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# Corporate Governance and Environmental Disclosure in the Indonesian Mining Industry

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# Corporate Governance and Environmental Disclosure in the Indonesian Mining Industry

## **Abstract**

Sustainability and corporate governance issues are now considered to be important and integral aspects of company performance. Both have established themselves as well-studied topics in the organisational and accountability areas. While there has been a growing interest to study the relationship between these two areas, research publication in this topic is still mainly focused on the Western societies. This study focuses on the corporate governance and sustainability disclosure practices in one of the emerging economies, Indonesia, and assesses the relationships between corporate governance variables and the extent of environmental disclosures made by the mining companies listed in the Indonesia Stock Exchange (IDX) in their annual reports. The main findings of this study show that the extent of environmental disclosure made by these companies was moderate, and that there is a significant positive relationship between the size of board of directors and the extent of environmental disclosure.

## **Keywords**

Corporate governance, Environmental disclosure, Mining industry, Indonesia



# Corporate Governance and Environmental Disclosure in the Indonesian Mining Industry

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## Abstract

Sustainability and corporate governance issues are now considered to be important and integral aspects of company performance. Both have established themselves as well-studied topics in the organisational and accountability areas. While there has been a growing interest to study the relationship between these two areas, research publication in this topic is still mainly focused on the Western societies. This study focuses on the corporate governance and sustainability disclosure practices in one of the emerging economies, Indonesia, and assesses the relationships between corporate governance variables and the extent of environmental disclosures made by the mining companies listed in the Indonesia Stock Exchange (IDX) in their annual reports. The main findings of this study show that the extent of environmental disclosure made by these companies was moderate, and that there is a significant positive relationship between the size of board of directors and the extent of environmental disclosure.

**JEL Classification:** L71, M40

**Keywords:** Corporate governance, Environmental disclosure, Mining industry, Indonesia

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## 1. Introduction

There has been a growing interest in the issue of corporate governance and its integration within the concept of sustainability in recent years (see e.g., Cuesta and Valor 2013; Galbreath 2013; Kolk and Pinkse 2009). Environmental, social and corporate governance issues are now considered to be important and integral aspects of company performance. However, the body of literature on the impact of corporate governance aspects on sustainability disclosure is still relatively small and has so far focused largely on developed countries (Jo and Harjoto 2012; Michelon and Parbonetti 2012; Rao, Tilt and Lester 2012).

It has been suggested that emerging markets have a tendency to show weaker measures of corporate governance and sustainability (Peters, Miller and Kusyk 2011). However, it is difficult to evaluate the interaction between corporate governance characteristics and the extent of sustainability disclosure in emerging economies since little has been published on this issue. In response to this state, this study focuses on the corporate governance and sustainability disclosure practices in one of the emerging economies, Indonesia. Indonesia is the biggest country in the South East Asia region. Indonesia, together with the BRIC countries (Brazil, Russia, India and China), Mexico, South Korea and Turkey, are currently considered the largest eight emerging economies. It is a highly pluralistic multi-religion emerging country with dozens of present ethnicities and hundreds of different local dialects (Djanali, n.d.). It also has quite high disparity in social, economic, technological infrastructure and natural resources.

Gunawan, Djajadikerta and Smith (2009) examined corporate sustainability disclosures in the annual reports of listed companies in Indonesia during the period of 2003-2006 and found that companies in the environmentally sensitive industries, such as mining, tended to disclose more environmental information compared to companies in the other industries. The current data shows that listed Indonesian mining industry's market capitalization at the end of 2012 was 321,167 billion rupiah (approximately 32.8 billion US dollars), which represented 7.8% of the total market capitalization of all listed Indonesian companies (Indonesia Stock Exchange, 2013). PwC Indonesia (2013) in its annual review of trends in the Indonesian mining industry reported that the mining sector in 2012 accounted for approximately 6% of Indonesian GDP, and more than 17% of export revenues.

Taking the above discussion on board, this study focuses on corporate governance characteristics and disclosures of environmental activities of the mining companies listed in the Indonesia Stock Exchange (IDX), and aims to assess the relationships between corporate governance variables and the extent of environmental disclosures made by these companies in their 2012 annual reports.

