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Factors Influencing Climate Change Disclosure in Commercial Banks: Case Study on Business Activities (*Buku*) Three and Four, and Foreign Banks in Indonesia

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CCDI;
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Profitability;
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Foreign Ownership;

Abstract

This study was conducted with the aim of examining the influence of several factors related to bank characteristics such as bank size, bank profitability, bank listing status, bank age, foreign ownership in banks, and implementation of governance in banks on climate change disclosure as measured by the climate change disclosure index (CCDI). The study used a quantitative method, with data sourced from secondary data, namely from annual reports and sustainability reports. The study population consisted of Indonesian commercial banks that submitted annual reports and sustainability reports from 2018 to 2023, with a total sample size of 34 commercial banks classified as Commercial Banks Based on Business Activities (*BUKU*) 3 and 4, as well as foreign banks in Indonesia. This study used multiple regression analysis with panel data. The research findings show that bank size, bank listing status on the Indonesia Stock Exchange, and bank age all have a significant and positive influence on climate change disclosure. Meanwhile, bank profitability, foreign ownership in banks, and bank governance have no influence on climate change disclosure by banks.

1. Introduction

Human activities related to economic development in various parts of the world have changed the structure of the environment to become increasingly critical. The use of fossil fuel energy sources such as oil, natural gas, coal, as well as forest burning and other activities have produced emission gases (waste) such as carbon dioxide, carbon monoxide, nitrous oxide and methane which are called greenhouse gases (GHG). GHG (Greenhouse Gases) will produce a greenhouse effect that drives global warming and ultimately causes climate change on earth in the long term which has an impact on the economy and society.

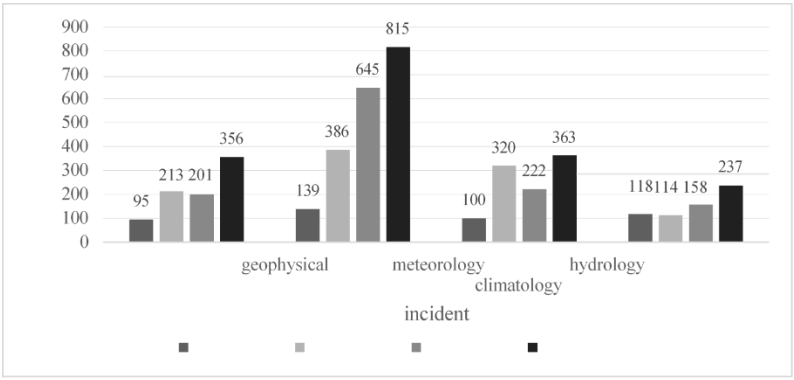
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The United Nations Framework Convention on Climate Change(UNFCCC) or the United Nations Framework Convention on Climate Change (UNFCCC) in the 1992 convention defines Climate Change as a change in climate due to human activities or activities directly or indirectly, which causes changes in the composition of the atmosphere globally and additional natural climate variability that can be observed over comparable time periods. The global climate change report shows that after the industrialization period, 95% of climate change sources come from human activities that cause an increase in carbon dioxide 250 times faster than that which occurs naturally after the end of the ice age and global warming 10 times faster than the average rate of warming in the recovery period from the ice age. The Intergovernmental Panel on Climate Change (IPCC) states that the linear warming trend over 100 years (1906-2005) is 0.74°C, with most of the warming occurring in the last 50 years. Warming for the next 20 years is projected to be around 0.2°C per decade and the period 2010-2019 is the highest average level of greenhouse gas emissions throughout human history.

According to the UNFCCC report, the impact of climate change, especially in Asia, causes vulnerability to the availability of clean water, disasters due to extreme weather events such as storms and floods, the potential impact of melting Himalayan glaciers on 7 major rivers in Asia, a decrease in crop yields of up to 30% to causing health impacts due to diseases (malaria, dengue fever, diarrhea, and others) and worsening air quality.

