

Sustainability reporting in Indonesian listed banks

Do corporate governance, ownership structure and digital banking matter?

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Abstract

Purpose – The purpose of this paper is to find empirical evidence of ownership structure and corporate governance (CG) effect on sustainability reporting in Indonesian listed banks. The study also tries to describe sustainability reporting disclosure practice.

Design/methodology/approach – The authors analyze balanced panel data with a total of 155 observations from 2012 to 2016 using panel data regression.

Findings – The findings present empirical evidence that sustainability reporting in Indonesian listed banks is still low. CG, foreign ownership and family ownership positively influence sustainability reporting. Further, the authors find that family ownership weakens the effect of CG while foreign ownership has no significant moderating role. Digital banking is not a significant determinant and OJK sustainable finance roadmap is evidenced to have no impression on bank intention to produce sustainability report.

Research limitations/implications – The use of content analysis method for variable measurement may contain subjectivity substance from the researcher's perspective. Further research works need confirmation from independent parties with expertise in this subject. Further research works can also implement the mixed method by combining quantitative and qualitative approach to gain better quality.

Practical implications – The result of this study underlines the need for sustainability reporting improvement, followed by suggestions for Indonesian banking regulator.

Originality/value – This paper provides a description of Indonesian banks sustainability reporting and evidence of CG and controlling owner's role in its practice. The research presents a novelty, examining the role of digital banking as determinant.

Keywords Corporate governance, Sustainability, Social and environmental reporting, Ownership structure

Paper type Research paper

1. Introduction

Accounting has experienced considerable development for the past decades, especially in information disclosure (Thijssens *et al.*, 2016). At the same time, sustainability concern has grown to be very relevant to society (Dienes *et al.*, 2016). Therefore, corporate sustainability appears to be one of the significant developments for global corporations (Stanny and Ely, 2008). It becomes a part of management decisions (Windolph *et al.*, 2014), accounting practice (Gray, 2010; Schaltegger *et al.*, 2006) and reporting practice (Guidry and Patten, 2010). Through sustainability reporting, corporations and organizations will be able to show their commitment to sustainability development (Boiral *et al.*, 2019; Dilling, 2010).

Currently, there is no globally accepted definition of sustainability reporting (Dilling, 2010). There is neither a single commonly accepted format that organizations should follow for sustainability reporting purpose. In nature, sustainability reporting itself is still voluntary in most countries. Despite the condition, sustainability reporting is proliferating as it becomes a voluntary activity that gains great adherence by many corporations in world business (Thijssens *et al.*, 2016).

Researchers continuously examine sustainability reporting in order to contribute to its improvement. However, most studies were conducted within the context of western and



developed countries such as the USA, Canada, the UK, Australia or New Zealand (Adams *et al.*, 1998; Brown and Deegan, 1998; Deegan, 2002; Isaksson and Steimle, 2009; Dilling, 2010; Dienes *et al.*, 2016; Thijssens *et al.*, 2016). Hence, sustainability reporting becomes mandatory for more and more countries in Europe, at least for certain types or sizes of corporations.

In Asia, most of the sustainability reporting studies were conducted in developed or newly developed countries such as China (Li, Luo, Wang and Liansheng, 2013; Li, Zhang and Foo, 2013; Marquis and Qian, 2014), Japan (Fukukawa and Moon, 2004), Pakistan (Khan, 2010; Khan *et al.*, 2013; Sharif and Rashid, 2014), Singapore (Haniffa and Cooke, 2005) and Malaysia (Haniffa and Cooke, 2005; Eng and Mak, 2003; Ahmad and dan Sulaiman, 2004; Ghazali and Weetman, 2006; Ghazali, 2007; Said *et al.*, 2009; Saleh *et al.*, 2010). For other Asian countries, only a limited number of cited research works can be found. Belal (2001) states that there is a lack of sustainability reporting studies done in Asian countries. The studies are instead considered as “less developing” and more impoverished. This leads to a need for more studies to be conducted in Asian countries.

Business issues related to corporate social responsibility have influenced Indonesian business activities for the past decades (Gunawan, 2015). Some factors underlie the need for sustainability reporting. The factors appear under the issues of health and safety of the environment, pollution, poverty, social and political insecurity, and the high needs for direct foreign investment (Goyal, 2006). Indonesia has been considered as one of the worst countries in terms of deforestation with terrible deforestation rate (Ministry of Environment and Forestry, 2015). Besides, the poverty issue also appears as 28m of Indonesian population, or around 10.86 percent still live below the poverty line (Badan Pusat Statistik, 2017). These facts underlie the necessity of sustainability reporting to motivate Indonesian corporations to show their contribution to overcoming these social and environmental issues.

To develop sustainability, Otoritas Jasa Keuangan (Indonesia Financial Service Authority) issued Roadmap for Sustainable Finance at the end of 2014 (Otoritas Jasa Keuangan, 2014). Its objective is to build strong financial sustainability for the Indonesian financial sector industry. The roadmap also regulates the sustainable finance implementation plan. It is stated that the plan will be started in 2015. The early step of the financial sustainability plan will be executed during 2015–2019. Furthermore, it is also mentioned that sustainability reporting will be mandatory for Indonesian listed banks from 2016. Therefore, it is interesting to know how this roadmap enhances Indonesian banks perform sustainability reporting to disclose their economic, social and environmental contribution.

Djajadikerta and Trireksani (2012) found that social and environmental disclosure practice in Indonesian corporations is still at an early stage. The result shows that most of the Indonesian corporations still have a lack of understanding about corporate social and environmental disclosure. Ironically, the main reason for the disclosure is only to gain societal recognition of their good social behavior. Therefore, we are motivated to find empirical evidence about how far social and environmental disclosure practice has developed for these past years after this research was conducted. Also, we are motivated to test sustainability reporting determinants influence, especially under the context of corporate governance (CG) and ownership structures because these variables are strong attributes in directing business practice in Indonesian corporations.

Prior research works are considered inconsistent in terms of findings in determinants influence. Moreover, some research works that are conducted in the same country may have different result both in the Asian, European, American and Australian country. Research works that are conducted in the same country, same period, even by the same author, may have a different result (Li, Luo, Wang and Liansheng, 2013; Li, Zhang and Foo, 2013). Some evidence of inconsistency can be clearly seen from previous research works, such as in

Malaysia (Ghazali, 2007; Said *et al.*, 2009), Bangladesh (Belal, 2001; Rouf, 2011; Khan, 2010), China (Li, Luo, Wang and Liansheng, 2013; Li, Zhang and Foo, 2013; Marquis and Qian, 2014). European and American research works also generate inconsistent findings, such as in Spain (Fernando and Pandey, 2012; Prado-Lorenzo *et al.*, 2009; Prado-Lorenzo *et al.*, 2012), Italy (Michelon and Parbonetti, 2010; Michelon, 2011) and the USA (Belkaoui and dan Karpik, 1989; Dilling, 2010). Therefore, this primary is interesting for researchers to do further research.

The objective of this research is to find empirical evidence about how ownership structure, CG, digital banking and regulatory approach influence sustainability reporting quality in Indonesian listed banks. In addition, the ownership structure is also analyzed as a moderating variable on CG. In this research, we analyze the annual and sustainability report of selected Indonesian listed banks for the period around 2012–2016 with a total of 155 research observations. The periods are chosen due to the issuance of OJK sustainable finance roadmap in 2014 as it is seen as a momentum that may improve sustainability reporting practice in Indonesian listed banks.

This research contributes to the existing literature by filling the research gap from prior research works by using a better variable measurement of ownership structure that considers the power of controlling owners inside the board of commissioners, and CG in which we use an index scoring that considers many attributes of the board of commissioners and audit committee such as competence, independency, activities and size. This research also tries to reveal the effect of digital banking on sustainability reporting which, to authors' knowledge, is never revealed in previous research. This research presents implications to banking regulators in Indonesia about the urgency of sustainability reporting improvement and how to encourage banks to better practice it. The remainder of this paper is organized as follows: theoretical framework, hypotheses development, research design, analysis method, result and discussion, and conclusion.

2. Literature review and hypotheses development

2.1 Theoretical framework

The complementary view of agency theory states that agency relationship may occur between stakeholder as principal and manager as agent (Mantysaari, 2010; Hill and Jones, 1992). This relationship may lead to agency problem where manager as an agent is better informed than stakeholder as principal while information itself is main stakeholder interest. Therefore, more information disclosure is needed in order to keep the corporation accountable. One of the disclosures that stakeholders need is a sustainability report.

Stakeholder interests are carried to a corporation by their representative, the board of commissioners which means that the board of commissioners carries any demand for information disclosure. Furthermore, for information disclosure purpose, the board of commissioners will be assisted by the audit committee. Thus, information disclosure decision is never apart from CG implementation. Also, the Indonesian CG code mentions that one of the objectives of CG implementation is to drive corporation awareness about corporate responsibility to its stakeholder and environment (National Committee on Governance, 2006). This is also because consciousness for CG has not only been increased, but the concept has considerably been widened.

Another theory, the institutional theory also gives clear explanation related to ownership structure. It states that an organization needs other organizations that can encourage that organization to adapt to generally accepted local social norms. Pressures from the organizational environment drive an organization to act following its local culture. These pressures may appear from politic influence or a need for legitimacy (DiMaggio and Powell, 1983). Besides, an organization is possibly influenced by other organization as there are environmental uncertainty and change of technology that leads to change in characteristics

and organizational integrity. Therefore, the existence of foreign shareholders may bring positive aspects to a corporation as they will bring better business practices from their organization and countries. They will also suggest significant business concerns that the corporation should pay attention to, including sustainability issues.