The remainder of this paper is organised as follows. The second section provides a discussion on corporate environmental disclosure and corporate governance, and develops three research propositions. The third section describes the research methods. This is followed by discussion of the findings. The paper ends with conclusions and suggestions for future research.

## 2. Conceptual discussion and research propositions

The area of sustainability reporting, which includes the issue of environmental disclosure, has established itself as a well-studied topic in accounting and accountability areas (see e.g., Clarkson et al. 2008; Clarkson, Overell and Chapple 2011; van Staden and Hooks 2007). Similarly, the area of corporate governance has attracted much attention since three decades ago and it has become one of the most studied areas in the organisational field (see e.g., Walls, Berrone and Phan 2012). While there has been a growing interest to study the link

between the areas of corporate governance and sustainability reporting (see e.g., De Graff and Stoelhorst 2013; Morgan, Ryu and Mirvis 2009; Kolk and Pinkse 2009), research publication in this topic is still relatively scant. Among the existing studies in this topic, most of them have been conducted in Western societies (e.g., Aras and Crowther 2008; Kolk 2008; Michelin and Parbonetti 2012; Shrivastava and Addas 2014).

Corporate environmental performance relates to the effects of actions performed or measures taken by companies on natural resources. Positive environmental performance relates to actions or measures that show respect to the earth and its ecosystems (Kommadath, Sarkar and Rath 2012; Radu 2012). For mining companies, these include measures that minimise harm to the ecosystems such as clean excavation technologies and land remediation. In terms of disclosing environmental activities, mining companies in general have become a pioneer in the provision of environmental reports. In 2002, for example, eight of the ten biggest global mining companies published annual stand-alone sustainability reports (Jenkins and Yakovleva 2006). In Indonesia, mining has been found to be one of the industries that provided the most environmental information in their annual reports compared to the other industries (Gunawan et al. 2009).

Many studies on corporate governance in relation to sustainability issues have considered the role of the board in the form of size, diversity and independence (e.g., Al-Shammari and Al-Sultan 2010; Barros, Boubaker and Hamrouni 2013; Rao et al., 2012; Rupley, Brown and Marshall 2012; Samaha et al. 2012; Said, Zainuddin and Haron 2009).

Board size refers to the number of directors on a company's board. There have been conflicting opinions regarding the appropriate size for a company's board. One side of the argument suggests that larger boards can increase the quality of collective control and decision-making by utilising the diversities of knowledge and expertise in the board (e.g., Bonn 2004; Laksmama 2008). The other side of the argument claims in favour of smaller sized boards since they are considered more effective in achieving a collective decision and in monitoring management's actions (Cheng 2008; Lakhali 2005).

With regard to the effect of board size on the level of sustainability disclosure, some recent studies have found a significant positive relationship between board size and the level of sustainability disclosure (e.g., Rao et al. 2012; Said et al. 2009). This study follows these findings and develops a tentative proposition namely:

**P1.** There is a positive relationship between board of directors size of listed mining companies in Indonesia and the extent of environmental disclosure made by these companies.

It has been suggested that gender diversity on the board of directors generates a positive effect on companies' decision-making process and performance since female directors are diligent, committed and involved (e.g., Bonn 2004; Huse and Solberg 2006; Rao et al. 2012; Webb 2004). Consequently, it has been suggested that gender diversity on the board would be positively associated with level of environmental disclosure (Rupley et al. 2012).

Some recent studies have found a significant positive relationship between the proportion of female directors on the board and the level of environmental disclosure (e.g., Rao et al. 2012; Rupley et al. 2012). Therefore, this study follows these findings and develops a tentative proposition namely:

**P2.** There is a positive relationship between the proportion of female directors on the boards of listed mining companies in Indonesia and the extent of environmental disclosure made by these companies.

The presence of independent directors on the board of a company is important to ensure an adequate degree of independence from shareholders, therefore allowing the company to pursue the interests of both the shareholders and the stakeholders (Haniffa and Cooke 2005). Previous findings regarding the relationship between proportion of independent directors and the level of sustainability disclosure have been varied. Some studies found a positive relationship between the two variables (e.g., Rao et al. 2012; Webb 2004; Rupley et al. 2012), while some others found no relationship between the two variables (e.g., Brammer and Pavelin 2006; Said et al. 2009).