Climate change also has an impact on the economy and financial stability from the emergence of physical risks, transition risks and liability risks. Physical risks are in the form of potential economic costs from increased severity and frequency of extreme weather events related to climate change that can reduce the value of financial assets, and/or increase liabilities. Transition risks are related to the process of adjusting to a low-carbon economy such as policy changes designed to mitigate and adapt to climate change that can affect the value of financial assets and liabilities. Liability risks arise when parties are responsible for losses related to environmental damage that may be caused by their actions or omissions. This risk is very relevant for insurance companies because some of these risks can be (at least partially) transferred through liability insurance. Estimates of global economic losses from natural disasters are as follows:

Figure 1.
Global Loss Estimates Due to Natural Disasters



Source: Financial Stability Board, 2020

Global efforts to combat climate change and its impacts are reflected in the international agreement Paris Agreement (2015) as a legally binding agreement on climate change, and has been adopted by 196 countries including Indonesia which has ratified it. In addition, the United Nations (UN) through the sustainable development agenda or framework in 2015 has compiled 17 targets for sustainable development (sustainable development goals) as actions aimed at eradicating poverty and preserving the environment and ensuring that all people achieve peace and prosperity by 2030. Among these goals is the action to combat climate change and the availability of clean and sustainable energy. This framework is an effort to align economic

development and the goal of improving community welfare while still paying attention to social aspects and environmental sustainability.

Indonesia has issued regulations as a form of commitment to the international agreement to combat climate change in the form of Law of the Republic of Indonesia Number 16 of 2016 concerning Ratification of the Paris Agreement to The United Nations Framework Convention on Climate Change along with Presidential Regulation Number 59 of 2017 concerning Implementation of Achieving Sustainable Development Goals. In addition, Indonesia is also committed to achieving lower GHG (Greenhouse Gas) emissions by 2030 reaching 31.89% through its own efforts and becoming 43.20% with international support, when compared to business as usual conditions or conditions without any action as stated in the Enhanced Nationally Determined Contributions (Enhanced NDC).

Several global initiatives related to finance have also been enhanced to support climate change management. The Equator Principles (EP) as a reference for financial institutions and a risk management framework to identify, measure and manage social and environmental risks in project funding, followed by a commitment from 70 financial institutions that require prospective debtors with a project value of USD 10 million or more to meet the rules or provisions related to the applicable environment and social and to comply with the procedures determined by the Equator Principle (Equator Principle updated in 2013).

In addition, there is a UN program established in 1972 called The United Nations Environment Program Finance Initiative (UNEP FI) which partners with the global financial sector and mobilizes private sector financing for sustainable development. Currently, UNEP-FI has around 492 members consisting of banks, investment companies, and insurance and works with more than 100 supporting institutions. Bank Aladin Syariah and Bank BNI are two of the UNEP FI members from Indonesia.

Another global initiative adopted from the UN Environment Programme is the Global Reporting Initiative (GRI) which is one of the references in the preparation of corporate sustainability reports. Sustainability reports are a type of reporting carried out by companies to make disclosures or communicate accountably regarding economic performance, environmental performance and social performance of the community to all stakeholders. According to Chew, Tan, Hamid (2016), the banking industry is classified as an industry that is not environmentally sensitive because its natural business does not produce pollution to the environment, but Scholtens (2009) stated that banking has a substantial indirect impact through its role as a financial intermediary, so that banking can contribute to sustainable development by facilitating green financial products that aim to reduce energy consumption and carbon emissions.

The banking industry in Indonesia plays a very important roleIn the economy, bank credit distribution can be one of the factors that drive economic movement. Increasing demand for bank credit will encourage people's purchasing power, encourage business growth and increase investment which leads to increased economic development. Sustainable economic development is currently an important concern so that globally there is pressure to implement sustainable economic development for the sake of the sustainability of the planet earth and the welfare of society which is manifested in several agreements and agreements globally.

The Financial Services Authority as one of the authorities tasked with regulating and supervising business activities in the banking, capital market, and non-banking sectors in Indonesia, is responsible for supporting the commitment of the Indonesian Government in achieving the goal of sustainable development through the support of all financial services sectors in realizing sustainable economic growth through sustainable finance programs.