2.2 Hypotheses development

2.2.1 Corporate governance on sustainability reporting. In agency theory, the problem of corporate voluntary information disclosure decision lies in motivating manager to fulfill stakeholder interest. Thus, CG is applied as a solution. In this case, the board of commissioners plays a crucial role as the stakeholder representative. When the board performs effectively, the monitoring and supervisory functions will extend corporation involvement to more demanded activities (Khlif and Samaha, 2014; Chau and Gray, 2010; Chen and Jaggi, 2000). Therefore, it is expected to encourage the management to disclose its information in sustainability report (Said *et al.*, 2009).

In enhancing the quality of sustainability report, the audit committee plays a crucial role (Boiral *et al.*, 2019) as they are appointed by the board to precisely monitor and supervise the reporting process of a corporation. When the audit committee can perform their functions effectively, the quality of information in sustainability report will be higher. In general, the study proposes hypotheses that the stronger the CG, the more information that corporation discloses (Hermawan, 2011), including in sustainability report.

Prior research works that examine CG element show positive influences. Sharif and Rashid (2014), Rouf (2011), Khan (2010) and Prado-Lorenzo *et al.* (2009) found a positive association between independent board members and CSR information disclosure. Some evidence also prove that other board characteristics positively influence CSR information disclosure, such as board size (Shamil *et al.*, 2014; Kent and Monem, 2008; Said *et al.*, 2009; Lim *et al.*, 2007; Laksmiana, 2008; Allegrini and Greco, 2013), board composition (Adams and Hossain, 1998; Cheng and Courtenay, 2006) and board meetings (Kent and Monem, 2008). In regard with the audit committee, a positive association is found in these research works (Said *et al.*, 2009; Rouf, 2011; Barako *et al.*, 2006; Ho and Wong, 2001). Thus, it is hypothesized that:

H1. CG positively influences sustainability reporting.

2.2.2 Foreign ownership on sustainability reporting. A corporation with foreign ownership may have more stakeholders as compared to the one without foreign ownership. Thus, there will be more information demand that this kind of corporation needs to disclose. Furthermore, the demand will be higher if foreign investors have higher ownership (Schipper, 1981; Craswell and Taylor, 1992). To date, foreign investors and stakeholder are those who concern about social and environmental issues due to their market exposure (Khan *et al.*, 2013). Even, they see sustainability practice as positive news (Yadav *et al.*, 2016). Multinational corporations with foreign ownership generally see that legitimacy benefit may come from stakeholder which give corporation long-term advantage. In order to obtain it, sustainability reporting may be good media.

Haniffa and Cooke (2005), Khan (2010) and Khan *et al.* (2013) find a significant relationship between corporate social and environmental disclosure and foreign ownership. This indicated that corporations use corporate social and environmental disclosure as a proactive legitimating strategy to obtain continuous inflows of capital and to please ethical foreign investors. Thus, it is hypothesized that:

H2. Foreign ownership positively influences sustainability reporting.

2.2.3 Family ownership on sustainability reporting. In contrast to a widely held corporation, a family-controlled corporation is more closely held. In this kind of corporation, public

accountability may be less of a big issue. It is because outsiders' interests may be relatively small. The level of public interest in family-controlled corporations can be expected to be relatively low. Thus, this kind of corporations may be less active in social and environmental activities. In other words, family-controlled corporations will not invest much in social and environmentally responsible activities as the cost of investing in such activities may be way higher than its potential benefits. Thus, less amount of social and environmental information may be found in family-controlled corporations (Ghazali, 2007). Gavana *et al.* (2016) find that the level of family ownership is negatively related to sustainability reporting. Furthermore, Chen *et al.* (2008) evidence that family-controlled corporations have lesser financial voluntary disclosure in comparison to non-family-controlled corporations:

H3. Family ownership negatively influences sustainability reporting.

2.2.4 Digital banking on sustainability reporting. Digital banking generally becomes a part of green banking practices. Besides reducing environmental resource waste to help environment (Biswas, 2011; Ullah, 2010), it can also increase the awareness of sustainability issues to its users (Chen *et al.*, 2018). In practice, banks can also use digital banking as a media to promote their social and environmental activities. In response, digital banking users are encouraged to participate in banks' social activities. When this initiative works, there will be more activities which lead to more information disclosure on sustainability report. Thus, it is hypothesized that:

H4. Digital banking positively influences sustainability reporting.

2.2.5 OJK sustainable finance roadmap on sustainability reporting. By the existence of this roadmap, it is expected that banks give a response by publishing sustainability report and thus sustainability reporting will be enhanced and improved in Indonesian listed banks. Logically, it is better for a corporation to make sustainability report once they do sustainability-related activities. If a corporation does sustainability-related activities but chooses not to disclose sustainability report, it is very disadvantageous as sustainability reporting has many advantages such as increasing positive market reaction and elevating firm value (Aboud and Diab, 2018). The corporation will not get the advantages without the disclosure. Thus, it is hypothesized that:

H5. OJK sustainable finance roadmap positively influences sustainability reporting.

2.2.6 Foreign ownership moderating role on corporate governance. According to the institutional theory literature, foreign investor existence in a corporation may bring better business practice as a result of institutional isomorphism process (DiMaggio and Powell, 1983). Prior research works also evidence that corporations with higher foreign ownership tend to implement better CG practice (Siagian *et al.*, 2007). Foreign investors tend to involve themselves in improving CG practice as it is one of the keys to lead their corporation to good performance. As foreign investors have more concern about stakeholder (Craswell and Taylor, 1992), they are expected to bring business strategy related to stakeholder interests. Therefore, it is expected that foreign ownership will strengthen CG implementation and increase the quality of sustainability reporting:

H6. Foreign ownership strengthens the effect of CG on sustainability reporting.

2.2.7 Family ownership moderating role on corporate governance. Family firms tend to have a lesser possibility of agency problem. They govern their firms using family control to reduce agency cost. The presence of family control in a firm is usually followed by family power and domination by appointing family members as CEO or by pyramiding (Peng and Jiang, 2010). Such control makes firms vulnerable to a range of serious governance problems

(Morck and Yeung, 2004). Moreover, Siagian (2011) finds that Indonesian family firms tend to have lower governance implementation because they decided to limit its implementation. In this case, family-controlling owners may have objectives that are possibly impeded by good CG practices such as sustainability reporting. Therefore, we predict that family ownership will weaken the influence of CG on sustainability reporting:

H7. Family ownership weakens the effect of CG on sustainability reporting.

3. Research design

3.1 Sampling method

The population of this research is all Indonesian banks that are listed in the Indonesian Stock Exchange (IDX). For the sampling method, this research uses purposive sampling with the following criteria: must be listed in IDX for 2012–2016 consecutive period; provides information regarding ownership structure and CG practice in its annual report. Total samples that comprise of 31 banks are generated. The sampling process is presented in Table I.

3.2 Data

This research uses panel data from Indonesian listed banks for 2012–2016 periods. A total of 155 observations from 31 banks for five years period are generated. The usage of panel data has some benefits (Gujarati, 2012), namely: controlling for individual heterogeneity; more information data sets; better to study the dynamics of adjustment; identification of parameters that would not be identified with pure cross-sections or pure time-series.

3.3 Research model and variables

This research uses sustainability reporting as the dependent variable (GRI). We employ GRI Financial Service Disclosure (FSSD) index for sustainability reporting variable measurement. Previous research works support the use of GRI guidelines. By surveying readers, reporters and assurers of sustainability report, Mori Jr and Best (2017) find that the use of GRI G4 Content index model improves the credibility of sustainability report. Khan *et al.* (2011) also uses GRI FSSD index in their research to measure sustainability report quality as it has comprehensive procedures both for the qualitative and the quantitative information and provides a structured framework on the base content of sustainability reporting.

As for the independent variables, there are CG, foreign ownership (FOR), family ownership (FAM) and OJK sustainable finance roadmap (SFR). Foreign and family ownership will also be used as moderating variable on CG. In addition, this research is equipped with some control variables, namely government ownership, size, profitability and liquidity risk. The operationalization of the variables is presented in Table II.

3.4 Analysis method

This research uses panel data regression analysis to test hypotheses. We choose the best estimation among common effect, fixed effect and random effect using chow test and

Information	Total
Total number of listed banks in Indonesian Stock Exchange (IDX)	43
Total number of listed banks that are not listed for 2012–2016 consecutive period	12
Total number of listed banks that do not provide information about ownership structure and corporate governance	0
Final samples	31

Table I.
Sampling process

Variable	Operationalization
<i>Dependent variable</i>	
Sustainability reporting	GRI financial service sector disclosure index
<i>Independent variables</i>	
Corporate governance index (CG)	Indonesian corporate governance index scoring by Hermawan (2011), see Appendix 1
Foreign ownership (FOR)	Percentage of foreign-controlling shareholder representative on board to total board members
Family ownership (FAM)	Percentage of family-controlling shareholder representative on board to total board members
Digital banking index (DIGI)	Digital products and facilities invested by banks (Bradley <i>et al.</i> , 2014), see Appendix 2
OJK sustainable finance regulation (FSR)	Dummy variables (1 for periods after regulation issuance, 0 for periods before regulation issuance)
<i>Interaction variables</i>	
Foreign ownership on CG (FOR × CG)	Multiplication of foreign ownership and corporate governance (mean-centered)
Family ownership on CG (FAM × CG)	Multiplication of family ownership and corporate governance (mean-centered)
<i>Control variables</i>	
Government ownership (GOV)	Percentage of government-owned shares to total shares
Bank size (SIZE)	Log of total assets
Profitability (ROA)	Return on assets ratio
Liquidity risk (LDR)	Loan to deposit ratio

Table II.
The operationalization of variables

Hausman test. The regression model is stated as follows:

$$\begin{aligned} \text{GRI} = & \alpha + \beta\text{CG} + \beta\text{FOR} + \beta\text{FAM} + \beta\text{DIGI} + \beta\text{FSR} + \beta\text{GOV} \\ & + \beta\text{SIZE} + \beta\text{ROA} + \beta\text{LDR} + \beta\text{FOR} \times \text{CG} + \beta\text{FAM} \times \text{CG} + e, \end{aligned}$$

where GRI is the sustainability reporting; CG the corporate governance; FOR the foreign ownership; FAM the family ownership; DIGI the digital banking; FSR the OJK sustainable finance roadmap; GOV the government ownership; SIZE the bank size; ROA the profitability (ROA); LDR the liquidity risk (LDR); FOR × CG the interaction of foreign ownership and corporate governance; and FAM × CG the interaction of family ownership and corporate governance.

