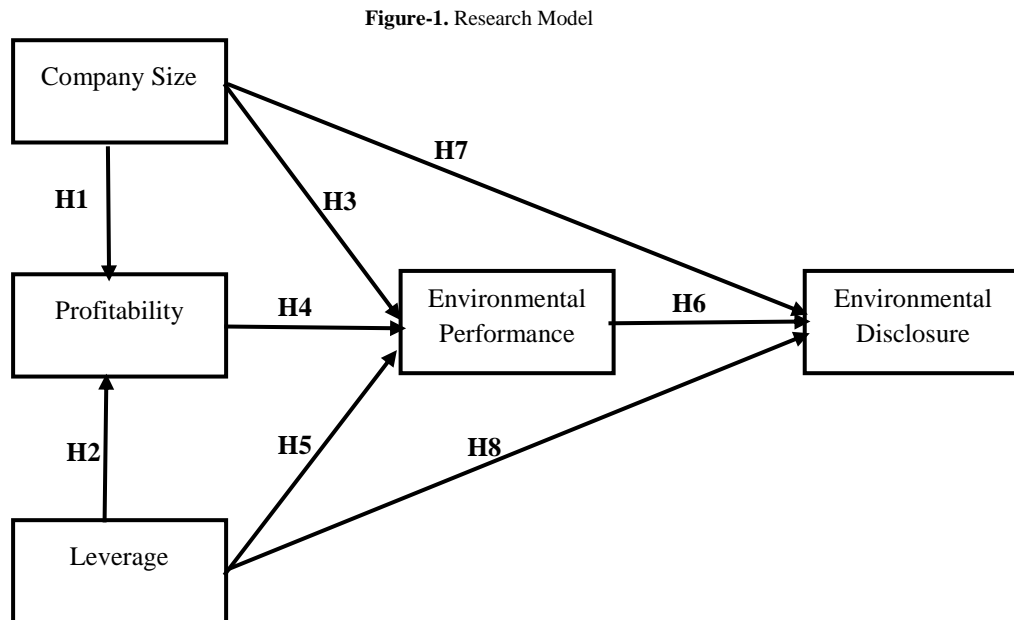
H₇: Company size influences environmental disclosure

Leverage show to the extent of a company's dependence on its creditors in funding its activities. Higher leverage will make a company more carefully disclose its performance related information. The stakeholder theory explains the relationship between leverage and environmental disclosure. Creditors as one of company's stakeholders have the right to information of environmental responsibility made by the company in return of their support of funding the company's assets. Therefore, creditors' trust in the company will be enhanced, thus they will keep the company's future funding.

Deegan (2002) explains that financial institution, as part of their risk management policy, tends to require borrower to periodically present various items of information relating to social, environmental performance, and policy. One of managers' motivations to voluntarily disclose their environmental information is that they want to comply with such loan requirement. The study conducted by Yanto Heri and Muzzammil (2016), Sulaiman *et al.* (2014), and Chandok and Singh (2017) show that higher leverage will result in company's more comprehensiveness environmental disclosure.

H₈: Leverage significantly influences environmental disclosure

To summary the proposed hypotheses, the figure below provides information of inter-variable relationship pattern.



3. Research Method

3.1. Population and Sample

The population of this research is all manufacturing companies listed in Indonesia Stock Exchange (BEI) in the period of 2012-2016. By using the following three criteria: (1) listed in BEI; (2) issuing consecutive financial statements in 2012-2016; and (3) implementing the PROPER program, this research identifies 27 manufacturing companies. This research has collected 135 data with a five-year period of observation.

3.2. Research Variables

This research uses variables of environmental disclosure, company size, leverage, financial performance, and environmental performance as its variables. Environmental disclosure means manufacturing companies' environmental performance information disclosed in annual report. A content analysis is conducted to identify the points of indicator reported in financial statement. Company size is proxied company's total assets. Considering that the total assets vary, this research transforms the data using the natural logarithm formula. Leverage which is comparison of total debts and total assets is a reflection how a company depends on debt financing for its operations. Financial performance is measured using Return on Equity (ROE) which is comparison of net profit and total equities. Environmental performance is proxied with company's rating in PROPER implementation. There are five ratings of PROPER, consecutively Gold, Green, Blue, Red and Black. Company with Gold rating is valued 5 (highest) and with Black rating is valued 1 (lowest).