The Financial Services Authority has issued Financial Services Authority Regulation No. 51/POJK.03/2017 concerning the Implementation of Sustainable Finance for Financial Services

Institutions, Issuers, and Public Companies, which stipulates the obligation for banks to submit a Sustainability Report covering economic performance, financial performance, social and environmental performance and announced to the public. For banks that are included in the category of General Banks based on Business Activities (BUKU) 3 and 4, as well as foreign banks, are required to implement Sustainable Finance since January 1, 2019 and are required to submit a Sustainability Report no later than April 30, 2020 for the first time with a reporting period from January 1, 2019 to December 31, 2019. BUKU 3 and 4, as well as foreign banks are the first group of financial services institutions required to submit a Sustainability Report followed by BUKU 1, BUKU 2, BPR, and BPRS as well as other financial services institutions including insurance companies, pension funds, finance companies to issuers and other public companies.

Along with the increasing issue of climate change, research on the role of industry or companies in climate change has also been widely conducted, especially in the practice of disclosure or reporting related to climate change. There is research on factors that influence environmental/climate disclosure in several companies in Australia by Choi, Lee, Psaros (2013) and Rankin, Windsor, Wahyuni (2011). Research on GHG disclosure by companies in the United Kingdom conducted by Chithambo and Tauringana (2014). There is also research with cross-country samples related to GHG disclosure in several companies conducted by Prado-Lorenzo, Rodríguez-Domínguez, Gallego-Álvarez & García-Sánchez (2009). However, research conducted in the banking industry is relatively small, especially on factors that influence environmental or climate disclosure in the banking industry.

There is a study on the banking industry in Turkey conducted by Kiliç and Kuzey (2019) regarding factors that influence climate change disclosure in the banking industry in Turkey. Based on the research by Kiliç and Kuzey (2019), a positive and significant relationship was found between bank size and climate change disclosure. There is also a study on banking in Indonesia related to sustainability report reporting conducted by Sumarta, Rahardjo, Satriya, Supriyono & Amidjaya (2021) which analyzed the effect of ownership structure on banking reputation in Indonesia through the role of sustainability reports. However, there has been no research on the factors that influence climate change disclosure in banking in Indonesia, especially in BUKU 3 and 4 or foreign banks.

2. Methods

According to Sekaran & Bougie (2016), research data can come from primary or secondary sources. Data from secondary sources have been collected by other parties and used for other purposes. Secondary data can come from statistical bulletins and government publications or information available from within and outside the organization, both published and unpublished, as well as from company websites, including the internet. This research data comes from secondary sources, including the Annual Report and Sustainability Report compiled and released by BUKU 3 and 4 and foreign banks in Indonesia. According to Sekaran & Bougie (2016), population refers to the entire group of people, or events, or other interesting things that will be investigated by researchers. The population in this study is commercial banks in Indonesia. The sample in this study includes commercial banks in Indonesia that meet the criteria of Commercial Banks based on Business Activities (BUKU) 3 and foreign banks.

The research period is 2018 to 2023, namely banks that submit and/or have annual reports and sustainability reports for the period 2018 to 2023. Based on data from the Indonesian Banking Statistics in December 2017, it is known that there are 9 foreign banks in Indonesia (5 of which are BUKU 3), 27 BUKU 3 banks, and 5 BUKU 4 banks. However, this research sample only uses a total of 34 banks, namely 7 foreign banks, 22 BUKU 3 banks, and 5 BUKU 4 banks. The number of samples has taken into account the integration of several foreign banks with commercial banks in Indonesia and the merger process of several commercial banks in Indonesia. The definition of BUKU uses the definition in the Financial Services Authority Regulation No. 6/POJK.03/2016 concerning Business Activities and Office Networks Based on Bank Core Capital.

3. Results and Discussion

Partial Hypothesis Significance Test (t-Test)

In addition to conducting the F test, researchers also conducted partial hypothesis significance testing using the t test to determine the significance of the influence of each independent variable on the dependent variable individually. The hypotheses used in the t test are as follows:

H0 : βj = 0 (the jth variable has no effect on the dependent variable)

H1 : βj ≠ 0 (the jth variable has an effect on the dependent variable)

Based on hypothesis in on, so H0 rejected If t $statistik >$ $t\ tabel$ (1.97208) or if P-value/2 ≤ α.