4. Result and discussions

4.1 Descriptive statistics

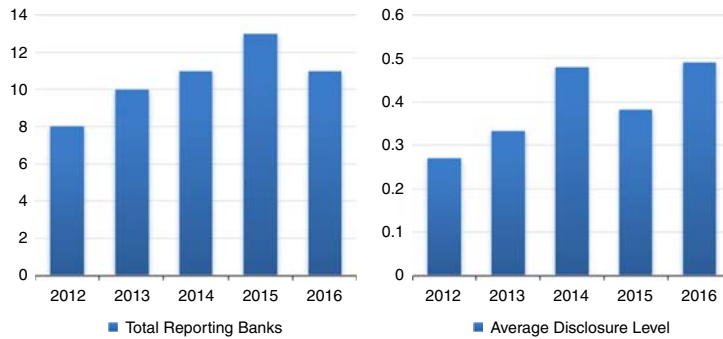
We analyze descriptive statistics to generate summary and description of the data from the research objects.

According to Table III, the dependent variable (GRI) has an average score of 2.54. This indicates that the average disclosure quality is inferior. The minimum score and its mode are 0 that give evidence that most Indonesian listed banks do not practice sustainability reporting. Meanwhile, its maximum score is 13 which means that there are some banks with proper disclosure. The gap is rather significant. Further analysis shows that most banks that do not practice sustainability reporting are small-sized banks, while most low GRI scores come from banks' first sustainability report publishing. Besides, we also present an additional description to explain the trend of sustainability reporting per year from 2012 to 2016 by those samples which make reports. The description is presented in Figure 1.

Table III.
Descriptive statistics

Variable	Observation	Mean	Median	Maximum	Minimum	SD
GRI	155	2.541935	0	13	0	3.944812
CG	155	76.2129	76	84	65	4.596706
FOR	155	0.090732	0	0.5	0	0.163187
FAM	155	0.102704	0	0.4	0	0.14261
DIGI	155	0.477727	0.47619	0.809524	0.285714	0.125217
GOV	155	0.154003	0	0.80	0	0.281057
SIZE	155	13.66094	13.6338	15.01649	12.40496	0.681398
ROA	155	0.013876	0.0156	0.1115	-0.0958	0.021381
LDR	155	85.80465	86.7	113.3	52.39	10.93052

Figure 1.
Sustainability reporting growth in Indonesian listed banks



The average GRI score per year increases from 2012 to 2014. There is a decrease for 2015, but it improves to the maximum average score in 2016. This indicates that sustainability reporting quality experiences minimal growth. Moreover, the number of reporting banks grows very slowly. Although OJK issues sustainable finance roadmap, banks are not enthusiastic enough to participate in sustainability reporting (Table IV).

We also examine the information disclosure level in the sustainability reports. We find that the average percentage of information disclosure level ranges from low to medium level. Further, among three information categories that consist of economic, environmental and social information, economic information appears to be the highest disclosed information, followed by social information and environmental information. These findings are reasonable considering the banking industry business operation. Thus, the disclosure level is relevant. The complete result is presented in Table V.

Table IV.
Descriptive statistics for dummy variable

Variable	Observation	Dummy 1 frequency	Dummy 0 frequency	Dummy 1 percentage	Dummy 0 percentage
FSR	155	62	93	40	60

Table V.
Sustainability reporting information disclosure level

Information	2012	2013	2014	2015	2016
Economic category	0.5	0.45	0.54	0.46	0.45
Environmental category	0.17	0.15	0.27	0.06	0.12
Social category	0.26	0.27	0.31	0.26	0.32

The level of information disclosure in banks sustainability report experiences unstable growth, without any significant increase. Economic information disclosure level ranges from mid-40 to mid-50 percent, with the highest average score of 54 percent in 2014. However, environmental information which appears to be the lowest disclosed tend to have more decrease than increase. The average disclosure level is 15 percent in 2012 and only 12 percent in 2016, with the lowest disclosure level of 6 percent in 2015. Social information disclosure level ranges from mid-20 to low 30 percent, with the highest average score of 32 percent in 2016. Also, the disclosure level in 2015 is the lowest. This may due to the increase of reporting entity, with some banks that just made their first sustainability report of which score tends to be relatively low. The information disclosure level growth by year is presented in Figure 2.

The observation of CG variable shows that its minimum score is 51 while its maximum score is 84 and the average score is 76.21. These indicate that CG implementation by research objects is proper on average. Meanwhile, digital banking (DIGI) average score is 0.477727, minimum score is 0.285714 and the maximum score is 0.809524. Indonesian commercial banks in our samples have implemented digital banking. The level of digital banking implementation is at average level, with only little variation.

Foreign ownership variable (FOR) as represented by affiliated board members shows the average score of 0.09. The minimum score is 0 while the maximum score is 0.5. It means that in practice, bank foreign-controlling shareholders can even put their representatives to dominate 50 percent of the board of commissioners. Family ownership variable (FAM) as represented by affiliated board members shows the average score of 0.1. The minimum score is 0 while the maximum score is 0.4. This implies that family-controlled banks can even put their representatives to dominate 40 percent of the banks' board of commissioners. Relatively, it can be said that foreign-controlled banks and family-controlled banks have similar controlling practice by putting their representative on banks' board. The observation of government ownership (GOV) shows the mean value of 0.15, with a maximum value of 0.8 and the minimum value of 0.

The variation of Indonesian banks ownership structure is high. There are 13 banks with controlling foreign ownership, eight banks with controlling family ownership and there are six banks with government-owned bank status. These numbers indicate that both foreign, family and government ownership is also a common feature in Indonesian listed banks. It is interesting to examine empirically the role of these various owners in sustainability reporting practice that will be discussed in the next section.

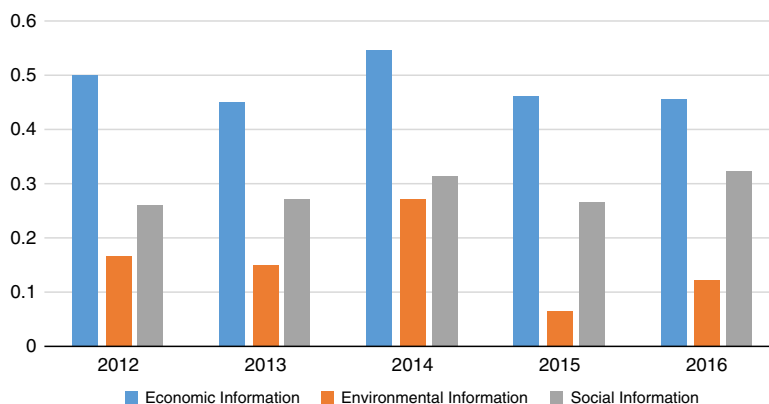


Figure 2. Sustainability reporting information disclosure level by Indonesian listed banks (2012–2016)

As for OJK sustainable finance roadmap dummy variable, the frequency is 62 observations after roadmap implementation and 93 observations before roadmap implementation. Bank size (SIZE) has 13.66 mean value where its natural value should be 45,708,818,961,487. The minimum value is 12.4 and the maximum value is 15.01, where its real value should be 2,540,741,000,000 and 1,038,706,009,000,000. Profitability (ROA) variable mean is 0.013 while its minimum value is -0.09 and its maximum is 0.11. As for liquidity risk (LDR), the mean value is 85.8, with a minimum value of 52.39 and the maximum value of 113.3.

4.2 Results and discussions

This research employs a panel regression analysis to test the hypotheses. The result is presented in Table VI.

The regression result provides shreds of evidence that CG positively influences sustainability reporting. Foreign ownership also strongly and positively influences sustainability reporting. Surprisingly, family ownership is found having a positive influence on sustainability reporting. Family ownership also moderates the influence of CG on sustainability reporting with the weakening effect. OJK sustainable finance roadmap, as predicted before in descriptive statistics, does not significantly influence sustainability reporting.

Two control variables, namely government ownership and bank size, significantly and positively influence sustainability reporting while profitability and liquidity risks do not appear as significant predictors. The interaction between CG and foreign ownership does not have any significant influence on sustainability reporting that indicates no moderating role. Hypotheses are summarized in Table VII.

