International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 10, Issue 12, 2020

Firm Size, Profitability, Type of Industry, Institutional Ownership and Environmental Disclosure

Iqhbal Hisyamfikar Satria Johan[a], **Isnalita**[b*], [a,b]Faculty of Economics and Business Universitas Airlangga, Email: [b*]isnalita@feb.unair.ac.id

The study aims to test the influence of firm size, profitability, type of industry and institutional ownership on environmental disclosure. A purposive sampling method was used, obtaining a sample of 136 manufacturing companies listed on the Indonesia Stock Exchange. Secondary data from the annual report was used. Firm size is measured using natural logarithms, profitability is measured using Return on Assets (ROA). A dummy is used to measure the type of industry. The proportion of ownership is to measure institutional ownership. Environmental disclosure is measured by the disclosure index. The hypothesis testing method used a T test with an equivalent significance of 0.05. The results show that only the firm size and profitability affect environmental disclosure, while the type of industry and institutional ownership have no effect. The research also finds low environmental disclosure by the sampled companies. The implications from this result are the need for empowerment and adequate appreciation to improve the environmental disclosure index of public firms.

Key words: *Environmental Disclosure, Firm Size, Institutional Ownership, Profitability, Type of Industry.*

Introduction

Global warming at this time can be caused by the operations of firms. They impact climate change which is the biggest challenge in the political and economic world (Bryan et al., 2014). Climate change occurs because of human activity increasing greenhouse gases in the earth's atmosphere. The Intergovernmental Panel on Climate Change (IPCC, 2007) stated that there was a rise in the average global surface temperature at a rate of 0, 74 °c ± 0, 18 °c in various countries including Indonesia. Lately the impacts of climate change include the increasing of surface temperatures, changes in rainy weather, the increasing of temperatures and high levels of sea water, climate enhancement and extreme weather (Bappenas, 2013). One of the ways to inform investors that a given firm has participated in environmental responsibility is for it to voluntarily disclose, through financial statements or sustainability reports. Firms that focus on environmental performance can improve their image in the future, to influence the increasing of financial performance (Butler, 2011). Some firms that disclose their environmental information will benefit in the form of a better financial performance than the non-disclosing firm. Environmental disclosure can be associated with several factors including firm size, profitability, its type of industry, and its ownership (Choi, 1999). The research problems in this paper investigate the role of firm size, profitability, type of industry and institutional ownership, as to environmental disclosure.

Literature Review

The firm will continue to exist if the public realizes that the entity is operating for the value system that is commensurate with the community's value system. The theory of legitimacy can relate the management behaviour of firms to environmental disclosure (Deegan, 2002). Legitimacy is needed by institutions to achieve the objectives of conforming to the wider community (Gray et al., 1996). The theory of legitimacy encourages firms to ensure that their activities and performance are acceptable to the public. The firm uses its annual report to describe its social responsibility, so that the public can accept its existence. Community acceptance is expected to increase the value of the firm. It can encourage or assist investors in making investment decisions. Legitimacy is a corporate management system that is oriented towards the alignment of society, government, individuals and community groups. Conceptually, disclosure is an integral part of financial reporting. Technically, disclosure is the final step in the accounting process, which is presenting information in the form of a full set of financial reports. Berthelot et al., (2003) define environmental disclosure as a collection of information related to environmental management activities by firms in the past, present and future. This information can be obtained in many ways, such as qualitative statements, assertions or quantitative facts, forms of financial statements or footnotes. The environmental disclosure itself aims to provide information to the community about related activities or specific things that the firm has done to the environment in particular. Not only that, with public disclosure, the community can also monitor the firm's related aspects of its environment. Environmental disclosure itself is also firm responsibility to the community. It is in line with the theory of legitimacy, where the firm will strive to follow societal demands. Environmental disclosure is obviously beneficial to various stakeholders. Firms that conduct environmental disclosure have certainly contributed to the environment. This can then provide its own value to the community and give the firm a competitive advantage over other firms. The government will benefit from this, because the firm also supports the government in environmental terms. Luo et al. (2013) stated that large firms would bear greater pressure from the public, making it clear that this would have an effect on disclosure. According to

