



Post-Issue of Sustainability Report: Does Market Valuation Improve?

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ABSTRACT

Following the increased concern on sustainability reporting in Indonesia, this study attempts to investigate whether the issuance of sustainability report is able to provide positive impact on bank reputation and market valuation. We use a set of unbalanced panel data that consist of 43 Indonesian listed banks throughout 2010-2018 while our analysis is performed with panel data regression using STATA statistics software. Overall, the findings demonstrate that environmental disclosure provides positive impact on market valuation while economic and social disclosure do not. We also find the mediating role of bank reputation between the link of environmental disclosure and market valuation. By splitting the observation period into pre and post sustainable finance roadmap implementation, we find that economic disclosure holds significant contribution to increasing market valuation in the period before sustainable finance roadmap implementation while social and environmental disclosure demonstrate positive effect in the period when sustainable finance roadmap is implemented. This study, however, still contains limitation due to the use of content analysis in assessing sustainability report quality that may contain subjectivity issue. Further studies can obtain external assurance from independent experts in this subject. The use of quantitative-qualitative mixed method may also be a solution to solve this issue. This study provides several implications. Firstly, this study supports the regulation from the Indonesia Financial Service Authority to increase the participation of Indonesian banks in sustainability reporting in which the implementation must be followed with high regulation enforcement. We also suggest the practice of sustainability reporting for Indonesian listed banks as it gives considerable benefit in higher market valuation. This research addresses the gap in Indonesian literature that is limited on determinant study by providing more insights on how sustainability reporting provides on higher bank reputation and market valuation.

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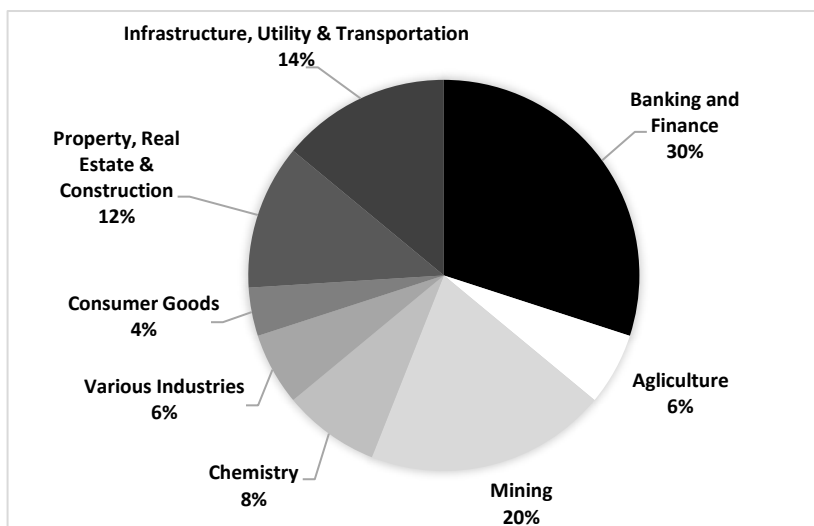
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INTRODUCTION

Sustainable development has emerged to be one of the most popular topics for the past several years (Stefanescu, 2022), especially as a result of the growing social and environmental issues caused by resource exploitation for commercial business purpose (Dienes et al., 2016; Kharuddin et al., 2022). Following these issues, public increasingly demand business firms to be more socially and environmentally responsible (Erin et al., 2022; McWilliams, 2015). Therefore, firms are required to be more accountable and transparent in these aspects (Buallay et al., 2019). This phenomenon creates a new practice called sustainability reporting that enables firms to report their activities to solve sustainability issues (Boiral et al., 2019; Thijssens et al., 2016). The practice of sustainability reporting has grown significantly around the world (Kasbun et al., 2016), as well as attracted the attention of business regulators. Moreover, several countries even have set sustainability reporting to be mandatory for publicly listed firms (Bauwhede and Van Cauwenberge, 2022; Ioannou and Serafeim, 2017).

Indonesia is a very environmentally rich developing country with the fourth largest population in the world. However, Indonesia has been experiencing a lot of social and environmental issues (Gunawan, 2015). Various issues still emerge in the environment and society such as deforestation, pollution, poverty, and social gap (Indonesia Statistical Bureau, 2019). Siregar and Bachtiar (2010) find that there are plenty of social and environmental cases caused by non-socially responsible firms in Indonesia especially excessive pollution and serious environmental damage such as Lapindo case and Teluk Bayat case. Thus, firms are demanded to contribute to solve the sustainability issue and be more responsible of the impact of business operation on social and environment (Kharuddin et al., 2022).