The findings above evidence that the application of theories has both support and denies. *H1* is accepted as CG is found positively associated with sustainability reporting. The stronger the CG, the better sustainability report a bank produces. Good CG implementation can motivate banks to pay attention to sustainability issues as one of the stakeholder interests and thus practice sustainability reporting. This finding supports previous research works from Sharif and Rashid (2014), Rouf (2011), Khan (2010), Prado-Lorenzo *et al.* (2009), Shamil *et al.* (2014), Kent and Monem (2008), Said *et al.* (2009), Lim *et al.* (2007) Laksmana (2008), Allegrini and Greco (2013), Adams and Hossain (1998) and Cheng and Courtenay (2006) who found a positive influence of some CG mechanism

Variable	Coeff.	Prob.	Coeff.	Prob.
CG	0.267904	0.0009	0.523966	0.0000
FOR	11.21426	0.0000	-22.44137	0.4282
FAM	7.180401	0.0007	149.7450	0.0000
DIGI	2.396217	0.3103	3.992217	0.0963
FSR	0.106495	0.7902	0.127777	0.7311
GOV	5.728666	0.0000	4.543261	0.0000
SIZE	1.652056	0.0061	0.607649	0.3288
ROA	-2.259961	0.8251	-0.640018	0.9490
LDR	0.003348	0.8634	0.011606	0.5405
FOR × CG			0.387398	0.2802
FAM × CG			-1.963518	0.0001
R^2	0.677017		0.693033	
Adjusted R^2	0.656970		0.669420	
F -statistic	33.77110		29.34987	
Prob. (F -stat)	0.000000		0.000000	
Best estimation	Common effect		Random effect	

Table VI.
Panel regression
result

Table VII.
Hypotheses summary

Hypotheses	Finding	Status
<i>H1</i> . Corporate governance on sustainability reporting	Positive influence	<i>H1</i> (accepted)
<i>H2</i> . Foreign ownership on sustainability reporting	Positive influence	<i>H2</i> (accepted)
<i>H3</i> . Family ownership on sustainability reporting	Positive influence	<i>H3</i> (rejected)
<i>H4</i> . Digital banking on sustainability reporting	No significant influence	<i>H4</i> (rejected)
<i>H5</i> . OJK sustainable finance regulation on sustainability reporting	No significant influence	<i>H5</i> (rejected)
<i>H6</i> . Interaction of foreign ownership and corporate governance on sustainability reporting	No significant influence	<i>H6</i> (rejected)
<i>H7</i> . Interaction of family ownership and corporate governance on sustainability reporting	Weakening influence	<i>H7</i> (accepted)

and components. This finding supports agency theory where CG can reduce potential conflict of interest with stakeholders.

Foreign ownership, as predicted before, strongly and positively influences sustainability reporting which means that a bank with more powerful foreign investors tends to produce a better sustainability report. This finding also implies that foreign investors tend to demand more information disclosure (Schipper, 1981; Bradbury, 1991), including social and environmental information as they are concerned about sustainability issues. Besides, most Indonesian banks who publish a sustainability report tend to have a significant proportion of foreign ownership. Thus, it may generate a conclusion that foreign investors see sustainability reporting as a media to create legitimacy benefit which leads to long-term growth for their investment (Haniffa and Cooke, 2005). This finding is consistent with Khan (2010) who found a significant positive effect on CSR reporting in Bangladeshi commercial banks, Khan *et al.* (2013) who found the same result in Bangladeshi corporations and Haniffa and Cooke (2005) who found a positive relationship of foreign shareholding on Malaysian corporations' social reporting.

One of the most surprising results of this research is that family ownership positively influences sustainability reporting and thus *H3* is rejected. This result means that the presence of controlling family shareholder or their representative on the board of commissioners brings good sustainability reporting practice in Indonesian listed banks. Welker (1995) and Botosan (1997) argue that family firms may benefit from voluntary disclosure by reducing the cost of litigation and reputation loss. Dyer and Whetten (2006) also provide evidence that family firms have better CSR performance than non-family firms. It is argued that they are aware of protecting their family image and reputation. In addition, it is added that a good reputation in their essential stakeholder mind may give the corporation such a form of social insurance and thus protect their family assets whenever crisis time occurs.

Digital banking is evidenced not to have any significant effect on sustainability reporting. Hence, *H4* is rejected. In ideal practice, banks can use their digital facilities to promote their social activities and thus their clients can participate and there will be more disclosure. However, there is no evidence of significant influence. It can be argued that most Indonesian banks only use their digital products for transactional purpose in terms of making financial activities easier, ruling out its alternative functions like promoting social activities.

OJK sustainable finance roadmap does not significantly influence sustainability reporting. This means that OJK sustainable finance roadmap does not make any impression on bank willingness to publish sustainability reports. Moreover, it is also found that the number of reporting entities for the periods after the issuance does not increase significantly compared to the periods before the issuance of sustainable finance roadmap (see Figure 1). This can be seen as clear evidence of insignificance effect of OJK sustainable

finance roadmap. In this case, the phenomena happened because the law enforcement in the Indonesian banking industry is weak. This has been classic problem in the Indonesian banking industry, especially during Bank Indonesia hold supervision role. Currently, although supervision gets better since Otoritas Jasa Keuangan hold the role, the toughness of supervision is limited only to financial activities and performance, ruling out social activities enforcement.

The interaction of foreign ownership and CG has an insignificant effect on sustainability reporting. This finding suggests that the existence of foreign ownership does not strengthen CG role in a bank to produce a better sustainability report. They do not encourage banks to produce a better sustainability report. This does not directly implies that institutional isomorphism from foreign investment does not happen. It is important to identify where the owners come from. In Indonesian listed banks, most of the foreign ownership comes from other Asian countries, such as Malaysia, Singapore, China and Japan. Those countries have more or less the same business characteristics as Indonesia. In these countries, CG practice is still relatively like Indonesian practice due to the same business characteristics (Wu, 2005). Due to these ownership origins, institutional isomorphism does not really occur. Furthermore, Siagian (2011) finds that foreign ownership in Indonesia is less likely to affect corporation CG implementation.

The effect of family ownership and CG interaction effect shows that family ownership weakens the influence of CG on sustainability reporting and thus supports *H6*. As mentioned in the previous part, family control over a firm is identical with concentrated governance power which leads to a negative implication on CG practice (Morck and Yeung, 2004). Further, this finding supports the previous finding from Siagian (2015) who stated that Indonesian family firms tend to have lower CG implementation. Family-controlling shareholders may have specific objectives that are possibly impeded by good CG practices such as sustainability reporting. These facts may support the finding that CG effect on sustainability reporting becomes weaker.

The observation of control variables evidences that government ownership and size positively influence sustainability reporting. Government ownership, especially in state-owned and local-government-owned banks, plays a part inside the governance and management. As a body that gains trust from the public, the government sees sustainability issues as an essential thing. Bank size is also found to be a significant factor as the data show that most banks which produce sustainability report have a significant size in terms of total assets. Meanwhile, profitability appears to be an insignificant predictor of sustainability reporting. This may occur due to the size of the banks which produce sustainability report is enormous in terms of total assets where the profit cannot counterbalance the total assets as ROA is used as profitability measurement. Lastly, liquidity risk does not influence sustainability reporting either as most samples have a good loan to deposit ratio.

5. Conclusion

This research is conducted to answer specific questions about sustainability reporting determinants in CG and ownership dimensions. The results suggest that CG implementation, foreign ownership and surprisingly family ownership positively influence sustainability reporting. Further analysis shows that family ownership weakens the influence of CG on sustainability reporting. Meanwhile, it is evidenced that foreign ownership does not have any significant role in moderating the link between CG and sustainability reporting. Furthermore, digital banking does not significantly affect sustainability reporting, neither does OJK sustainable finance roadmap which fails to improve Indonesian listed banks' sustainability reporting. Sustainability reporting in Indonesian listed banks is still at low quality in terms of disclosure as well as practice.

There is no significant increase in disclosure quality for the past five years. There is neither any significant increase in the number of reporting entities despite the release of OJK sustainable finance roadmap. This research underlines the urgency of improving sustainability reporting practice in Indonesian listed banks.

This research also gives an insight into Indonesian regulators about the current practice of sustainability reporting practice in the banking sector. Indeed, it is challenging to encourage Indonesian corporations to contribute to sustainable development; thus, the regulators need to find a starting point for it. Enhancing sustainability reporting practice in the banking sector can be an excellent start to motivate other industry sectors in Indonesia to publish a sustainability report. The banking sector is an excellent choice as banks tend to comply with regulation better than any other industries and also has potential effective CSR promotion media with digital banking. Bank regulators in Indonesia must make a stronger regulation that makes sustainability reporting mandatory for Indonesian listed banks because the sustainable finance roadmap from OJK is not well implemented due to monitoring issue. This also underlines the necessity of better monitoring mechanism for the regulation implementation.

This research contributes to the existing literature by revealing that controlling owners play a role in CG mechanism to decide sustainability reporting practice. Controlling owners have substantial power in the making of a final decision of sustainability reporting practice, especially controlling family owners where they tend to lower or limit sustainability reporting practice that contains cost to keep their banks financial performance.

6. Limitation

As this research uses content analysis method for sustainability reporting and CG variable measurement, there might be subjectivity substance from the researcher's perspective during the assessment of the variable scoring process. For further research works, the measurement of sustainability reporting and CG variables needs confirmation from independent parties that have expertise in this research subject. Besides, the explanation we presented in the discussion is only based on previous research works' result and our analysis. Further research can implement a mixed method by combining quantitative and qualitative approach to gain better research quality.

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Sustainability reporting in Indonesian listed banks

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Sustainability reporting in Indonesian listed banks

Do corporate governance, ownership structure and digital banking matter?

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Sustainability
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Abstract

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Purpose – The purpose of this paper is to find empirical evidence of ownership structure and corporate governance (CG) effect on sustainability reporting in Indonesian listed banks. The study also tries to describe sustainability reporting disclosure practice.

Design/methodology/approach – The authors analyze balanced panel data with a total of 155 observations from 2012 to 2016 using panel data regression.

Findings – The findings present empirical evidence that sustainability reporting in Indonesian listed banks is still low. CG, foreign ownership and family ownership positively influence sustainability reporting. Further, the authors find that family ownership weakens the effect of CG while foreign ownership has no significant moderating role. Digital banking is not a significant determinant and OJK sustainable finance roadmap is evidenced to have no impression on bank intention to produce sustainability report.

Research limitations/implications – The use of content analysis method for variable measurement may contain subjectivity substance from the researcher's perspective. Further research works need confirmation from independent parties with expertise in this subject. Further research works can also implement the mixed method by combining quantitative and qualitative approach to gain better quality.