Amran and Susela (2008), the size of the firm is a value that shows either the firm to be either large or small. Another factor associated with environmental disclosure is profitability. The higher the profitability, the broader the company's disclosure (Gamerschlag et al., 2011). Companies can be classified by various criteria, but generally there are high profile companies and low profile companies (Choi, 1999; Hackston and Milne, 1996; Patten, 1992). The former operate in industries whose level of sensitivity to the environment is high enough (Ho and Taylor, 2007). This type of company will also be more visible in the social and political environment (Deegan, 2002). Related to this, research from Sahay (2004) found that no relationship between the type of the industry and the high-low dichotomy, as to firms conducting environmental disclosure. In relation to ownership of the firm's shares, institutions are deemed to have a big influence on actions, whether done or potentially done by the firm. According to Shiri et al., (2016) the institutional ownership of the firm is defined as the ownership of shares by the government, financial institutions, legal institutions, and other custodians and institutions. Institutions can have a larger number of shares than other shareholders because the resources they have are clearly larger. This encourages the institution to be the majority shareholder whose firm's decision will be clearly influenced by the institution. Institutions that have a greater number of shares, have a better quality of disclosure (Tsang et al., 2019).

Firm Size and Environmental Disclosure

The size of the firm is either large or small. Several reasons explain the influence of firm size on environmental disclosure. A number are stated by Athanasios (2013). Most importantly, a larger-sized firm has sufficient sources of funds and is able to publish information, both mandatory and voluntary information, compared to small firms. This corresponds to the thought of Fontana and Macagnan (2012) who argue that large-scale firms have a high level of information disclosure, which can reduce agency costs between managers and shareholders. Therefore, the hypothesis of this research is:

H: Firm's size has a positive effect on environmental disclosure.

Profitability and Environmental Disclosure

Research that investigates financial performance relationships with the disclosure of voluntary information has been conducted by Micah (2012). It argues that there is a positive relationship between the level of financial performance and intellectual capital disclosure. Burgwal and Rui Jose, (2014), stated that firms with good financial conditions will easily exert the ability to create voluntary and better disclosure reports against outside pressure. Profitability is a measure of performance that describes the extent to which the company can generate gain or profit through its activities. Therefore, the hypothesis of this research is:

H2: Profitability has a positive effect on environmental disclosure.

The Type of Industry and Environmental Disclosure

Some researches related to the relationships of the type of industry and environmental disclosures (Ho and Taylor, 2007) stated that high profile industry companies are more likely to conduct environmental disclosure than low profile companies. This is because high profile companies also have a high sensitivity to the environment. Therefore, the hypothesis of this research is:

H3: The type of industry has a positive effect on environmental disclosure.

Firm Institutional Ownership and Environmental Disclosure

Shiri et al. (2016) stated that the company with high institutional ownership discloses reliable and also accurate information. In addition, ownership by an institution also plays an important role in supervising the activities of the firm (Bassen, 2005). In other words, an institution that has a stock portfolio in a firm will certainly do the best things for the firm in relation to the performance of the firm itself. It can also be mirrored from how the firm is in relation to conducting environmental disclosures. Therefore, the hypothesis of this research is:

H4: Institutional ownership of the firm has a positive effect on environmental disclosure.

Research Method

The research approach used in this research is a quantitative approach. There are two types of variables in this study: (1) the dependent variable is the environmental disclosure and (2) the independent variables are firm size, profitability, type of industry, and firms' institutional ownership. The research sample is as great as 136. Samples are manufacturing companies listed on the Indonesia Stock Exchange. A T test is used to test the effect of independent variables on the dependent variable.

Environmental Disclosure

The measurement of the dependent variable is the environmental disclosure in this study, using the GRI index. Next, the environmental disclosure index is calculated, being the result of the summation of the disclosed item index divided by the total disclosure item based on GRI-4. It is formulated as follows:

$$\text{DISCIit} = \frac{\sum \text{DISC}}{N}$$

Description:
DISCIit = firm environmental disclosure index i in year t.
$\sum$ DISC = number of firm environmental disclosure items i in year t.
N = total number of GRI-4 disclosure items.