As social and environmental issues becomes highly relevant, the demand for social and environmental transparency increases (Erin et al., 2022). Further, it also increases the value relevance of social and environmental information (Sarumpaet et al., 2017). With information disclosure, firms can communicate their contribution to solving social and environmental issues and achieving sustainable development goals (Stefanescu, 2022). In practice, however, the social and environmental information disclosure in Indonesia in 2010s is still at an early stage due to the lack of firms' participation (Djajadikerta and Trireksani, 2012). For worse, the problem is that Indonesian firms still have a lack of understanding about social and environmental information disclosure. It is argued that the firms are willing to engage in social and environmental information disclosure only to get recognition of good social behaviour.



Source: Indonesia Financial Service Authority (OJK), (2017)

Figure 1 Sustainability Reporting Practice in Indonesian Listed Corporation in Indonesian Stock Exchange by Industry Sector

Sustainability reporting practice in Indonesia is indeed still low. OJK publication in 2017 revealed that only 9% of Indonesia publicly listed firms published sustainability reporting¹, in which the banking industry has the highest contributor around 30%. Nevertheless, it can be said that the level of participation was still low in all industry. Indonesia Financial Service Authority (OJK) sees the urgency to improve firms' social and environmental performance. In attempt to do so, OJK introduced the Roadmap for Sustainable Finance 2015-2024 in 2014². OJK initiated the practice from banking sector by appointing banking sector to practice sustainability reporting in the early stage of roadmap implementation (Amidjaya and Widagdo, 2019). It is expected that sustainability reporting practice by banking sector will motivate other industry sectors to follow (Sumarta et al., 2021). OJK also starts campaigning mandatory sustainability reporting for banking sector, at least for the banks that meet certain criteria. Therefore, it is interesting to examine the impact of sustainability reporting practice to the reporting entity, especially in banking sector.

The practice of sustainability reporting is never apart from the assumption that business entities are established for profit maximization (Loh et al., 2017). Firms will consider the practice of sustainability reporting, especially the cost and benefit of sustainability reporting (Amidjaya and Widagdo, 2019). Although there is a possibility that the cost of sustainability reporting outweighs its benefits due to various factors (Loh et al., 2017), sustainability reporting in general is argued to have more benefits for the issuing firms. Many studies suggest that the most significant benefit will be acquired in terms of performance in the capital market. In practice, sustainability reporting basically brings good image to the firm (Titisari et al., 2019) as it has been proven to be positively valued by investors (Berthelot et al., 2012; Sreepriya et al., 2022). Firms with sustainability reporting practice are indicated to be able to attract investors as it makes better risk assessment related to potential litigation and future environmental liabilities, reduces information asymmetries and adverse selection risk (Reverte, 2016).

In Asian context, Loh et al. (2017) state that investors have started to invest in socially responsible firms. In addition to getting attracted, these investors also avoid risks of investing in non-socially responsible firms (Atan et al., 2016). Considering the potential benefits of sustainability reporting, as well as OJK roadmap for sustainable finance, it becomes questionable why Indonesian listed banks do not properly engage themselves in sustainability reporting practice. In fact, most studies in Indonesia is limited to examining the determinants rather than the impact of sustainability reporting for its reporting entity (Amidjaya and Widagdo, 2019; Farisyi et al., 2022; Prabowo et al., 2017; Rudyanto and Siregar, 2018; Siregar and Bachtiar, 2010; Tjahjadi et al., 2021; Trireksani and Djajadikerta, 2016). Therefore, sustainability reporting studies in Indonesia lack examination on its further impact that a firm can benefit from issuing sustainability report.

It is important to examine how far sustainability reporting has been implemented and to what extent it has delivered impact to the bank as the reporting entities. The study provides an investigation in Indonesian context regarding the impact of sustainability reporting for the firm as the reporting entity in terms of market valuation, following previous studies that emphasise the importance of the topic. Our investigation focuses on the banking sector as it has unique characteristic compared to other countries. In Indonesia, the banking sector is appointed by OJK to pioneer sustainability reporting in Indonesia (Sumarta et al., 2021) in which this industry also becomes the leading sector in sustainability reporting practice in Indonesia (Amidjaya and Widagdo, 2019). Further, the banking industry is also highly regulated that can be expected to have better reporting and higher level of disclosure. The urgency of this research also increases considering the fact that previous studies that examine the topic share inconsistent results (Atan et al., 2016; Buallay, 2019; Ebaid, 2023; Ismail et al., 2022; Nobanee and Ellili, 2017; Sumarta et al., 2021; Zimon et al., 2022). Thus, the impact of sustainability reporting is remain inconclusive (Schadewitz and Niskala, 2010) that requires more empirical studies.