Practical implications – The result of this study underlines the need for sustainability reporting improvement, followed by suggestions for Indonesian banking regulator.

Originality/value – This paper provides a description of Indonesian banks sustainability reporting and evidence of CG and controlling owner's role in its practice. The research presents a novelty, examining the role of digital banking as determinant.

Keywords Corporate governance, Sustainability, Social and environmental reporting, Ownership structure

Paper type Research paper

1. Introduction

Accounting has experienced considerable development for the past decades, especially in information disclosure (Thijssens *et al.*, 2016). At the same time, sustainability concern has grown to be very relevant to society (Dienes *et al.*, 2016). Therefore, corporate sustainability appears to be one of the significant developments for global corporations (Stanny and Ely, 2008). It becomes a part of management decisions (Windolph *et al.*, 2014), accounting practice (Gray, 2010; Schaltegger *et al.*, 2006) and reporting practice (Guidry and Patten, 2010). Through sustainability reporting, corporations and organizations will be able to show their commitment to sustainability development (Boiral *et al.*, 2019; Dilling, 2010).

Currently, there is no globally accepted definition of sustainability reporting (Dilling, 2010). There is neither a single commonly accepted ²⁴ that that organizations should follow for sustainability reporting purpose. In nature, sustainability reporting itself is still voluntary in most countries. Despite the condition, sustainability reporting is proliferating as it becomes a voluntary activity that gains great adherence by many corporations in world business (Thijssens *et al.*, 2016).

Researchers continuously examine sustainability reporting in order to contribute to its improvement. However, most studies were conducted within the context of western and



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developed countries such as the USA, Canada, the UK, Australia or New Zealand (Adams *et al.*, 1998; Brown and Deegan, 1998; Deegan, 2002; Isaksson and Steimle, 2009; Dilling, 2010; Dienes *et al.*, 2016; Thijssens *et al.*, 2016). Hence, sustainability reporting becomes mandatory for more and more countries in Europe, at least for certain types or sizes of corporations.

In Asia, most of the sustainability reporting studies were conducted in developed or newly developed countries such as China (Li, Luo, Wang and Liansheng, 2013; Li, Zhang and Foo, 2014; Marquis and Qian, 2014), Japan (Fukukawa and Moon, 2004), Pakistan (Khan, 2010; Khan *et al.*, 2013; Sharif and Rashid, 2014), Singapore (Haniffa and Cooke, 2005) and Malaysia (Haniffa and Cooke, 2005; Eng and Mak, 2003; Ahmad and dan Sulaiman, 2004; Ghazali and Weetman, 2006; Ghazali, 2007; Said *et al.*, 2009; Saleh *et al.*, 2010). For other Asian countries, only a limited number of cited research works can be found. Belal (2001) states that there is a lack of sustainability reporting studies done in Asian countries. The studies are instead considered as “less developing” and more impoverished. This leads to a need for more studies to be conducted in Asian countries.

Business issues related to corporate social responsibility have influenced Indonesian business activities for the past decades (Gunawan, 2015). Some factors underlie the need for sustainability reporting. The factors appear under the issues of health and safety of the environment, pollution, poverty, social and political insecurity, and the high needs for direct foreign investment (Goyal, 2006). Indonesia has been considered as one of the worst countries in terms of deforestation with terrible deforestation rate (Ministry of Environment and Forestry, 2015). Besides, the poverty issue also appears as 28m of Indonesian population, or around 10.86 percent still live below the poverty line (Badan Pusat Statistik, 2017). These facts underlie the necessity of sustainability reporting to motivate Indonesian corporations to show their contribution to overcoming these social and environmental issues.

To develop sustainability, Otoritas Jasa Keuangan (Indonesia Financial Service Authority) issued Roadmap for Sustainable Finance at the end of 2014 (Otoritas Jasa Keuangan, 2014). Its objective is to build strong financial sustainability for the Indonesian financial sector industry. The roadmap also regulates the sustainable finance implementation plan. It is stated that the plan will be started in 2015. The early step of the financial sustainability plan will be executed during 2015–2019. Furthermore, it is also mentioned that sustainability reporting will be mandatory for Indonesian listed banks from 2016. Therefore, it is interesting to know how this roadmap enhances Indonesian banks perform sustainability reporting to disclose their economic, social and environmental contribution.

Djajadikerta and Trireksani (2012) found that social and environmental disclosure practice in Indonesian corporations is still at an early stage. The result shows that most of the Indonesian corporations still have a lack of understanding about corporate social and environmental disclosure. Ironically, the main reason for the disclosure is only to gain societal recognition of their good social behavior. Therefore, we are motivated to find empirical evidence about how far social and environmental disclosure practice has developed for these past years after this research was conducted. Also, we are motivated to test sustainability reporting determinants influence, especially under the context of corporate governance (CG) and ownership structures because these variables are strong attributes in directing business practice in Indonesian corporations.

Prior research works are considered inconsistent in terms of findings in determinants influence. Moreover, some research works that are conducted in the same country may have different result both in the Asian, European, American and Australian country. Research works that are conducted in the same country, same period, even by the same author, may have a different result (Li, Luo, Wang and Liansheng, 2013; Li, Zhang and Foo, 2013). Some evidence of inconsistency can be clearly seen from previous research works, such as in

Malaysia (Ghazali, 2007; Said *et al.*, 2009), Bangladesh (Belal, 2001; Rouf, 2011; Khan, 2010), China (Li, Luo, Wang and Liansheng, 2013; Li, Zhang and Foo, 2013; Marquis and Qian, 2014). European and American research works also generate inconsistent findings, such as in Spain (Fernando and Pandey, 2012; Prado-Lorenzo *et al.*, 2009; Prado-Lorenzo *et al.*, 2012), Italy (Michelon and Parbonetti, 2010; Michelon, 2011) and the USA (Belkaoui and dan Karpik, 1989; Dilling, 2010). Therefore, this primary is interesting for researchers to do further research.

The objective of this research is to find empirical evidence about how ownership structure, CG, digital banking and regulatory approach influence sustainability reporting quality in Indonesian listed banks. In addition, the ownership structure is also analyzed as a moderating variable on CG. In this research, we analyze the annual and sustainability report of selected Indonesian listed banks for the period around 2012–2016 with a total of 155 research observations. The periods are chosen due to the issuance of OJK sustainable finance roadmap in 2014 as it is seen as a momentum that may improve sustainability reporting practice in Indonesian listed banks.

This research contributes to the existing literature by filling the research gap from prior research works by using a better variable measurement of ownership structure that considers the power of controlling owners inside the board of commissioners, and CG in which we use an index scoring that considers many attributes of the board of commissioners and audit committee such as competence, independency, activities and size. This research also tries to reveal the effect of digital banking on sustainability reporting which, to authors' knowledge, is never revealed in previous research. This research presents implications to banking regulators in Indonesia about the urgency sustainability reporting improvement and how to encourage banks to better practice it. The remainder of this paper is organized as follows: theoretical framework, hypotheses development, research design, analysis method, result and discussion, and conclusion.

2. Literature review and hypotheses development

2.1 Theoretical framework

The complementary view of agency theory states that agency relationship may occur between stakeholder as principal and manager as agent (Mantysaari, 2010; Hill and Jones, 1992). This relationship may lead to agency problem where manager as an agent is better informed than stakeholder as principal while information itself is main stakeholder interest. Therefore, more information disclosure is needed in order to keep the corporation accountable. One of the disclosures that stakeholders need is a sustainability report.

Stakeholder interests are carried to a corporation by their representative, the board of commissioners which means that the board of commissioners carries any demand for information disclosure. Furthermore, for information disclosure purpose, the board of commissioners will be assisted by the audit committee. Thus, information disclosure decision is never apart from CG implementation. Also, the Indonesian CG code mentions that one of the objectives of CG implementation is to drive corporation awareness about corporate responsibility to its stakeholder and environment (National Committee on Governance, 2006). This is also because consciousness for CG has not only been increased, but the concept has considerably been widened.

Another theory, the institutional theory also gives clear explanation related to ownership structure. It states that an organization needs other organizations that can encourage that organization to adapt to generally accepted local social norms. Pressures from the organizational environment drive an organization to act following its local culture. These pressures may appear from politic influence or a need for legitimacy (DiMaggio and Powell, 1983). Besides, an organization is possibly influenced by other organization as there are environmental uncertainty and change of technology that leads to change in characteristics

and organizational integrity. Therefore, the existence of foreign shareholders may bring positive aspects to a corporation as they will bring better business practices from their organization and countries. They will also suggest significant business concerns that the corporation should pay attention to, including sustainability issues.

2.2 Hypotheses development

2.2.1 Corporate governance on sustainability reporting. In agency theory, the problem of corporate voluntary information disclosure decision lies in motivating manager to fulfill stakeholder interest. Thus, CG is applied as a solution. In this case, the board of commissioners plays a crucial role as the stakeholder representative. When the board performs effectively, the monitoring and supervisory functions will extend corporation involvement to more demanded activities (Khlif and Samaha, 2014; Chau and Gray, 2010; Chen and Jaggi, 2000). Therefore, it is expected to encourage the management to disclose its information in sustainability report (Said *et al.*, 2009).

In enhancing the quality of sustainability report, the audit committee plays a crucial role (Boiral *et al.*, 2019) as they are appointed by the board to precisely monitor and supervise the reporting process of a corporation. When the audit committee can perform their functions effectively, the quality of information in sustainability report will be higher. In general, the study proposes hypotheses that the stronger the CG, the more information that corporation discloses (Hermawan, 2011), including in sustainability report.