Firm Size

In this research, it is using firm size based on total assets that can be formulated:
$SIZE_{it}$ = Ln (Total $Assets_{it}$)
Description:
SIZE = firm size i in year t.

Profitability

Net profit is measured using Return of Asset. So in this research, the value of the firm is seen from the ratio of Return on Assets (ROA) and can be formulated as follows:

$$\text{ROA}it = \frac{\text{EAT}it}{\text{TOTAL ASSETS}it}$$

Description:
ROA = firm's Return On Asset i in year t.
EAT = firm's Earning After Tax i in year t.

Type of Industry

The type of industry is projected in relation to firms that belong to high profile and low profile industries. Firms included in the high profile industry classification are petroleum and mining firms, chemical, forest, paper, automotive, aviation, agribusiness, tobacco and cigarettes, food and beverage products, media and communications, energy (electricity), engineering, health, transportation and also tourism. The industry type is measured using a dummy variable given code 1 if the firm belongs to the high profile industry and code 0 if it is included in the low profile industry (Sembiring, 2006).

Firm Institutional Ownership

Firms that are owned by institutions of great proportions may have a strong influence on environmental disclosure. Bassen (2005) supports the view that greater institutional ownership indirectly controls activity within the firm, to be able to provide a good image. Therefore, a formula is found to calculate the institutional ownership of the firm as follows:

$$\text{INSOWNit} = \frac{\text{Number of shares owned by the institution}it}{\text{Total number of shares}it}$$

Description

INSOWNit=institutional ownership percentage of the firm i in year t.

Results and Discussions

Table 1: Descriptive Statistics

		Minimum	Maximum	Mean	Std. Deviation
Size	36	24,42	33,20	28,4235	1,58293
Profit	36	-24,01	43,17	4,8144	9,23634
Type	36	,00	1,00	,8088	,39468
Insown	36	,00	99,91	66,3689	25,04940
Disc	36	,00	,62	,1224	,13670
Valid N (listwise)	36				

The descriptive statistical results show the lowest and the highest values of each variable, and also give the average result. Based on Table 1 descriptive statistics, it indicates that the mean environmental disclosure is still not adequate. The size of the firm used as a sample is less varied, as indicated by the magnitude of the value of standard deviation (SD) under the mean. The same is true for the standard deviation of the value of the type of industry, and institutional ownership. Conversely, the profitability of research samples varies, because of the value of standard deviation is greater than the mean value.

Table 2: Hypothesis Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	ig
		B	Std. Error	Beta		
	(Constant)	-,892	,185		-4,822	000
	Size	,034	,007	,391	5,083	000
	Profit	,004	,001	,246	3,217	002
	Type	,021	,026	,061	,794	428
	Insown	,000	,000	,058	,769	443

Table 2 of the hypothesis test results indicates that Hypothesis 1 is supported, which is indicated by the significance value of 0,000 < 0.05 and the value of positive coefficient, which is 0.034. Likewise, for hypothesis 2 which has a significance value of 0,002 < 0.05 and a positive coefficient value of 0.004. Hypotheses 3 and 4 are not supported, shown with significance values of 0.428 and 0.443 that are greater than 0.05.