Our study also addresses the gap from previous studies in which the analysis of sustainability reporting impact on market valuation is considerably limited in Indonesia. This might be leading to the inconclusiveness and there might be other indirect factors that matters within the relationship. Therefore, our study provides a novelty to sustainability reporting literature in Indonesia as this research is not only limited to investigating sustainability reporting impact on market valuation, but also provides more explanation on its indirect effect through the role of bank reputation. We provide more insights for banks regarding sustainability reporting

¹ <https://www.ojk.go.id/sustainable-finance/id/publikasi/riset-dan-statistik/Pages/Sustainability-Report-bagi-Lembaga-Jasa-Keuangan-dan-Emiten.aspx>

² Roadmap for Sustainable Finance, Indonesian Financial Service Authority (2014)

impact and recommend banks to practice sustainability reporting. With sustainability reporting, bank will obtain a good public image that will enhance its reputation (Titisari et al., 2019; Zimon et al., 2022). This will be followed accordingly by increased valuation in the capital market in which investors are aware of the lower social risk and superior long-term value thanks to bank's contribution to sustainable development (Kuzey and Uyar, 2017). The remainder of the paper is presented as follows: literature review, hypotheses development, research method, results and discussion, and conclusion.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theoretical Framework

We develop the research concept based on signaling theory. The general idea of signalling theory concerns on how to reduce information asymmetry between two parties (Spence, 2002) that is applicable to explain firm's relationship with its stakeholders. Signalling theory implies that every value-added that a firm has must be communicated as an information so that market participants can differentiate the firm from its inferior competitors (Connelly et al., 2011; Ismail et al., 2022). This information manifests a positive signal that makes a firm more interesting to outside parties (Ehrhart and Ziegert, 2005). Considering the increasing value relevance of sustainability information (Sarumpaet et al., 2017), the issuance of sustainability report can be considered as an effective solution. Sustainability report discloses several kinds of information that is a form of positive signal, showing value-added of a firm that other firms may not have. This has an important benefit to enhance firm reputation (Global Reporting Initiative, 2013) and finally attract more market participants to become more interested in the firm.

Ching and Gerab (2017) also mentioned that the quality of sustainability reporting becomes a significant signal to obtain legitimacy in case of information asymmetry during the legitimacy process. As information asymmetry occurs during the legitimacy judgment process, sustainability report will provide a positive signal that shows firm's strategy to maintain its standing in society (Wei et al., 2017). Sustainability reporting as a socially responsible behavior can also be seen as a "product" sold by firms to investors (Mackey et al., 2007). Considering the increasing market awareness of sustainability, this will further attract investors and affect their preferences. In addition, Albuquerque et al. (2013) believed that environmental, social and governance information is a strategic product that creates more profit. Even further, (Ioannou et al., 2014) supported that the strategy, process and product of sustainable firms lead to superior performance. Therefore, the firm value will also increase accordingly.

Sustainability information also demonstrates the capability of a firm's long-term value creation by considering economic, social, and environmental performance (Kuzey and Uyar, 2017). Reverte (2016) investigated the effect of sustainability reporting in Canadian market. The results demonstrated that sustainability reporting is related to higher market valuation of share price as it helps investors to make better assessments of investment risks. The result is in line with Sharfman and Fernando (2008) who stated that non-accounting information disclosure implies better control of business risks. In regard with this, Buallay (2019) also mentioned the relevance of anticipation theory in which investors see that sustainable firms will be more likely to have lower costs in relation with future regulations. Lower cost leads to better cash flow stability as compared to other firms with increased cost to adapt with new regulations.

In attempt to investigate the role of sustainability reporting in improving bank's market valuation, we perform several important tests. First, we tested the direct effect of sustainability report issuance on bank's market valuation in its subsequent year. Secondly, we test the indirect effect of sustainability reporting on market valuation by considering the mediating role of bank's reputation. Several other aspects important for market valuation are controlled such as bank's financial performance and bank's health. We manifest our research concept into a research framework stated as follows:

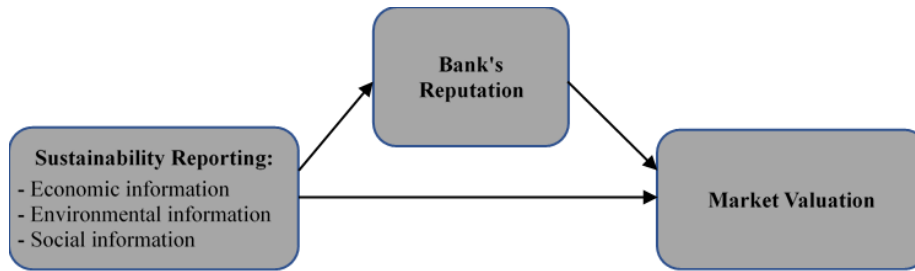


Figure 2 Research Framework

Sustainability reporting and bank's market valuation

Sustainability reporting is a form of information disclosure that illustrates firm's contribution to sustainability through economic, environmental, social activities (Elaignwu et al., 2022). Firms nowadays are aware of the commercial benefits of increased accountability (Sreepriya et al., 2022) and thus engage more in sustainability reporting (Aras and Crowther, 2009) thanks to the increasing need for transparency on economic, environmental, and social issues throughout the world (Buallay, 2019). Prior studies have suggested to invest in sustainability reporting as a strategy (Ching and Gerab, 2017; Elaignwu et al., 2022) as it has been evidenced to able to create legitimacy and trust (Ching and Gerab, 2017; Shamil et al., 2014) that further deliver positive values to its reporting entity (Berthelot et al., 2012). Thus, firms can earn benefit from sustainability reporting practice to improve their image (Titisari et al., 2019). In addition, sustainability reporting is very necessary for firms that require high public trust and recognition, especially for banking firms that manage people's money in addition to being highly regulated (Sumarta et al., 2021).

Esteban-Sanchez et al. (2017) also highlighted the role of sustainability reporting legitimacy benefit in realizing financial sustainability. Moreover, firm's economic, environmental, and social contribution disclosed in sustainability report presents an added value that other firms may not have (Haller et al., 2018). As a result, the publication of sustainability report through economic, environmental, and social information acts as a positive signal to information user (Sreepriya et al., 2022). This advantage will support firm in the capital market so that the participants will give positive response. Prior researches demonstrated that sustainability reporting is correlated with higher firm valuation (Kuzey and Uyar, 2017; Titisari et al., 2019) as well as higher stock price performance (Reverte, 2016). In Indonesian context, Sarumpaet et al. (2017) also discover that higher environmental performance is associated with higher share price while (Titisari et al., 2019) evidence the positive effect of CSR on firm value. Based on the description, we hypothesise that:

H1a. Economic information disclosure positively affects bank's market valuation

H1b. Economic information disclosure positively affects bank's market valuation

H1c. Economic information disclosure positively affects bank's market valuation

Bank's reputation mediating effect between sustainability reporting and bank's market valuation

The effect of sustainability reporting may also involve other factor that matters in the process of creating legitimacy. As an industry of which business directly interact with thousands or even millions of people, banking industry requires higher level of legitimacy to realize higher performance. Reputation becomes a crucial aspect to that gain considerable attention in the literature (Sumarta et al., 2021). Therefore, there is a need to investigate the role of reputation in the link between sustainability reporting and market valuation. Kuzey and Uyar (2017) proves that sustainability reporting has signaling and reputation-enhancing role to the reporting firm. In practice, sustainability report helps strengthen its reputation by building positive image in the eyes of the stakeholders (Misiuda and Lachmann, 2022). Here, the quality of sustainability reporting is very crucial (Taiwo et al., 2022), especially in communicating their performance and contribution to sustainable development that works as a positive signal to improve their reputation (Hahn and Kühnen, 2013).

Good firm reputation is required so that the firm gain legitimacy to operate (Elaignwu et al., 2022). It is also a crucial consideration for investors in the capital market (Fernández-Gómez et al., 2016; Misiuda and Lachmann, 2022). Esteban-Sanchez et al. (2017) mention that having good social performance helps improving reputation hence becomes easier to accomplish greater performance. In addition, previous study by Larkin et al. (2012) demonstrate the positive effect of ethical corporation in building good reputation that

result in higher market valuation in terms of common stock price. Therefore, the hypothesis can be formulated as follows:

H2a. Bank's reputation mediates the effect of economic information disclosure and bank's market valuation

H2b. Bank's reputation mediates the effect of environmental information disclosure and bank's market valuation

H2c. Bank's reputation mediates the effect of social information disclosure and bank's market valuation

RESEARCH METHOD

Population, Sample, and Data

The population of the study is all Indonesian listed banks in 2010-2018. We selected our sample with purposive sampling method under these criteria:

- a. must be listed in the Indonesian Stock Exchange;
- b. must publish audited annual report between 2010 and 2018;
- c. must provide access to audited annual report between 2010 and 2018.

The research uses secondary data obtained from banks' annual report, sustainability report as well as banks' website. With the sample selection, a set of panel data was generated using 43 banks for 2010-2018 between with total 289 observations.

Research Variables and Measurements

We employed banks' market valuation as our dependent variable that is measured by share price to book value (PBV) of the subsequent year of sustainability report publication considering that the share price reflects how market participants value a firm. This measurement has previously been used to measure ma Sustainability reporting is used as independent variable, measured by GRI Financial Service Disclosure Index due to the nature of the banking industry. The GRI Financial Service Sector Disclosure is a sustainability reporting guideline provided by the Global Reporting Initiatives for financial service sector (GRI, 2013). This measurement has been used by previous studies such as Amidjaya and Widagdo (2019), Khan et al. (2013), Khan (2010), and Sumarta et al. (2021). As for the assessment of sustainability report, this study employed content analysis. There are total 19 sustainability information indicators that consist of economic, environmental, and social information in which each indicator reported will be given value 1. Percentage of indicators reported will illustrate the level of economic, environmental, and social information disclosure.