The samples used in most of these studies were the largest or the most active companies listed in the stock exchange. Rao et al. (2012), for example, used the largest 100 Australian firms listed in the Australian Stock Exchange (ASX) in 2008. Said et al. (2009) applied a stratified sampling method to select 150 companies from the main board of Malaysian listed companies for the year ended 2006. Brammer and Pavelin (2006) used 447 companies drawn from the FTSE All-Share Index.

Rupley et al. (2012), however, employed a sample of 361 US companies listed in the Dow Jones Global Index, drawn from five industries: (i) chemical, (ii) oil and gas, (iii) electrical utilities, (iv) pharmaceutical and biotech, and (v) food and beverage. These industries have been categorised as sensitive industries in previous studies (e.g., Gunawan et al. 2009; Hackston and Milne 1996; Raar 2002; Roberts 1992). Deegan and Gordon (1996) described the sensitive industries as those which are perceived as more environmentally damaging than those which operate in environmentally non-sensitive industries. Since the sample used in this study is the mining industry, which is a sensitive industry, we follow Rupley et al.'s (2012) finding, and set the following proposition.

**P3.** There is a positive relationship between the proportion of independent directors on the boards of listed mining companies in Indonesia and the extent of environmental disclosure made by these companies.

### **3. Research methods**

#### ***3.1. Sample and data collection***

The sample used in this study was all mining companies listed in the Indonesia Stock Exchange (IDX) at the end of 2012. The list of the companies was collected from the IDX Fact Book 2013 (Indonesia Stock Exchange, 2013) and the Indonesia Stock Exchange website ([www.idx.co.id](http://www.idx.co.id)). 38 listed mining companies were found from this directory. The mining industry includes companies that operate in coal mining (21 companies), crude petroleum and natural gas production (7 companies), metal and mineral mining (8 companies), and land/stone quarrying (2 companies). 2012 annual reports for these 38 companies were collected from the Indonesia Stock Exchange website ([www.idx.co.id](http://www.idx.co.id)) and from the companies' corporate websites.

#### ***3.2. Environmental disclosure analysis***

Content analysis was used to determine the extent of environmental disclosures made by these companies in their annual reports. Content analysis is a research technique that applies systematic procedures for analysing the content of written medium and converting them into quantitative measures (Krippendorff 1980; Wolfe 1991). This method has been considered as the most widespread form of data measurement used in studies that involve disclosures (see e.g., Gray, Kouhy and Lavers 1995), and it has been commonly adopted, in various forms, in previous social and environmental disclosure studies (e.g., Guthrie and Mathews 1985; Guthrie and Parker 1990; Hackston and Milne 1996).

In this study, we adopted a scoring approach used by Djajadikerta and Trireksani (2012) on the examination of environmental disclosure by Indonesian listed companies in their corporate websites, which was adopted and adjusted based on the previous work of Cross and Djajadikerta (2004), Freedman and Wasley (1990), Ingram and Frazier (1980), Walden and Schwartz (1997), and Wiseman (1982). In this approach, the extent of the environmental disclosure was scored based on the three dimensions of evidence, timeframe and specificity (see Table 1).

**Table 1. Components of environmental disclosure extent score**

<i>Dimension</i>	<i>Item</i>	<i>Score</i>
Evidence	Monetary / Quantitative	3
	Non-monetary / Qualitative	2
	Declarative	1
	No evidence	0
Time frame	Future	2
	Present	2
	Past	1
	No time frame	0
Specificity	Specific	1
	General	0

If there was no evidence of environmental disclosure, a score of zero was awarded. If environmental disclosure was present, the scoring system described in Table 1 was used to determine the score each dimension item of the disclosure. The total score ranges from zero to six for each company and it represents a measure of environmental disclosure extent. An environmental disclosure extent index (EDEI) for each company is calculated by dividing the mean by six, which is the maximum possible total score.