Prior research works that examine CG element show positive influences. Sharif and Rashid (2014), Rouf (2011), Khan (2010) and Prado-Lorenzo *et al.* (2009) found a positive association between independent board members and CSR information disclosure. Some evidence also prove that board characteristics positively influence CSR information disclosure, such as board size (Shamil *et al.*, 2014; Kent and Monem, 2008; Said *et al.*, 2009; Lim *et al.*, 2007; Laksmana, 2008; Allegrini and Greco, 2013), board composition (Adams and Hossain, 1998; Cheng and Courtenay, 2006) and board meetings (Kent and Monem, 2008). In regard with the audit committee, a positive association is found in these research works (Said *et al.*, 2009; Rouf, 2011; Barako *et al.*, 2006; Ho and Wong, 2001). Thus, it is hypothesized that:

H1. CG positively influences sustainability reporting.

2.2.2 Foreign ownership on sustainability reporting. A corporation with foreign ownership may have more stakeholders as compared to the one without foreign ownership. Thus, there will be more information demand that this kind of corporation needs to disclose. Furthermore, the demand will be higher if foreign investors have higher ownership (Schipper, 1981; Craswell and Taylor, 1992). To date, foreign investors and stakeholder are those who concern about social and environmental issues due to their market exposure (Khan *et al.*, 2013). Even, they see sustainability practice as positive news (Yadav *et al.*, 2016). Multinational corporations with foreign ownership generally see that legitimacy benefit may come from stakeholder which give corporation long-term advantage. In order to obtain it, sustainability reporting may be good means.

Haniffa and Cooke (2005), Khan (2010) and Khan *et al.* (2013) find a significant relationship between corporate social and environmental disclosure and foreign ownership. This indicated that corporations use corporate social and environmental disclosure as a proactive legitimating strategy to obtain continuous inflows of capital and to please ethical foreign investors. Thus, it is hypothesized that:

H2. Foreign ownership positively influences sustainability reporting.

2.2.3 Family ownership on sustainability reporting. In contrast to a widely held corporation, a family-controlled corporation is more closely held. In this kind of corporation, public

accountability may be less of a big issue. It is because outsiders' interests may be relatively small. The level of public interest in family-controlled corporations can be expected to be relatively low. Thus, this kind of corporations may be less active in social and environmental activities. In other words, family-controlled corporations will not invest much in social and environmentally responsible activities as the cost of investing in such activities may be way higher than its potential benefits. Thus, less amount of social and environmental information may be found in family-controlled corporations (Ghazali, 2007). Gavana *et al.* (2016) find that the level of family ownership is negatively related to sustainability reporting. Furthermore, Chen *et al.* (2008) evidence that family-controlled corporations have lesser financial voluntary disclosure in comparison to non-family-controlled corporations:

H3. Family ownership negatively influences sustainability reporting.

2.2.4 Digital banking on sustainability reporting. Digital banking generally becomes a part of green banking practices. Besides reducing environmental resource waste to help environment (Biswas, 2011; Ullah, 2010), it can also increase the awareness of sustainability issues to its users (Chen *et al.*, 2018). In practice, banks can also use digital banking as a media to promote their social and environmental activities. In response, digital banking users are encouraged to participate in banks' social activities. When this initiative works, there will be more activities which lead to more information disclosure on sustainability report. Thus, it is hypothesized that:

H4. Digital banking positively influences sustainability reporting.

2.2.5 OJK sustainable finance roadmap on sustainability reporting. By the existence of this roadmap, it is expected that banks give a response by publishing sustainability report and thus sustainability reporting will be enhanced and improved in Indonesian listed banks. Logically, it is better for a corporation to make sustainability report once they do sustainability-related activities. If a corporation does sustainability-related activities but chooses not to disclose sustainability report, it is very disadvantageous as sustainability reporting has many advantages such as increasing positive market reaction and elevating firm value (Aboud and Diab, 2018). The corporation will not get the advantages without the disclosure. Thus, it is hypothesized that:

H5. OJK sustainable finance roadmap positively influences sustainability reporting.

2.2.6 Foreign ownership moderating role on corporate governance. According to the institutional theory literature, foreign investor existence in a corporation may bring better business practice as a result of institutional isomorphism process (DiMaggio and Powell, 1983). Prior research works also evidence that corporations with higher foreign ownership tend to implement better CG practice (Siagian *et al.*, 2007). Foreign investors tend to involve themselves in improving CG practice as it is one of the keys to lead their corporation to good performance. As foreign investors have more concern about stakeholder (Craswell and Taylor, 1992), they are expected to bring business strategy related to stakeholder interests. Therefore, it is expected that foreign ownership will strengthen CG implementation and increase the quality of sustainability reporting:

H6. Foreign ownership strengthens the effect of CG on sustainability reporting.

2.2.7 Family ownership moderating role on corporate governance. Family firms tend to have a lesser possibility of agency problem. They govern their firms using family control to reduce agency cost. The presence of family control in a firm is usually followed by family power and domination by appointing family members as CEO or by pyramiding (Peng and Jiang, 2010). Such control makes firms vulnerable to a range of serious governance problems

(Morck and Yeung, 2004). Moreover, Siagian (2011) finds that Indonesian family firms tend to have lower governance implementation because they decided to limit its implementation. In this case, family-controlling owners may have objectives that are possibly impeded by good CG practices such as sustainability reporting. Therefore, we predict that family ownership will weaken the influence of CG on sustainability reporting:

H7. Family ownership weakens the effect of CG on sustainability reporting.

3. Research design

3.1 Sampling method

The population of this research is all Indonesian banks that are listed in the Indonesian Stock Exchange (IDX). For the sampling method, this research uses purposive sampling with the following criteria: must be listed in IDX for 2012–2016 consecutive period; provides information regarding ownership structure and CG practice in its annual report. Total samples that comprise of 31 banks are generated. The sampling process is presented in Table I.

3.2 Data

This research uses panel data from Indonesian listed banks for 2012–2016 periods. A total of 155 observations from 31 banks for five years period are generated. The usage of panel data has some benefits (Gujarati, 2012), namely: controlling for individual heterogeneity; more information data sets; better to study the dynamics of adjustment; identification of parameters that would not be identified with pure cross-sections or pure time-series.

3.3 Research model and variables

This research uses sustainability reporting as the dependent variable (GRI). We employ GRI Financial Service Disclosure (FSSD) index for sustainability reporting variable measurement. Previous research works support the use of GRI guidelines. By surveying readers, reporters and assurers of sustainability report, Mori Jr and Best (2017) find that the use of GRI G4 Content index model improves the credibility of sustainability report. Khan *et al.* (2011) also uses GRI FSSD index in their research to measure sustainability report quality as it has comprehensive procedures both for the qualitative and the quantitative information and provides a structured framework on the base content of sustainability reporting.

As for the independent variables, there are CG, foreign ownership (FOR), family ownership (FAM) and OJK sustainable finance roadmap (SFR). Foreign and family ownership will also be used as moderating variable on CG. In addition, this research is equipped with some control variables, namely government ownership, size, profitability and liquidity risk. The operationalization of the variables is presented in Table II.

3.4 Analysis method

This research uses panel data regression analysis to test hypotheses. We choose the best estimation among common effect, fixed effect and random effect using chow test and

Information	Total
Total number of listed banks in Indonesian Stock Exchange (IDX)	43
Total number of listed banks that are not listed for 2012–2016 consecutive period	12
Total number of listed banks that do not provide information about ownership structure and corporate governance	0
Final samples	31

Table I.
Sampling process

Variable	Operationalization	Sustainability reporting in Indonesian listed banks
<i>Dependent variable</i>		
Sustainability reporting	GRI financial service sector disclosure index	
<i>Independent variables</i>		
Corporate governance index (CG)	Indonesian corporate governance index scoring by Hermawan (2011), see Appendix 1	
Foreign ownership (FOR)	Percentage of foreign-controlling shareholder representative on board to total board members	
Family ownership (FAM)	Percentage of family-controlling shareholder representative on board to total board members	
Digital banking index (DIGI)	Digital products and facilities invested by banks (Bradley <i>et al.</i> , 2014), see Appendix 2	
OJK sustainable finance regulation (FSR)	Dummy variables (1 for periods after regulation issuance, 0 for periods before regulation issuance)	
<i>Interaction variables</i>		
Foreign ownership on CG (FOR × CG)	Multiplication of foreign ownership and corporate governance (mean-centered)	
Family ownership on CG (FAM × CG)	Multiplication of family ownership and corporate governance (mean-centered)	
<i>Control variables</i>		
Government ownership (GOV)	Percentage of government-owned shares to total shares	
Bank size (SIZE)	Log of total assets	
Profitability (ROA)	Return on assets ratio	
Liquidity risk (LDR)	Loan to deposit ratio	

Table II.
The operationalization of variables

Hausman test. The regression model is stated as follows:

$$\begin{aligned} \text{GRI} = & \alpha + \beta\text{CG} + \beta\text{FOR} + \beta\text{FAM} + \beta\text{DIGI} + \beta\text{FSR} + \beta\text{GOV} \\ & + \beta\text{SIZE} + \beta\text{ROA} + \beta\text{LDR} + \beta\text{FOR} \times \text{CG} + \beta\text{FAM} \times \text{CG} + e, \end{aligned}$$

where GRI is the sustainability reporting; CG the corporate governance; FOR the foreign ownership; FAM the family ownership; DIGI the digital banking; FSR the OJK sustainable finance roadmap; GOV the government ownership; SIZE the bank size; ROA the profitability (ROA); LDR the liquidity risk (LDR); FOR × CG the interaction of foreign ownership and corporate governance; and FAM × CG the interaction of family ownership and corporate governance.

4. Result and discussions

4.1 Descriptive statistics

We analyze descriptive statistics to generate summary and description of the data from the research objects.