3.3. Data Analysis

This research collects the data using documentation method. The data are in the form of secondary data including annual report and financial statement of manufacturing companies listed in the Indonesia Stock Exchange (BEI) of the period of 2012-2016. In addition, this research employs secondary data in the form of PROPER rating issued by the Ministry of Environment and Forestry. This research employs descriptive statistics and path analysis, and the tests are conducted through multiple stages, comprising goodness of fit model and hypothesis test.

4. Results and Discussion

4.1. Descriptive Analysis

The descriptive statistics describes average, maximum and minimum values and standard deviation of the environmental disclosure (ED), company size (SIZE), leverage (LEV), financial performance (ROE) and environmental performance (EP) variables. The environmental disclosure variable (ED) has minimum value of 0.00, maximum value of 6.00, and average value of 3.88 with standard deviation of 1.66. Therefore, industrial companies

averagely present only 3.88 points out of five points or about 65%. Meanwhile, the company size variable (SIZE) has minimum value of 351,318.00, maximum value of 97,094,893.00, and average value of 17,042,328.35 with standard deviation of 22,885,284.43. The leverage variable (LEV) has minimum value of 0.04, maximum value of 0.92, and average value of 0.44 with standard deviation of 0.20. The financial performance variable (ROE) has minimum value of -2.34, maximum value of 1.36, and average value of 0.13 with standard deviation of 0.34. The environmental performance variable (EP) has minimum value of 2.00, maximum value of 5.00, and average value of 3.13 with standard deviation of 0.63. Therefore, the manufacturing companies have just achieved the minimum threshold of rating value (blue with score of 3). The following Table 3 provides complete information.

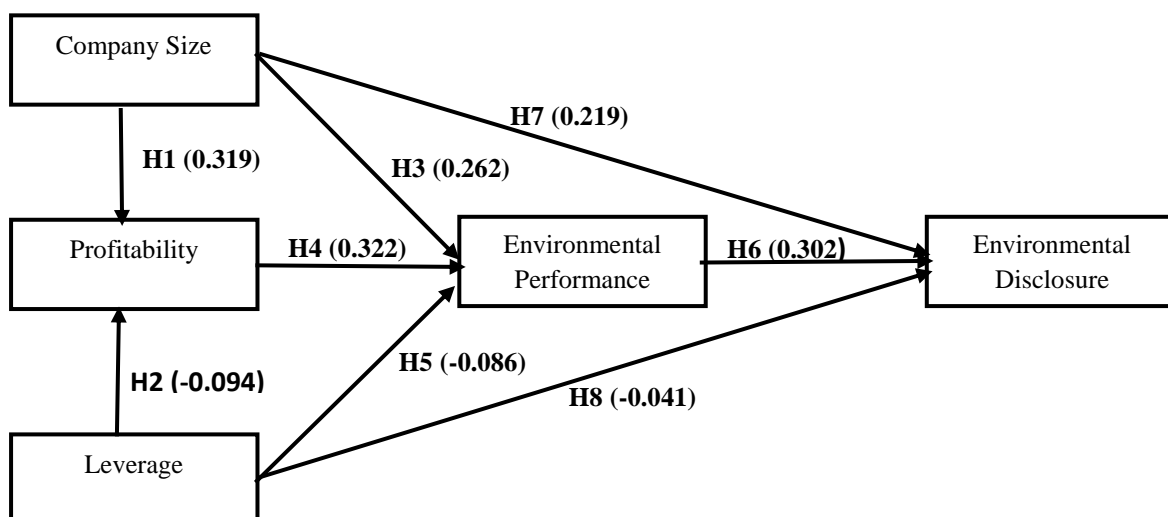
Table-3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ED	135	00.00	6.00	3.88	1.66
SIZE	135	351,318.00	97,094,893.00	17,042,328.35	22,885,284.43
LEV	135	0.04	0.92	0.44	0.20
ROE	135	-2.34	1.36	0.13	0.34
EP	135	2.00	5.00	3.13	0.63

4.2. Path Analysis

The results of path analysis show that the Environmental Disclosure (ED) is influenced by Company Size (0.219, $p < 0.05$) and Environmental Performance (0.302, $p < 0.05$). Meanwhile, leverage does not influence ED (-0.041 , $p > 0.05$). The Environmental Performance variable is influenced by Company Size (0.262, $p < 0.05$) and Profitability (0.322, $p < 0.05$). Leverage variable does not significantly influence Environmental Performance (-0.086 , $p < 0.05$). Company size influences Profitability (0.319, $p < 0.05$), but Leverage variable does not influence Profitability (-0.094 , $p > 0.05$). The model below more clearly describes the inter-variable relationship pattern in this research.