### **3.3. Corporate governance variables**

There are three corporate governance variables used in this study. Board of directors size (BS) is measured by the number of directors on the board, proportion of female directors on the board (FD) is measured by percentage of female directors on the board, and proportion of independent directors on the board (ID) is measured by the percentage of independent directors on the board. The correlations between these variables and the extent of environmental disclosures made by the mining companies in this study were measured by Spearman's coefficients.

## **4. Analysis and findings**

### **4.1. The extent of environmental disclosure made by Indonesian listed mining companies**

Descriptive statistics of the content analysis for the extent of environmental disclosures made by the 38 listed mining companies at IDX showed a minimum score of 0, a maximum score of 6, and a mean of 2.39. This descriptive statistics indicated that the extent of environmental disclosure made by these mining companies on their annual reports was moderate, with an extent index of 0.39.



The data also showed a huge contrast in environmental disclosure practices among these companies. 37% of the companies in the target sample significantly disclosed their environmental activities and received a score of four and above, while the remaining 63% of the companies in target sample barely disclosed any environmental activities and received a score of one or zero. One example of the disclosure which provided monetary evidence, clear time frame, and specific information is as follows:

*During 2012, [our firm] completed management policies on environmental management and mine closures. The firm also established performance standards for caring for the environment, such as compliance with waste quality standards in all operating units and post-mining and received GREEN PROPER rating for Precious Metals Processing and Refinery Business Unit, BLUE PROPER rating for Southeast Sulawesi Nickel Mining Business Unit, North Maluku Nickel Mining Business Unit and Gold Mining Business Unit. The Southeast Sulawesi Nickel Mining Business Unit also received Gold Award for Best Environmental Performance 2012 in Mineral IUP Category. ... In addition, [our firm] implemented a program to reclaim damaged land and plant trees that resulted in 1.44 million trees planted, exceeding a target of 1.25 million trees. ... In line with the principles of sustainability, [our firm's] economic performance achievement is also coupled with a commitment to preserving the environment. We were also actively involved in efforts to reduce greenhouse gas (GHG) emissions through tree planting program, emission reduction, and the use of alternative renewable energy, water treatment and waste management. [Our firm] spent Rp. 111 billion for environmental management activities in 2012, 5% higher compared to 2011. Tree planting program was implemented in conjunction with [our firm's] efforts in post-mining land reclamation. One of them was planting 350,000 trees on post-mining land covering 22 hectares in Southeast Sulawesi Nickel Mining Business Unit area. ... We also organized training to calculate the potential absorption of carbon dioxide (CO<sub>2</sub>) by the tree planting activities on 27 hectares area of post-mining land in three business unit regions. The calculations that were done during the training held by the Ministry of Environment, showed potential CO<sub>2</sub> absorption reached 502.7 tons of CO<sub>2</sub> eq. ... We also optimized water use in all business units under strict supervision to ensure the treated waste water meet quality standards according to regulations. The total amount of water that has been recycled in 2012 reached 3,817,737 cubic meters. ...[1]*

#### **4.2. The relationship between board of directors size and the extent of environmental disclosure**

Descriptive statistics for board of directors size showed a minimum number of 2, a maximum number of 10, and an average number of 4.61 directors on the board, with most of the companies having 4 to 6 directors.

The first proposition (P1) predicted that board of directors size would be positively associated with the extent of environmental disclosure. The result of the analysis showed a statistically significant positive relationship between board of directors size and the extent of environmental disclosure ( $\rho = 0.591271$ ; p-level: 0.000093), and therefore the first proposition (P1) is supported.

This result is consistent with Rao et al.'s (2012) and Said et al.'s (2009) findings. This indicates that for mining companies in Indonesia a larger board size allowed the synergy of expertise to be executed effectively in achieving and disclosing their environmental activities. This result must be interpreted with care by considering the descriptive data, which shows that most of the companies (27 of 38) had between 4 to 6 directors in the board. This may

imply that even though, in this sample, a larger board size links positively with the extent of environmental disclosure, the overall actual board size of the boards in this sample was moderate. A different effect may be found if the numbers of directors on these companies' boards are significantly increased.