According to Table III, the dependent variable (GRI) has an average score of 2.54. This indicates that the average disclosure quality is inferior. The minimum score and its mode are 0 that give evidence that most Indonesian listed banks do not practice sustainability reporting. Meanwhile, its maximum score is 13 which means that there are some banks with proper disclosure. The gap is rather significant. Further analysis shows that most banks that do not practice sustainability reporting are small-sized banks, while most low GRI scores come from banks' first sustainability report publishing. Besides, we also present an additional description to explain the trend of sustainability reporting per year from 2012 to 2016 by those samples which make reports. The description is presented in Figure 1.

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Variable	Observation	Mean	Median	Maximum	Minimum	SD
GRI	155	2.541935	0	13	0	3.944812
CG	155	76.2129	76	84	65	4.596706
FOR	155	0.090732	0	0.5	0	0.163187
FAM	155	0.102704	0	0.4	0	0.14261
DIGI	155	0.477727	0.47619	0.809524	0.285714	0.125217
GOV	155	0.154003	0	0.80	0	0.281057
SIZE	155	13.66094	13.6338	15.01649	12.40496	0.681398
ROA	155	0.013876	0.0156	0.1115	-0.0958	0.021381
LDR	155	85.80465	86.7	113.3	52.39	10.93052

Table III.
Descriptive statistics

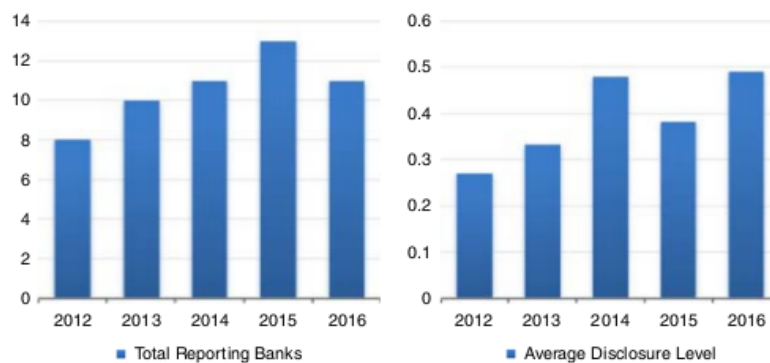


Figure 1.
Sustainability reporting growth in Indonesian listed banks

The average GRI score per year increases from 2012 to 2014. There is a decrease for 2015, but it improves to the maximum average score in 2016. This indicates that sustainability reporting quality experiences minimal growth. Moreover, the number of reporting banks grows very slowly. Although OJK issues sustainable finance roadmap, banks are not enthusiastic enough to participate in sustainability reporting (Table IV).

We also examine the information disclosure level in the sustainability reports. We find that the average percentage of information disclosure level ranges from low to medium level. Further, among three information categories that consist of economic, environmental and social information, economic information appears to be the highest disclosed information, followed by social information and environmental information. These findings are reasonable considering the banking industry business operation. Thus, the disclosure level is relevant. The complete result is presented in Table V.

Table IV.
Descriptive statistics for dummy variable

Variable	Observation	Dummy 1 frequency	Dummy 0 frequency	Dummy 1 percentage	Dummy 0 percentage
FSR	155	62	93	40	60

Table V.
Sustainability reporting information disclosure level

Information	2012	2013	2014	2015	2016
Economic category	0.5	0.45	0.54	0.46	0.45
Environmental category	0.17	0.15	0.27	0.06	0.12
Social category	0.26	0.27	0.31	0.26	0.32

The level of information disclosure in banks sustainability report experiences unstable growth, without any significant increase. Economic information disclosure level ranges from mid-40 to mid-50 percent, with the highest average score of 54 percent in 2014. However, environmental information which appears to be the lowest disclosed tend to have more decrease than increase. The average disclosure level is 15 percent in 2012 and only 12 percent in 2016, with the lowest disclosure level of 6 percent in 2015. Social information disclosure level ranges from mid-20 to low 30 percent, with the highest average score of 32 percent in 2016. Also, the disclosure level in 2015 is the lowest. This may due to the increase of reporting entity, with some banks that just made their first sustainability report of which score tends to be relatively low. The information disclosure level growth by year is presented in Figure 2.

The observation of CG variable shows that its minimum score is 51 while its maximum score is 84 and the average score is 76.21. These indicate that CG implementation by research objects is proper on average. Meanwhile, digital banking (DIGI) average score is 0.477727, minimum score is 0.285714 and the maximum score is 0.809524. Indonesian commercial banks in our samples have implemented digital banking. The level of digital banking implementation is at average level, with only little variation.

Foreign ownership variable (FOR) as represented by affiliated board members shows the average score of 0.09. The minimum score is 0 while the maximum score is 0.5. It means that in practice, bank foreign-controlling shareholders can even put their representatives to dominate 50 percent of the board of commissioners. Family ownership variable (FAM) as represented by affiliated board members shows the average score of 0.1. The minimum score is 0 while the maximum score is 0.4. This implies that family-controlled banks can even put their representatives to dominate 40 percent of the banks' board of commissioners. Relatively, it can be said that foreign-controlled banks and family-controlled banks have similar controlling practice by putting their representative on banks' board. The observation of government ownership (GOV) shows the mean value of 0.15, with a maximum value of 0.8 and the minimum value of 0.

The variation of Indonesian banks ownership structure is high. There are 13 banks with controlling foreign ownership, eight banks with controlling family ownership and there are six banks with government-owned bank status. These numbers indicate that both foreign, family and government ownership is also a common feature in Indonesian listed banks. It is interesting to examine empirically the role of these various owners in sustainability reporting practice that will be discussed in the next section.

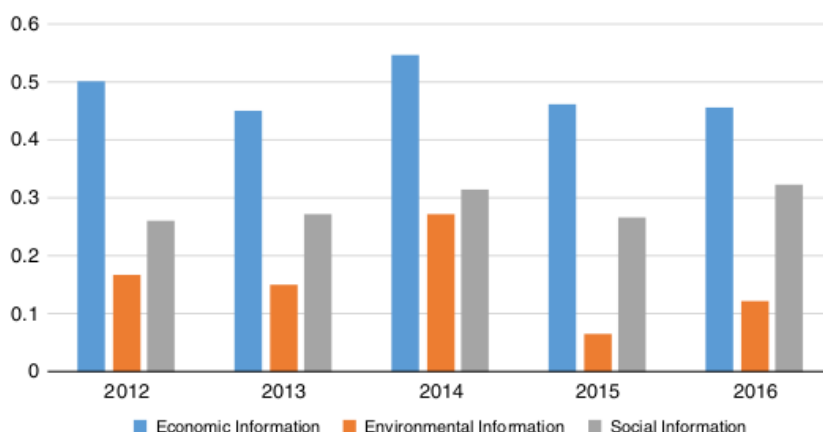


Figure 2. Sustainability reporting information disclosure level by Indonesian listed banks (2012–2016)

As for OJK sustainable finance roadmap dummy variable, the frequency is 62 observations after roadmap implementation and 93 observations before roadmap implementation. Bank size (SIZE) has 13.66 mean value where its natural value should be 45,708,818,961,487. The minimum value is 12.4 and the maximum value is 15.01, where its real value should be 2,540,741,000,000 and 1,038,706,009,000,000. Profitability (ROA) variable mean is 0.013 while its minimum value is -0.09 and its maximum is 0.11. As for liquidity risk (LDR), the mean value is 85.8, with a minimum value of 52.39 and the maximum value of 113.3.

4.2 Results and discussions

This research employs a panel regression analysis to test the hypotheses. The result is presented in Table VI.

The regression result provides shreds of evidence that CG positively influences sustainability reporting. Foreign ownership also strongly and positively influences sustainability reporting. Surprisingly, family ownership is found having a positive influence on sustainability reporting. Family ownership also moderates the influence of CG on sustainability reporting with the weakening effect. OJK sustainable finance roadmap, as predicted before in descriptive statistics, does not significantly influence sustainability reporting.

Two control variables, namely government ownership and bank size, significantly and positively influence sustainability reporting while profitability and liquidity risks do not appear as significant predictors. The interaction between CG and foreign ownership does not have any significant influence on sustainability reporting that indicates no moderating role. Hypotheses are summarized in Table VII.

The findings above evidence that the application of theories has both support and denies. *H1* is accepted as CG is found positively associated with sustainability reporting. The stronger the CG, the better sustainability report a bank produces. Good CG implementation can motivate banks to pay attention to sustainability issues as one of the stakeholder interests and thus practice sustainability reporting. This finding supports previous research works from Sharif and Rashid (2014), Rouf (2011), Khan (2010), Prado-Lorenzo *et al.* (2009), Shamil *et al.* (2014), Kent and Mon (2008), Said *et al.* (2009), Lim *et al.* (2007) Laksmana (2008), Allegrini and Greco (2013), Adams and Hossain (1998) and Cheng and Courtenay (2006) who found a positive influence of some CG mechanism

Variable	Coeff.	Prob.	Coeff.	Prob.
CG	0.267904	0.0009	0.523966	0.0000
FOR	11.21426	0.0000	-22.44137	0.4282
FAM	7.180401	0.0007	149.7450	0.0000
DIGI	2.396217	0.3103	3.992217	0.0963
FSR	0.106495	0.7902	0.127777	0.7311
GOV	5.728666	0.0000	4.543261	0.0000
SIZE	1.652056	0.0061	0.607649	0.3288
ROA	-2.259961	0.8251	-0.640018	0.9490
LDR	0.003348	0.8634	0.011606	0.5405
FOR × CG			0.387398	0.2802
FAM × CG			-1.963518	0.0001
R^2		0.677017		0.693033
Adjusted R^2		0.656970		0.669420
F -statistic		33.77110		29.34987
Prob. (F -stat)		0.000000		0.000000
Best estimation		Common effect		Random effect

Table VI.
Panel regression
result

Hypotheses	Finding	Status
<i>H1</i> . Corporate governance on sustainability reporting	Positive influence	<i>H1</i> (accepted)
<i>H2</i> . Foreign ownership on sustainability reporting	Positive influence	<i>H2</i> (accepted)
<i>H3</i> . Family ownership on sustainability reporting	Positive influence	<i>H3</i> (rejected)
<i>H4</i> . Digital banking on sustainability reporting	No significant influence	<i>H4</i> (rejected)
<i>H5</i> . OJK sustainable finance regulation on sustainability reporting	No significant influence	<i>H5</i> (rejected)
<i>H6</i> . Interaction of foreign ownership and corporate governance on sustainability reporting	No significant influence	<i>H6</i> (rejected)
<i>H7</i> . Interaction of family ownership and corporate governance on sustainability reporting	Weakening influence	<i>H7</i> (accepted)

Sustainability reporting in Indonesian listed banks

Table VII.
Hypotheses summary

and components. This finding supports agency theory where CG can reduce potential conflict of interest with stakeholders.