As for mediating variable, we use firm reputation, measured with the market share of bank's deposit of the following year of sustainability reporting. Bank's customer deposit represents a bank's life blood for several reasons such as the quality of product and services, risk reduction, and expansion potential (Filbeck et al., 2010). We also control for bank's financial performance as measured with Return on Equity (ROE) and bank's size as represented by total assets. The summary of variable details is presented in Table 1.

Table 1 Operational Definition of Variables

Variable	Measurement	References
Dependent		
Market valuation (PBV _t)	Share Price to Book Value (PBV) Ratio in the following year of sustainability report publication	Bertsatos et al. (2017), Omran (2017), Siagian et al. (2013), and Susanti and Restiana (2018)
Independent		
Sustainability reporting:		Amidjaya and Widagdo (2019), Khan et al. (2013), Khan (2010), and Sumarta et al. (2021)
- Economic information disclosure (GRI_ECO _{t-1})	Percentage of economic information disclosed in sustainability report based on GRI Financial Service Disclosure Indicators (Content Analysis)	
- Environmental information disclosure (GRI_ENV _{t-1})	Percentage of environmental information disclosed in sustainability report based on GRI Financial Service Disclosure Indicators (Content Analysis)	
- Social information disclosure (GRI_SOC _{t-1})	Percentage of social information disclosed in sustainability report based on GRI Financial Service Disclosure Indicators (Content Analysis)	
Mediating		
Bank reputation (REP _{t-1})	Market share of bank deposit in the following year of sustainability report publication	Filbeck et al. (2010), and Kashmari et al. (2016)
Control		
Financial performance (ROE _{t-1})	Return on equity (ROE) Ratio	Bennouri et al. (2018), Buallay (2019), Khan and Abdul Subhan (2019)
Bank efficiency (BOPO _{t-1})	Operating expenses to operating revenue ratio	Hardianto and Wulandari (2016), Puteh et al. (2018), and Ratnasari et al. (2021)
Bank size (SIZE _{t-1})	Log of total assets	Amidjaya and Widagdo (2019), Buallay (2019), Harjoto and Jo (2011)

Data Analysis

The analysis of the research model is performed with panel data regression that requires a set of steps for hypotheses testing following (Baron and Kenny, 1986) mediating effect testing. This involves performing direct and indirect tests in order to reveal the mediating effect. The research model stated as follows:

$$PBV_t = a + bGRI_ECO_{t-1} + bGRI_ENV_{t-1} + bGRI_SOC_{t-1} + bROE_{t-1} + bBOPO_{t-1} + bSIZE_{t-1} + e \quad (1)$$

$$PBV_t = a + bGRI_ECO_{t-1} + bGRI_ENV_{t-1} + bGRI_SOC_{t-1} + bREP_{t-1} + bROE_{t-1} + bBOPO_{t-1} + bSIZE_{t-1} + e \quad (2)$$

RESULT AND DISCUSSION

Descriptive Statistics

The sampling technique purposive sampling method based on specified criteria mentioned in Table 2. There are 291 observations consisted of 43 banks between 2010 and 2017 reporting period and 2011-2018 market valuation. The result of descriptive statistics analysis is presented in Table 2 as follows.

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
PBV _t	291	1.571	0.795	0.22	4.63
GRI_ECO _{t-1}	292	0.248	0.379	0	1
GRI_ENV _{t-1}	292	0.052	0.154	0	1
GRI_SOC _{t-1}	292	0.109	0.188	0	0.846
REP _{t-1}	292	0.027	0.047	0	0.208
SIZE _{t-1}	292	13.453	0.758	11.889	15.052
ROE _{t-1}	292	0.084	0.186	-1.425	0.438
BOPO _{t-1}	292	0.876	0.219	0.333	2.352

The dependent variable, bank's market valuation as measured with share price to book value, shows mean value of 1.571, meaning that banks' shares are valued 1.571 times of its book value by market participants in the Indonesian Stock Exchange during 2011-2018 stock market trading activities. The highest share valuation is 4.63 times while the lowest valuation is at 0.22 times of share's book value. Sustainability reporting as independent variable is represented by information disclosure level with average value of 24.8 for economic information, 5.2% for environmental information, and 10.9% for social information disclosure. The highest disclosure reaches 100% for economic and environmental information and 84.6% for social information. Meanwhile, the lowest disclosure level for all information category is 0% as there are several banks that do not practice sustainability reporting. Considering the low level of sustainability reporting practice, it becomes interesting to investigate the trend of sustainability reporting throughout the observation period. The result is presented as follows.