#### ***4.3. The relationship between proportion of female directors on the board and the extent of environmental disclosure***

Descriptive statistics for proportion of female directors showed a minimum of 0%, a maximum of 66.67%, and an average of 8.84% female directors on the board.

The second proposition (P2) predicted that proportion of female directors would be positively associated with the extent of environmental disclosure. The result of the analysis showed that the relationship between proportion of female directors and the extent of environmental disclosure was statistically not significant ( $\rho = -0.075956$ ; p-level: 0.650378), and therefore the second proposition (P2) is not supported.

This result is not consistent with Rao et al. (2012) and Rupley et al. (2012) who found a positive relationship between the proportion of female directors on the board and the level of environmental disclosure.

Descriptive statistics may provide a possible explanation for this result. The data showed that most of the companies (i.e. 25 of 38) had no female director in their boards. Nine companies had only one female director and the remaining four companies had two female directors in their boards. This might indicate that the governance in the Indonesian mining industry was male-dominated. Since the percentage of female directors in these companies was low, it was likely they had very little chance to have an impact on the decision making process, including the decision regarding the environmental disclosure practice.

#### ***4.4. The relationship between proportion of independent directors on the board and the extent of environmental disclosure***

Descriptive statistics for proportion of independent directors showed a minimum of 0%, a maximum of 100%, and an average of 41.80% independent directors on the board.

The third proposition (P3) predicted that proportion of independent directors would be positively associated with the extent of environmental disclosure. The result of the analysis showed that the relationship between proportion of independent directors and the extent of environmental disclosure was statistically not significant ( $\rho = -0.072358$ ; p-level: 0.665949), and therefore the third proposition (P3) is not supported.

This result is consistent with Said et al. (2009) who found no relationship between the proportion of independent directors and the level of sustainability disclosure. It is interesting to see that in Said et al's (2009) study, the sample companies had 63% independent directors on their boards, while the sample companies in this study had only 41.80%. This may indicate a contingency effect, in which the proportion of independent directors, whether larger or smaller, may or may not affect the level of disclosure. It is the fit of the board independence to the contingency that may affect the disclosure practice.

Descriptive statistics also showed that there was little variation in the number of independent directors on the board. Most of the companies (i.e. 23 of 38) had only one independent director in their boards. Two companies even had no independent director in their boards. This might indicate that for the majority of the companies in the sample, the role of an independent director was mostly filled in for compliance and complementary purposes. Hence, in practice, their roles might not be significant.

## 5. Conclusions

The findings of this study suggest a few important aspects concerning the practice of environmental disclosure made by listed mining companies in Indonesia. Firstly, the extent of environmental disclosure made by these companies on their annual reports was moderate. It was interesting to see that although the majority of these companies (63%) did not disclose their environmental activities, the remaining 37% of these companies provided significant disclosures of their environmental activities. Secondly, the study found that the majority of these mining companies (66%) did not have any female director in their boards. The remaining 34% of these companies only had one or two female directors in their boards. This indicated clearly that the governance structure in the Indonesian mining industry was male-dominated. Thirdly, the study found that the majority of these mining companies (61%) only had one independent director in their boards, and two companies did not even have any independent director in their boards. This to some extent leads to a question about independence, control and the effectiveness of the boards.

With regard to the relationships between corporate governance variables and the extent of environmental disclosure made by listed mining companies in Indonesia, this study found a significant positive relationship between board of directors size and the extent of environmental disclosure. The proportion of female directors on the board and the proportion of independent directors on the board were found to have no relationships with the extent of environmental disclosure made by listed mining companies in Indonesia. These results, however, must be inferred cautiously since the majority of the companies in the sample had small numbers of female and/or independent directors in their boards.

There are a few limitations of this study that should be considered. Firstly, the study used a single source of data of environmental reporting, which was the annual reports. Secondly, even though the study used all of the mining companies that were listed in the Indonesia Stock Exchange (IDX) at the end of 2012, the total number of companies was relatively small (i.e. 38 companies). An in-depth qualitative approach may help provide a more profound understanding of these relationships.

## Note

[1] Statements were shortened and the name of the company was undisclosed.

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