Figure-2. Empirical Model



4.3. Goodness of Fit Test

To examine the fitness of the model, this research employs the eight indices. The goodness of fit test shows that all required criteria have been met, thus the research models are entirely declared good fit. The table below provides index information of the models developed in this research.

Table-4. Goodness of Fit Model

Goodness of Fit Index	Cut off Value	Result	Remark
X ² Chi Square	<3.00	1,489	Fit
Significance Probability	p>0.05	0,222	Fit
RMSEA	≤ 0,08	0,060	Fit
GFI	≥ 0,90	0,996	Fit
AGFI	≥ 0,90	0,934	Fit
CMIN/DF	≤ 5,00	1,489	Fit
TLI	≥ 0,90	0,931	Fit
CFI	≥ 0,90	0,993	Fit

Therefore, five hypotheses (H1, H3, H4, H6 and H7) out of the eight hypotheses proposed by this research are accepted, while the remaining three hypotheses (H2, H5 and H8) are rejected. The interesting thing found in this

research is that the Leverage variable does not influence Profitability, Environmental Performance and Environmental Disclosure.

5. Discussion

The hypothesis test results show that company size significantly influences financial performance. In addition, a positive relationship direction is found (0.319), which means that every one unit of company size increment will enhance profitability (as proxy of financial performance) for 0.319 unit. This is in line with the proposed theory that company's profitability will increase as company's size becomes bigger. A bigger company tends to more flexible and free to manage its assets; thus it will more easily achieve its target. According to [Karina and Khafid \(2015\)](#), a large amount of assets may be maximally used for company's operations to generate higher profit. This result is consistent with the research conducted by [Yanto Heri and Muzzammil \(2016\)](#), but is contradictory to the research conducted by [Niresh and Velnampy \(2014\)](#).

The hypothesis test results show that leverage does not significantly influence financial performance. This result is contradictory to the previously described theory that a company with higher leverage will increase its financial performance as a form of responsibility to its creditors. The leverage variable in this research does not have considerably high average, which is 43.61%. This means that manufacturing companies in BEI averagely have their assets funded by creditors for 43.61%. The managers may think that it is better to use capital derived from company's own profit than to continuously depend on creditors. Therefore, we may state that leverage is not the only reason for the managements to increase profit. The Pecking order theory explains that a company prefers utilizing internal source of fund to external source of fund. Based on this theory, a company will first utilize internal fund, then debt and finally equity in fulfillment of its need for financing ([Yan, 2007](#)). This result is consistent with the research conducted by [Widiyanti and Elfina \(2015\)](#) which finds that there is uncertain relationship between company's leverage and profitability.

The hypotheses test results show that the company size variable positively, significantly influences environmental disclosure, with estimated parameter value of 0.262. This means that every one unit of company size increment will enhance environmental performance for 0.262 unit. This result is in line with the previous theory. Based on the stakeholder theory, a bigger company will maintain its reputation in front of the stakeholders. Because of pressures the stakeholders impose on various matters, a bigger company will more carefully perform its activities which may affect its surrounding environment. This will then encourage the company to keep its environmental performance enhanced. This result is consistent with the research conducted by [Sari and Ulupui \(2014\)](#). Company's management pays attention to company's reputation in front of the stakeholders, in which the management does not use the company's assets only for their own interest, but also for the capital owners' interest through environmental performance improvement ([Sari and Ulupui, 2014](#)).