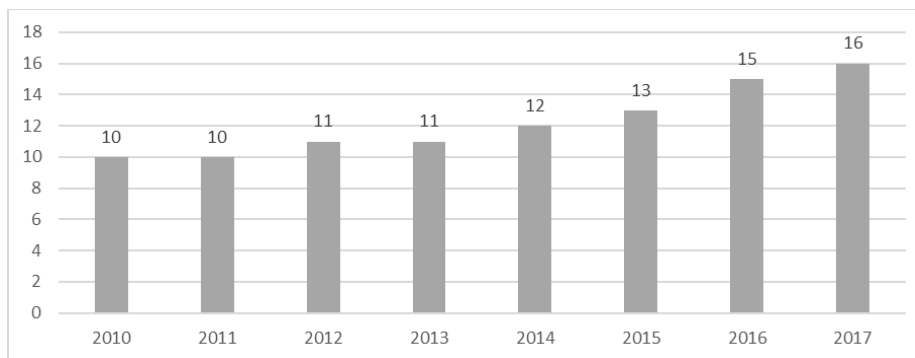


Figure 3 Sustainability reporting by Indonesian listed banks in 2010-2017 by total practicing banks

In terms of total banks that practice sustainability reporting, there is no significant increase of total banks in Indonesian stock exchange that practice sustainability information disclosure based on GRI guidelines, either in standalone report or disclosed in annual report. In 2010 there are only 10 banks that practice sustainability reporting in which the number increases to 11 banks in 2012, 12 banks in 2014, 13 banks in 2015, 15 banks in 2016, and 16 banks in 2017. We also analyze the disclosure level throughout 2010-2017 reporting period with the following result.

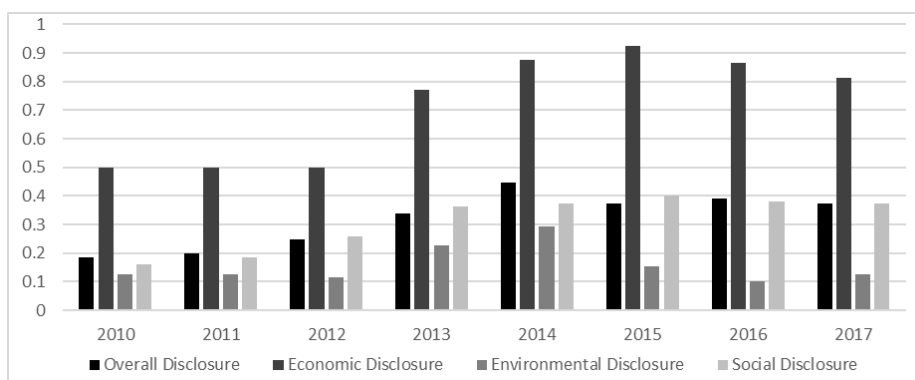


Figure 4 Sustainability reporting disclosure level by practicing banks in Indonesian Stock Exchange 2010-2017

In terms disclosure level, the overall disclosure experiences considerable improvement during 2010-2017 reporting in which the disclosure level in 2010-2013 is around 20% and in 2014-2017 is around 35-45%. The improvement in economic and social information disclosure appears to be similar with significant improvement in from 2013-2018. Meanwhile environmental information disclosure is around 10-20% except in 2013 and 2014 that reaches more than 20%.

Hypotheses Testing: Panel Data Regression Analysis

We performed panel data regression analysis to test our research hypotheses. The results show that random effect appears to be the best estimation in all models. The result is presented in Table 3 as follows.

Table 3 Panel Data Regression Analysis

VARIABLES	Base regression		Controlling for year fixed effect	
	Direct effect (1)	With mediation (2)	Direct effect (1)	With mediation (2)
GRI_ECO _{t-1}	0.0130 (0.181)	0.0577 (0.180)	0.0884 (0.181)	0.0962 (0.181)
GRI_ENV _{t-1}	0.604*** (0.175)	0.590*** (0.174)	0.657*** (0.171)	0.655*** (0.172)
GRI_SOC _{t-1}	-0.139 (0.293)	-0.203 (0.293)	-0.0996 (0.286)	-0.146 (0.288)
REP _{t-1}	-	5.217*** (1.651)	-	3.353* (1.768)
SIZE _{t-1}	0.289*** (0.0926)	0.148 (0.102)	0.399*** (0.0986)	0.280** (0.115)
ROE _{t-1}	0.00170 (0.175)	-0.0191 (0.174)	-0.0978 (0.173)	-0.0911 (0.173)
BOPO _{t-1}	-0.242* (0.138)	-0.199 (0.139)	-0.184 (0.140)	-0.177 (0.140)
Constant	-2.105* (1.216)	-0.398 (1.316)	-3.419*** (1.290)	-1.953 (1.482)
Hausman Test Prob.	0.15	0.21	0.2	0.34
Observations	291	291	291	291
Number of banks	43	43	43	43
Overall R-squared	0.389	0.460	0.406	0.462
Chi-square	30.834	45.987	53.124	59.460
Probability	0.000	0.000	0.000	0.000