Foreign ownership, as predicted before, strongly and positively influences sustainability reporting which means that a bank with more powerful foreign investors tends to produce a better sustainability report. This finding also implies that foreign investors tend to demand more information disclosure (Schipper, 1981; Bradbury, 1991), including social and environmental information as they are concerned about sustainability issues. Besides, most Indonesian banks who publish a sustainability report tend to have a significant proportion of foreign ownership. Thus, it may generate a conclusion that foreign investors see sustainability reporting as a media to create legitimacy benefit which leads to long-term growth for their investment (Haniffa and Cooke, 2005). This finding is consistent with Khan (2010) who found a significant positive effect on CSR reporting in Bangladeshi commercial banks, Khan *et al.* (2013) who found the same result in Bangladeshi corporations and Haniffa and Cooke (2005) who found a positive relationship of foreign shareholding on Malaysian corporations' social reporting.

One of the most surprising results of this research is that family ownership positively influences sustainability reporting and thus *H3* is rejected. This result means that the presence of controlling family shareholder or their representative on the board of commissioners brings good sustainability reporting practice in Indonesian listed banks. Welker (1995) and Botosan (1997) argue that family firms may benefit from voluntary disclosure by reducing the cost of litigation and reputation loss. Dyer and Whetten (2006) also provide evidence that family firms have better CSR performance than non-family firms. It is argued that they are aware of protecting their family image and reputation. In addition, it is added that a good reputation in their essential stakeholder mind may give the corporation such a form of social insurance and thus protect their family assets whenever crisis time occurs.

Digital banking is evidenced not to have any significant effect on sustainability reporting. Hence, *H4* is rejected. In ideal practice, banks can use their digital facilities to promote their social activities and thus their clients can participate and there will be more disclosure. However, there is no evidence of significant influence. It can be argued that most Indonesian banks only use their digital products for transactional purpose in terms of making financial activities easier, ruling out its alternative functions like promoting social activities.

OJK sustainable finance roadmap does not significantly influence sustainability reporting. This means that OJK sustainable finance roadmap does not make any impression on bank willingness to publish sustainability reports. Moreover, it is also found that the number of reporting entities for the periods after the issuance does not increase significantly compared to the periods before the issuance of sustainable finance roadmap (see Figure 1). This can be seen as clear evidence of insignificance effect of OJK sustainable

finance roadmap. In this case, the phenomena happened because the law enforcement in the Indonesian banking industry is weak. This has been classic problem in the Indonesian banking industry, especially during Bank Indonesia hold supervision role. Currently, although supervision gets better since Otoritas Jasa Keuangan hold the role, the toughness of supervision is limited only to financial activities and performance, ruling out social activities enforcement.

The interaction of foreign ownership and CG has an insignificant effect on sustainability reporting. This finding suggests that the existence of foreign ownership does not strengthen CG role in a bank to produce a better sustainability report. They do not encourage banks to produce a better sustainability report. This does not directly implies that institutional isomorphism from foreign investment does not happen. It is important to identify where the owners come from. In Indonesian listed banks, most of the foreign ownership comes from other Asian countries, such as Malaysia, Singapore, China and Japan. Those countries have more or less the same business characteristics as Indonesia. In these countries, CG practice is still relatively like Indonesian practice due to the same business characteristics (Wu, 2005). Due to these ownership origins, institutional isomorphism does not really occur. Furthermore, Siagian (2011) finds that foreign ownership in Indonesia is less likely to affect corporation CG implementation.

The effect of family ownership and CG interaction effect shows that family ownership weakens the influence of CG on sustainability reporting and thus supports *H6*. As mentioned in the previous part, family control over a firm is identical with concentrated governance power which leads to a negative implication on CG practice (Morck and Yeung, 2004). Further, this finding supports the previous finding from Siagian (2015) who stated that Indonesian family firms tend to have lower CG implementation. Family-controlling shareholders may have specific objectives that are possibly impeded by good CG practices such as sustainability reporting. These facts may support the finding that CG effect on sustainability reporting becomes weaker.

The observation of control variables evidences that government ownership and size positively influence sustainability reporting. Government ownership, especially in state-owned and local-government-owned banks, plays a part inside the governance and management. As a body that gains trust from the public, the government sees sustainability issues as an essential thing. Bank size is also found to be a significant factor as the data show that most banks which produce sustainability report have a significant size in terms of total assets. Meanwhile, profitability appears to be an insignificant predictor of sustainability reporting. This may be due to the size of the banks which produce sustainability report is enormous in terms of total assets where the profit cannot counterbalance the total assets as ROA is used as profitability measurement. Lastly, liquidity risk does not influence sustainability reporting either as most samples have a good loan to deposit ratio.

5. Conclusion

This research is conducted to answer specific questions about sustainability reporting determinants in CG and ownership dimensions. The results suggest that CG implementation, foreign ownership and surprisingly family ownership positively influence sustainability reporting. Further analysis shows that family ownership weakens the influence of CG on sustainability reporting. Meanwhile, it is evidenced that foreign ownership does not have any significant role in moderating the link between CG and sustainability reporting. Furthermore, digital banking does not significantly affect sustainability reporting, neither does OJK sustainable finance roadmap which fails to improve Indonesian listed banks' sustainability reporting. Sustainability reporting in Indonesian listed banks is still at low quality in terms of disclosure as well as practice.

There is no significant increase in disclosure quality for the past five years. There is neither any significant increase in the number of reporting entities despite the release of OJK sustainable finance roadmap. This research underlies the urgency of improving sustainability reporting practice in Indonesian listed banks.

This research also gives an insight into Indonesian regulators about the current practice of sustainability reporting practice in the banking sector. Indeed, it is challenging to encourage Indonesian corporations to contribute to sustainable development; thus, the regulators need to find a starting point for it. Enhancing sustainability reporting practice in the banking sector can be an excellent start to motivate other industry sectors in Indonesia to publish a sustainability report. The banking sector is an excellent choice as banks tend to comply with regulation better than any other industries and also has potential effective CSR promotion media with digital banking. Bank regulators in Indonesia must make a stronger regulation that makes sustainability reporting mandatory for Indonesian listed banks because the sustainable finance roadmap from OJK is not well implemented due to monitoring issue. This also underlines the necessity of better monitoring mechanism for the regulation implementation.

This research contributes to the existing literature by revealing that controlling owners play a role in CG mechanism to decide sustainability reporting practice. Controlling owners have substantial power in the making of a final decision of sustainability reporting practice, especially controlling family owners where they tend to lower or limit sustainability reporting practice that contains cost to keep their banks financial performance.

6. Limitation

As this research uses content analysis method for sustainability reporting and CG variable measurement, there might be subjectivity substance from the researcher's perspective during the assessment of the variable scoring process. For further research works, the measurement of sustainability reporting and CG variables needs confirmation from independent parties that have expertise in this research subject. Besides, the explanation we presented in the discussion is only based on previous research works' result and our analysis. Further research can implement a mixed method by combining quantitative and qualitative approach to gain better research quality.

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KARYA ILMIAH : JURNAL ILMIAH*

Judul Karya Ilmiah (artikel) : Sustainability Reporting in Indonesian Listed Banks Do Corporate Governance, Ownership Structure and Digital Banking Matter?

Jumlah Penulis : 2 Orang (Prihatnolo Gandhi Amidjaya, Ari Kuncara Widagdo)

Status Pengusul : ~~Penulis pertama~~ / penulis ke 2 / ~~penulis korespondensi**~~

Identitas Jurnal Ilmiah :

- a. Nama Jurnal : Journal of Applied Accounting Research - Scopus - Q3
- b. Nomor ISSN : 0967 - 5426
- c. Volume, nomor, bulan, tahun : Vol. 21, No.2, Tahun 2020
- d. Penerbit : Emerald Group Publishing Ltd
- e. DOL artikel (jika ada) : <https://doi.org/10.1108/JAAR-09-2018-0149>
- f. Alamat web Jurnal : <https://www.emerald.com/insight/content/doi/10.1108/JAAR-09-2018-0149/full/pdf?title=sustainability-reporting-in-indonesian-listed-banks-do-corporate-governance-ownership-structure-and-digital-banking-matter>
- g. Terindeks di Scimagojr/Thomson Reuter ISI knowledge atau di.....**

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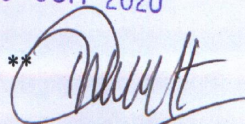
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Surakarta, 0.5 JUN 2020

Reviewer ½ **



Prof. Doddy Setiawan., SE.,MSi., Ph.D, Ak

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Jabatan : Guru Besar
Pangkat, Gol Ruang : Pembina Tingkat I / IV/b
Unit Kerja : Fakultas Ekonomi dan Bisnis
Bidang Ilmu : Akuntansi

*Dinilai oleh dua Reviewer secara terpisah

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