The hypothesis test results show that financial performance positively, significantly influences environmental performance, with estimated parameter value of 0.322. This means that every one unit of profitability increment will enhance environmental performance for 0.322 unit. This result is in line with the previous theory that a profitable company has more funds and tends to improve its performance of environmental management. Based on the stakeholder theory, a company attempts to fulfill community's expectation by providing good environmental management. According to ([Sari and Ulupui, 2014](#)), with higher profitability, the management would improve its environmental management, since with high profit, such a company will become public highlight. In addition, higher profit reflects company's high productivity. A more productive company tends to produce more wastes. Therefore, the companies would consistently improve their environmental management. This hypothesis test result is consistent with the research conducted by ([Vinayagamoorthi et al., 2015](#)) showing that profitability significantly influences company's environmental performance.

The hypotheses test results show that the leverage does not influence environmental disclosure. This result is contradictory to the previously proposed theory that with a higher leverage, a company would attempt to report better environmental disclosure. This shows that in performing environmental management activities, leverage is not the only consideration the management takes. That the Government obligates companies to perform environmental management has companies keeping their environmental performance enhanced even with low leverage. This result is consistent with the research conducted by [Sari and Ulupui \(2014\)](#). Leverage constitutes comparison between funds used for company's financing, which means that such debt is not used for financing environmental performance improvement activities ([Sari and Ulupui, 2014](#)).

The hypotheses test results show that environmental performance significantly influences environmental disclosure. This shows a positive relationship with estimated parameter value of 0.302. This means that every one unit of environmental performance increment will enhance environmental disclosure for 0.302 unit. This result is in line with the previously explained theory. The signaling theory states that a company with good performance makes more disclosures. This is considered as signal by the company for the stakeholders that the company operates well. A good environmental performance would encourage the company to disclose information to the stakeholders, with an expectation that it will be a signal of "good news". This signal would enhance the company's value in front of the stakeholders.

[Ahmadi and Bouri \(2017\)](#) explain that a company which applies healthy environmental policy tends to be motivated to voluntarily disclose its environmental information to inform investors of its global environmental strategy. The voluntary disclosure theory predicts that a company with better environmental performance provides superior environmental disclosure both in quantity and quality. This result is consistent with the research conducted by [He and Loftus \(2014\)](#) and [Yendrawati and Tarusnawati \(2013\)](#). This result is in line with the ideas proposed by

(Yanto Heri *et al.*, 2017a) that the PROPER project may also be viewed as a program to generate environmental information to be presented to the stakeholders.

The hypotheses test results show that company size positively, significantly influences environmental disclosure with estimated parameter value of 0.219. This means that every one unit of company size increment will enhance environmental disclosure for 0.219 unit. This result is in line with the previously explained theory. Based on the legitimacy theory, a company attempt to fulfill the community's expectation so as not to create legitimacy gap. A bigger company would get more attention from the community. This would encourage the company to keep its environmental responsibility by disclosing information in its annual report. In addition, Susanto and Lukito (2013) find that a bigger company has a good reporting system and resources to generate more information. This result is in line with the research conducted by Aulia and Agustina (2015), Sulaiman *et al.* (2014), and Yanto Heri and Muzzammil (2016) which show that the company size significantly influences environmental disclosure.

The hypotheses test results show that leverage does not significantly influence environmental disclosure. This result is contradictory to the previous theory that higher leverage would encourage a company to make more disclosures. Company could take various considerations in disclosing its environment information, not only based on leverage. The Government's regulation which obligates companies to make environmental disclosure and pressures from other stakeholders may become the main reason for managers to make environmental disclosure. This result is consistent with the research conducted by Aulia and Agustina (2015). Moreover, they also explain that in making environmental disclosure, company's management is not merely influenced by stakeholders who have control over the company. Based on the positive accounting theory, it is found that company's decision making is also influenced by management's self-interest.

The Government of Indonesia has provided guidance to the companies for the implementation of PROPER as their environmental responsibility (Yanto Heri *et al.*, 2017a). However, the PROPER implementation has just achieved blue rating, which means that this program has been well implemented, but needs improvement in order to achieve higher rating. In addition, the environmental information disclosure has not been maximally performed by the companies. The Government and the community as the most important stakeholders need to impose more pressure to industrial companies to implement the PROPER and to more comprehensively report it to them.