The result of our analysis evidences that only environmental information disclosure, as a part of sustainability reporting, exhibit positive effect on bank's market valuation while economic and social information disclosure has no significant effect. We also find partial mediation effect of bank reputation in the link between environmental information disclosure and market valuation in which the effect of environmental information disclosure gets lower while including bank reputation variable. Controlling for year fixed effects, we obtain consistent results with significant effect of environmental information disclosure mediated by bank reputation. In addition, bank size and efficiency also hold significant controlling role within the regressions performed. We conduct further subsample analysis by splitting the research period based on the implementation of sustainable finance roadmap issued by Indonesia Financial Service Authority (OJK) in 2014 that is to be implemented in 2015 forward. Thus, the observation period consists of 2010-2014 reporting period and 2015-2017 reporting period. The result is presented in Table 4 as follows.

By splitting the observation period, we find that economic information disclosure holds a significant contribution to higher market valuation in the period before the implementation of sustainable finance. After including bank reputation variable in the mediation test, the coefficient of economic information disclosure decreases indicating partial mediation effect of bank reputation happens in the link between economic information disclosure and market valuation. Meanwhile, environmental and social information disclosure are evidenced to have insignificant impact. The result of regression performed during the period of sustainable finance implementation exhibit different outcomes. We find that environmental and social disclosure exhibit significant effect on market valuation. Further, we evidence perfect mediation effect of bank reputation in the influence of social information disclosure in which the effect becomes insignificant after including bank reputation variable in the regression. However, we find no mediating role of bank reputation in the effect of environmental information disclosure. The discussion on our regression results is presented in the following section.

Table 4 Subsample analysis based on sustainable finance implementation period

VARIABLES	Pre-sustainable finance		Post-sustainable finance	
	Direct effect (1)	With mediation (2)	Direct effect (1)	With mediation (2)
GRI_ECO _{t-1}	1.107*** (0.411)	1.017** (0.399)	0.443 (0.268)	0.576** (0.259)
GRI_ENV _{t-1}	-0.157 (0.364)	-0.194 (0.353)	1.164*** (0.370)	1.321*** (0.357)
GRI_SOC _{t-1}	-1.052 (0.734)	-0.869 (0.712)	0.980** (0.490)	0.268 (0.513)
REP _{t-1}	- -	5.378*** (1.558)	- -	5.991*** (1.736)
SIZE _{t-1}	0.510*** (0.0939)	0.264** (0.116)	-0.00946 (0.102)	-0.183* (0.110)
ROE _{t-1}	-0.415 (0.310)	-0.424 (0.300)	0.139 (0.395)	0.0203 (0.380)
BOPO _{t-1}	-1.201*** (0.366)	-0.916** (0.364)	-0.350 (0.253)	-0.373 (0.242)
Constant	-4.367*** (1.295)	-1.434 (1.513)	1.680 (1.369)	3.951*** (1.466)
Hausman Test Prob.	0.06	0.13	0.11	0.2
Observations	165	165	126	126
Number of banks	43	43	43	43
R-squared	0.497	0.532	0.490	0.537
F-statistics	25.984	25.514	19.064	19.541
Probability	0.000	0.000	0.000	0.000

Sustainability reporting and market valuation

Sustainability reporting through its environmental information disclosure is able to deliver positive impact on market valuation in Indonesian listed banks, consistent with (Shad et al., 2019). The market participants, especially the investors, in general react positively to the issuance of sustainability report (Balqiah et al., 2017). It can be concluded that higher environmental information disclosure is valued by the market participants (Berthelot et al., 2012; Fazzini and Dal Maso, 2016), including in Indonesian context. Further, the finding implies that the awareness of market participants on sustainability issues may have also increased (Burritt and Schaltegger, 2010; Stefanescu, 2022), specifically in environmental issues. Further, the result also support the value relevance of the sustainability information disclosure (Sarumpaet et al., 2017), specifically in Indonesian listed banks.