Based on the result of coefficient of determination, the value of the coefficient of determination gained is 0.248 or by 24.8%. In further explanation, the number 24.8% means that as much as the percentage of environmental disclosure can be explained influenced by the firm size, profitability, type of industry, and institutional ownership of the firm. The remaining 75.2% is influenced by other variables not used in this research. The hypothesis testing shows that the larger the firm size, the wider the environmental disclosure. Larger firms have more resources to undertake responsibility for their environment (Berthelot et al., 2003). Conversely, smaller firms are not yet able to undertake the same environmental responsibilities as large firms. Thus, the size of the firm is a defining factor of the disclosure that done by the firm (Gamerschlag et al., 2011). In addition to resource availability, larger firms will get greater demands from their environment to carry out environmental responsibilities (Luo et al., 2013). Management of the firm will behave positively in the form of concern for the environment to obtain legitimacy (Deegan, 2002). Profitability also has a significant effect on environmental disclosure. It is demonstrated that the higher the profitability of the firm, the broader the firm's environmental disclosure. It is in accordance with the research results of Bae Choi, et al. (2013); Gamerschlag et al. (2011), which finds the higher the profitability gained by the firm, the broader will be its environmental disclosure. The type of industry has no effect on environmental disclosure. Sahay (2004) also found no differences in environmental disclosure in different industrial sectors. Firms in developing countries are not yet relating adequate empowerment and appreciation from stakeholders, to their environmental concern. It can also be one of the causes of "no difference" in environmental disclosure, between companies in different sectors (Sahay, 2004). The result is inconsistent with Bae Choi, et al. (2013); Lu and Abeysekera (2014), which finds that the type of industry affects environmental disclosure. Institutional ownership does not have an effect on environmental disclosure. It is in accordance with Donnelly and Mulcahy (2008) who find institutional ownership has not related to environmental disclosure. The results of this study are inconsistent with the study of Shiri et al. (2016), who state that institutional ownership has an effect on the quality of the disclosure. The average institutional ownership of the samples in this study is quite large in proportion, at 66.37%, but it has not yet been able to influence significantly the broad environmental disclosure. This can be due to the institutional companies that are mostly domestic. Tsang et al. (2019) found that foreign institutional investors were more instrumental than domestic institutional investors in relation to voluntary disclosures.

Conclusions

The results of the hypothesis testing show that H1 is supported. The size of the firm measured using a natural logarithm of total assets has an effect on the environmental disclosure. H2 is also supported, meaning that the profitability measured using Return On Asset has an effect on environmental (Udayasankar, 2008) disclosure. In contrast, H3 is not supported, indicating that the type of industry does not affect environmental disclosure. Likewise, firms' institutional ownership does not affect environmental disclosure, meaning H4 is not supported. The study also found low environmental disclosures by the sampled firms. These results can be used as a consideration to further motivate and reward, to increase firms' awareness of the environment. Greater awareness is also needed in terms of providing proportional environmental responsibility obligations, for different types of industry. This research has a limitation, which is its lack of a separation between foreign and domestic institutional holdings. Further research is suggested to separate domestic and foreign institutional ownership.

REFERENCES

Amran, A. & Susela, Devi. S. (2008). The Impact Of Government And Foreign Affiliate Influence On Corporate Social Reporting (The Case Of Malaysia). *Accounting, Auditing and Accountability Journal, Vol. 23, No. 4*, hal. 386-404

Athanasios, V. (2013). Company Characteristics and Human Resource Disclosure in Greece. *Procedia Technology,* 8 (2013):112 – 121.

Bae Choi, B., Lee, D. dan Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review, 25*(1), 58-79.

Baldini, M., Dal Maso, L., Liberatore, G., Mazzi, F. & Terzani, S. (2018). Role of country- and firm-level determinants in environmental, social, and governance disclosure. *Journal of Business Ethics, 150*(1), 79-98.

Bassen, A. (2005). "The Implementation of Good Corporate Governance by Institutional Investors: The Scoreboard for German Corporate Governance," *International Journal of Disclosure and Governance, Vol. 2,* No. 3, pp. 244-263.

Berthelot, S., Cormier, D. & Magnan, M. (2003). environmental, disclosure research: review and systhesis. *Journal of accounting literature, 22*, 1-44.

Brammer, S. & Pavelin, S. (2008). Factors influencing the quality of corporate environmental disclosure. *Business Strategy and the Environment, 17*(2), 120-136.

Bryan, B. A., Nolan, M., Harwood, T. D., Connor, J., Navarro-Garcia, J., King, D.,

Burgwal, D. V. & Rui Jose, O. V. (2014). *Environmental Disclosure Determinants in Dutch Listed Companies*. R. Cont. Fin. Sao Paulo, Vol 25(64), pp. 60-78.