6. Conclusion

The manufacturing companies in Indonesia have obligation to participate in PROPER in order to be responsible for the environmental degradations the made. Meanwhile, the PROPER implementation is good—averagely rated 3 or blue. The manufacturing companies' responsibility to include environmental information in their annual report is not satisfactory yet (38%). Environmental disclosure is influenced by PROPER and Company Size, while PROPER is influenced by profitability and Company Size. Besides, company size positively influences profitability. Leverage does not influence environmental disclosure, environmental performance, and profitability.

The Government as the regulator is expected to make environmental disclosure obligatory to the companies in order to enhance their compliance with regulations and proper manuals. Further research needs to utilize more specific indicators to measure environmental disclosure. Future research also should focus on identifying the strategies for improving PROPER implementation among Indonesian manufacturing companies. These strategies would be very pivotal to improve PROPER rating.

References

- Ahmad, N., Salman, A. and Shamsi, A. (2015). Impact of financial leverage on firms' profitability, An investigation from cement sector of Pakistan. *Research Journal of Finance and Accounting*, 6(7): 75-80.
- Ahmadi, A. and Bouri, A. (2017). The relationship between financial attributes, Environmental performance and environmental disclosure, Empirical investigation on french firms listed on CAC 40. *Management of Environmental Quality, An International Journal*, 28(4): 490-506.
- Aulia, F. Z. and Agustina, L. (2015). Pengaruh Karakteristik Perusahaan, Kinerja Lingkungan, dan Liputan Media terhadap Environmental Disclosure. *Accounting Analysis Journal*, 4(3): 1-8.
- Chandok, R. I. S. and Singh, S. (2017). Empirical study on determinants of environmental disclosure, Approach of selected conglomerates. *Managerial Auditing Journal*, 32(4/5): 332-55.
- Deegan, C. (2002). Introduction. *Accounting, Auditing & Accountability Journal*, 15(3): 282-311.
- Djajadikerta, G. H. and Trireksani, T. (2012). Corporate social and environmental disclosure by Indonesian listed companies on their corporate web sites. *Journal of Applied Accounting Research*, 13(1): 21-36.
- Epstein, M. J. and Freedman, M. (1994). Social disclosure and the individual investor. *Accounting, Auditing & Accountability Journal*, 7(4): 94-109.
- Fontana, S., D'Amico, E., Coluccia, D. and Solimene, S. (2015). Does environmental performance affect companies' environmental disclosure? *Measuring Business Excellence*, 19(3): 42-57.
- Ghozali, I., Chariri, A., Ghozali and Imam dan Anis Chariri (2014). *Teori Akuntansi, International Financial Reporting System*. Badan Penerbit Universitas Diponegoro: Semarang.
- Hadjoh, R. A. and Sukartha, I. M. (2013). Pengaruh Ukuran Perusahaan, Kinerja Keuangan dan Eksposur Media pada Pengungkapan Informasi Lingkungan. *E-Jurnal Akuntansi*: 1-18.
- He, C. and Loftus, J. (2014). Does environmental reporting reflect environmental performance? Evidence from China. *Pacific Accounting Review*, 26(1/3): 134-54.