In regards with our findings in subsample analysis, economic information is initially more preferred so that it holds higher role in determining market value in 2010-2014. Thanks to the effort by Indonesia Financial Service Authority (OJK) in implementing sustainable finance roadmap from 2015, market participants may have been more educated about social and environmental implications of their investments (Gray, 2006). Market participants, especially investors, have considered the impact of their investments (Farisyi et al., 2022). They see that it is important for them to invest in socially and environmentally responsible firms that contribute to sustainable development (Burhan and Rahmanti, 2012). Our findings also confirm the concept of signaling theory in which sustainability reporting presents the added value that a bank has that other banks may not have (Hahn and Kühnen, 2013). In addition, the concept from (Epstein and Freedman, 1994) state that many investors have decided to invest in a socially responsible firms as it is safer is true in current context.

Mediating role of bank reputation in the link between sustainability reporting and market valuation

Sustainability reporting through environmental information disclosure has been evidenced to positively affect bank reputation in previous test by delivering positive image to increase their reputation (Berthelot et al., 2012; Misiuda and Lachmann, 2022). Further mediating test conclude that bank reputation supports the effect of environmental information disclosure on market valuation with mediating role. The mediating effect also appears in 2010-2014 observation on economic information disclosure as well as in 2015-2017 observation by mediating the effect of social information disclosure. Reputation itself becomes a crucial attribute for every single firm in establishing its business (Buckley and Nixon, 2009). Fernández-Gómez et al. (2016) mention that reputation is a great consideration for investors in the capital market. It is also important to ease the attraction of new resources in achieving better conditions for business activity. Good reputation will also create confidence in attracting market attention (Cole, 2012). Having greater reputation will enable banks to

achieve their performance expectation. Larkin et al. (2012) evidence that good reputation supports market valuation by reducing the degree of negative returns. Therefore, it will support the effect of sustainability reporting to further improve bank's market valuation accordingly (Esteban-Sanchez et al., 2017).

In fact, the nature of banking industry also involves greater number of stakeholders that covers depositors, debtors, employees, and partners, in addition to being a highly regulated industry. Good reputation is required to gain public recognition (Misiuda and Lachmann, 2022) and seal firm's legitimacy to run its business (Elaiqwu et al., 2022). Thus, it is very important for banks to maintain good reputation or even to build a greater one (Cole, 2012). In this regard, sustainability reporting may help thanks to its reputation-enhancing role (Kuzey and Uyar, 2017). With sustainability reporting practice and improved reputation, banks are more likely to be highly valued and achieve higher market valuation (Esteban-Sanchez et al., 2017).

Discussion on control variables

The financial performance, represented by return on equity as a control variable, is evidenced to be insignificant predictor of market valuation. In addition to being insignificant, the effect is also relatively low. This may due to the fact that financial performance is not the only indicator to attract market participants. Financial performance alone will not be able to generate legitimacy to attract market interest. Further, there are various financial aspects and policies that become investors' consideration to invest in a firm, such as dividend policy and etc. As for bank efficiency and size, the effect is proved to be significant. We can conclude that banks with higher resources and efficiency tend to be better-known by the public in general and market participants in particular. Having larger resources and efficiency will enable a bank to expand their business and thus obtain more public recognition. This is an important consideration for market participants as it is related to better business stability and sustainability.

CONCLUSION, RECOMMENDATION, AND LIMITATION

This research attempts to investigate whether the issuance of sustainability report will benefit banks in terms of market valuation for the subsequent period and whether there is mediating effect of bank reputation within the relationship. We conclude that sustainability reporting through its information disclosure provides its reporting entity with positive impact by having higher share valuation as compared to those banks that do not practice sustainability reporting. We also find that economic information is more preferred before the implementation of sustainable finance while environmental and social information get higher attention after sustainable finance implementation.

This study has several implications on sustainability reporting practice by Indonesian listed banks. Firstly, the participation of banks in sustainability reporting indeed should be increased. OJK should build better understanding about sustainability reporting and emphasise its positive impact. Further, this study also supports that the implementation of sustainable finance that should be carried out with higher enforcement to increase banks' participation. Therefore, sustainability reporting and sustainable finance practices will improve even better to deliver more positive impact on the society and generates higher contribution to sustainable development. Further, the study also encouraged the regulators in Indonesia to harmonize the sustainability reporting regulation to ensure standard practices among the firms (Afolabi et al., 2022). In practice, it is important to the implementation of Indonesia Financial Service Authority (OJK) regulation number 51/POJK.03/2017 that makes sustainability reporting mandatory for Indonesian commercial banks with large asset classification. Here, the monitoring must be carried out properly. This research, however, still contains several limitations such as the use content analysis for the measurement of sustainability reporting as this may be prone to subjectivity issue. Further research should be able to comprehensively examine the development of sustainability reporting practice and its impact in various aspect in Indonesia to build solid understanding on sustainability reporting literature.

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