Butler, T. (2011). Compliance with institutional imperatives on environmental sustainability: Building theory on the role of Green IS. *The Journal of Strategic Information Systems, 20*(1), 6-26.

Choi, J.-S. (1999). An investigation of the initial voluntary environmental disclosures made in Korean semi-annual financial reports. *Pacific Accounting Review*, *11*(1), 73-102.

da Silva Monteiro, S. M., & B. Aibar-Guzmán. (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.

Deegan, C. (2002). Introduction: the legitimising effect of social and environmental disclosures–a theoretical foundation. *Accounting, Auditing & Accountability Journal, 15*(3), 282-311.

Donnelly, R. & Mulcahy, M. (2008). Board structure, ownership, and voluntary disclosure in Ireland. *Corporate Governance: An International Review, 16*(5), 416-429.

Fontana, Fernando Batista & Clea Beatriz Macagnan. (2013). Factors Explaining The Level of Voluntary Human Capital Disclosure in The Brazilian Capital Market. *Journal of Intellectual Capital,* 2013–9 (1): 305-321.

Gallo, P. J. & Christensen, L. J. (2011). Firm size matters: An empirical investigation of organizational size and ownership on sustainability-related behaviors. *Business & Society, 50*(2), 315-349.

Gamerschlag, R., Möller, K. & Verbeeten, F. (2011). Determinants of voluntary CSR disclosure: empirical evidence from Germany. *Review of Managerial Science, 5*(2-3), 233-262.

Gray, R., Owen, D. & Adams, C. (1996). *Accounting and Accountability: Changes and Challenges in Corporate and Social Reporting*. London: Prentice Hall.

Hackston, D. & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal, 9*(1), 77-108.

Ho, L. J. & Taylor, M. E. (2007). An empirical analysis of triple bottom-line reporting and its determinates: evidence from the United States and Japan. *Journal of International Financial Management and Accounting, 18*(2), 123-150.

Lu, Y. & Abeysekera, I. (2014). Stakeholders' power, corporate characteristics, and social and environmental disclosure: evidence from China. *Journal of Cleaner Production, 64*, 426-436.

Luo, L., Tang, Q. & Lan, Y.-C. (2013). Comparison of propensity for carbon disclosure between developing and developed countries: A resource constraint perspective. *Accounting Research Journal, 26*(1), 6-34.

Micah, L. C. (2012). Firms Financial Performance and Human Resource Accounting Diclosure in Nigeria. *International Journal of Business and Management*, 7(14):67-75.

Newson, M. & Deegan, C. (2002). Global expectations and their association with corporate social disclosure practices in Australia, Singapore, and South Korea. *The International Journal of Accounting, 37*, 183-213.

Patten, D. (1992). Intra-industry environmental disclosures in response to the Alaskan oil spill: a note on legitimacy theory. *Accounting, Organizations and Society, 17*(5), 471-475.

Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics, 88*(2), 351-366.

Sahay, A. (2004). Environmental reporting by Indian corporations. *Corporate Social Responsibility and Environmental Management, 11*(1), 12-22.

Schreck, P. & Raithel, S. (2018). Corporate social performance, firm size, and organizational visibility: distinct and joint effects on voluntary sustainability reporting. *Business & Society, 57*(4), 742-778.

Shiri, M. M., Salehi, M. & Radbon, A. (2016). A study of impact of ownership structure and disclosure quality on information asymmetry in Iran. *Vikalpa, 41*(1), 51-60.

Summers, D., Newth, D., Cai, Y. & Grigg, N. (2014). Supply of carbon sequestration and biodiversity services from Australia's agricultural land under global change. *Global Environmental Change, 28*, 166-181.

Suttipun, M. & Stanton, P. (2012). Determinants of Environmental Disclosure in Thai Corporate Annual Reports. *Internatonal Journal of Accounting and Financial Reporting, 2*(1), 99-115.

Tsang, A., Xie, F. & Xin, X. (2019). Foreign institutional investors and corporate voluntary disclosure around the World. *The Accounting Review*.

Udayasankar, K. (2008). Corporate social responsibility and firm size. *Journal of Business Ethics, 83*(2), 167-175.