- Karina, F. and Khafid, M. (2015). Determinan Profitabilitas pada Perusahaan Properti dan Real Estate go Public di Indonesia. *Accounting Analysis Journal*, 4(3): 1-10.
- Kartikasari, D. and Merianti, M. (2016). The effect of leverage and firm size to profitability of public manufacturing companies in Indonesia. *International Journal of Economics and Financial Issues*, 6(2): 409-13.
- KEMENLHK (2017). *Indeks Kualitas Lingkungan Hidup Indonesia 2016*. Kementerian Lingkungan Hidup dan Kehutanan: Jakarta.
- Murhadi, W. R. (2015). *Analisis Laporan Keuangan: Proyeksi dan Valuasi Saham*. Salemba Empat: Jakarta.
- Mustika, L., 2015. "Pengaruh Leverage, Likuiditas, Profitabilitas Terhadap Kinerja Lingkungan." In *Seminar Penelitian SPeSIA*. Universitas Islam Bandung.
- Niresh, J. A. and Velnampy, T. (2014). Firm Size and Profitability: A Study of Listed Manufacturing Firms ed Manufacturing Firms in Sri Lanka. *International Journal of Business and Management*, 9(4): 57-65.
- Nurkhin, A. (2009). *Corporate governance dan profitabilitas, Pengaruhnya terhadap pengungkapan tanggung jawab sosial perusahaan, studi empiris pada perusahaan yang tercatat di Bursa Efek Indonesia* Master, Universitas Diponegoro, Semarang.
- Pratiwi, R. D. (2015). Faktor-Faktor yang Mempengaruhi Kelengkapan Pengungkapan Laporan Keuangan. *Jurnal Dinamika Akuntansi*, 7(1), , 7(1): 85-97.
- Ramadhan, N. N. and Pratiwi, A. (2014). Analisis Faktor yang Mempengaruhi Luas Pengungkapan Sosial dan Lingkungan Melalui Website Perusahaan. *Diponegoro Journal of Accounting*, 3(4): 1-10.
- Sari, C. W. and Ulupui, I. G. K. A. (2014). Pengaruh Karakteristik Perusahaan Terhadap Kinerja Lingkungan Berbasis Proper Pada Perusahaan Manufaktur Di Bursa Efek Indonesia. *Jurnal Ilmiah Akuntansi dan Bisnis*, 9(1): 28-41.
- Smith, M., Yahya, K. and Marzuki Amiruddin, A. (2007). Environmental disclosure and performance reporting in Malaysia. *Asian Review of Accounting*, 15(2): 185-99.
- Suhardjanto, D. and Choiriyah, U. (2010a). Information Gap, Demand Supply Environmental Disclosure di Indonesia. *Jurnal Keuangan dan Perbankan*, 14(1): 36-51.
- Suhardjanto, D. and Choiriyah, U. (2010b). Information Gap: Demand Supply Environmental Disclosure di Indonesia. *Jurnal Keuangan dan Perbankan*, 14(1): 36-51.
- Sulaiman, M., Abdullah, N. and Fatima, A. H. (2014). Determinants of environmental reporting quality in Malaysia. *International Journal of Economics, Management and Accounting*, 22(1): 63-90.
- Susanto, Y. K. and Lukito, Y. P. (2013). Faktor-faktor yang memengaruhi pengungkapan sukarela internet financial and sustainability reporting. *Jurnal Keuangan dan Perbankan*, 17(1): 61-70.
- Vinayagamoorthi, V., Selvam, M. and Lingaraja, K. (2015). Impact of firms' profitability on environmental performance: evidence from companies in India. *Mediterranean Journal of Social Sciences*, 6(1): 109-19.
- Widiyanti, M. and Elfina, F. D. (2015). Pengaruh Financial Leverage terhadap Profitabilitas pada Perusahaan Sub Sektor Otomotif dan Komponen yang Terdaftar di Bursa Efek Indonesia. *Jurnal Manajemen dan Bisnis Sriwijaya*, 13(1): 117-36.
- Wulandari, P. A. and Kiswanto (2016). Mekanisme Corporate Governance Terhadap Kinerja Lingkungan dengan Profitabilitas Sebagai Mediator. *Accounting Analysis Journal*, 5(1): 1-10.
- Yan, Z. (2007). Three essays on corporate finance: Brandeis University. *International Business School*:
- Yanto, H. and Muzzammil, B. (2016). A Long Way to Implement Environmental Reporting in Indonesian Mining Companies. *Journal of Applied Business and Economic Research*, 14(40): 6493-514.
- Yanto, H., Hasan, I., Fam, S.-F. and Raeni, R. (2017a). Strengthening PROPER Implementation to Improve Transparency in Managing Carbon Emission among Indonesian Manufacturing Companies. *International Journal of Business & Management Science*, 7(2): 219-36.
- Yanto, H., Hasan, I., Fam, S. F. and Raeni, R. (2017b). Strengthening proper implementation to improve transparency in managing carbon emission among Indonesian manufacturing companies. *International Journal of Business & Management Science*, 7(2): 219-36.
- Yendrawati, R. and Tarusnawati, L. R. (2013). Peran Environmental Performance terhadap Environmental Disclosure dan Economic Performance. *Jurnal Keuangan dan Perbankan*, 17(3): 434-42.
- Yuliawati, R. and Sukirman (2015). Faktor-faktor yang Mempengaruhi Corporate Social Responsibility. *Accounting Analysis Journal*, 4(4): 1-10.