The following is the regression equation used in the analysis:

CCDI = – 0.715304 + 0.089867*SIZE – 0.003464*ROA + 0.055001*LISTING_STATUS

+ 0.000943*AGE – 0.000172*FOREIGN_OWNERSHIP – 0.031236*GCG

Table 1.
t-Test Results

Hypothesis	Variables	*Coefficient*	*t-Statistic*	*Prob.*	Conclusion
	Dependents:				
	CCDI				
	Independent:				
H1 (+)	Bank Size (SIZE)	0.089867	8.446319	0.0004	Accepted
H2 (+)	Bank Profitability (ROA)	-0.003464	- 0.878547	0.4199	Rejected
H3 (+)	Bank Listing Status (LISTING_STATUS)	0.055001	5.516477	0.0027	Accepted
H4 (+)	Bank Age (AGE)	0.000943	6.699898	0.0011	Accepted
H5 (+)	Foreign Ownership (FOREIGN_OWNERSHIP)	-0.000172	- 0.546929	0.6079	Rejected
H6 (+)	Bank Governance (GCG)	-0.031236	- 1.684415	0.1529	Rejected

Source: secondary data, processed with Eviews, 2025

Based on Table 1, the variables of bank size (SIZE), listing status (LISTING_STATUS), bank age (AGE) have t $stat > t\ tabel$ (1.97208). Thus, H0 is rejected and it is concluded that the variables of bank size, bank listing status, bank age have a significant effect on the dependent variable (CCDI). On the other hand, the variables of bank profitability (ROA), foreign ownership, and bank governance have t $stat < t\ tabel$ (1.97208). Therefore, H0 cannot be rejected, so that the variables of bank profitability, foreign ownership, and bank governance do not affect the dependent variable (CCDI).

4. Discussion

The Influence of Bank Size on Climate Change Disclosure

The estimation results in this study show that bank size has a positive and significant effect on climate change disclosure with a significance level of 1%. This result explains that larger banks generally disclose higher climate change information than smaller banks. Larger banks generally have more resources to monitor, report and manage climate change-related risks and opportunities, including their impacts on their portfolios, lending policies and sustainability measures taken, than smaller banks or firms (Carroll & Shabana (2010) and Chithambo & Tauringana (2014)).

Large companies also receive greater public attention and scrutiny (Kılıç & Kuzey, 2019). If the public perceives a company as irresponsible towards the environment, the legitimacy of the company's operations may be questioned (Gonzalez-Gonzalez & Ramirez, 2016). In addition, better disclosure on climate change can be seen as an effort to meet the expectations of stakeholders, such as regulators, investors, and the public, who are increasingly pressing companies to be more responsible in dealing with global sustainability issues (Eccles & Krzus, 2018).

This is in line with the legitimacy theory which emphasizes that companies operate in a social system where they must meet the expectations of society and stakeholders to maintain their legitimacy (Suchman, 1995). In the banking context, the larger a bank, the higher the public's expectations regarding their transparency and social responsibility, including on issues of sustainability and climate change. Considering the results of this study, banks that have larger company sizes, especially banks that are included in the BUKU 4 category, have better disclosure levels than smaller banks. BUKU 4 banks disclose an average of 76.35% of the total CCDI items, compared to banks in other categories which are only 39.39% of the total CCDI items.

The results of this study are in line with the findings of Hahn & Lülfs (2014) which show that companies with sufficient financial capacity, but are still in the stage of strengthening their reputation, tend to be more active in sustainability disclosure as a legitimacy strategy. Brammer & Pavelin (2006) also stated that larger companies tend to make broader disclosures related to environmental issues, in line with the hypothesis that larger companies are more vulnerable to social and regulatory pressures. However, this study also found that the pressure was stronger in companies that were still in the stage of strengthening their reputation compared to companies that already had high legitimacy.

Likewise, previous research by Hamid (2004), Haniffa & Cooke (2005), Prado-Lorenzo et al. (2009), Rankin et al. (2011), Kılıç & Kuzey (2019) show that bank size has a significant and positive effect on disclosure of environmental issues. However, there are other research results by Bertay et al. (2013) which state that large banks with high legitimacy, both in terms of public trust and compliance with regulations, do not feel the need to make additional disclosures related to sustainability or other non-financial aspects. This is because the bank is already sufficiently recognized and accepted by the public, so there is no need to add disclosures to improve its image or to meet stakeholder expectations regarding sustainability issues. Amran et al. (2011) and Wiratno & Muaziz (2020) also found that there was no effect of company size on carbon emission

disclosure or climate change disclosure. Meanwhile, Melja et al. (2022) found that the company size variable had a significant negative effect on carbon emission disclosure.

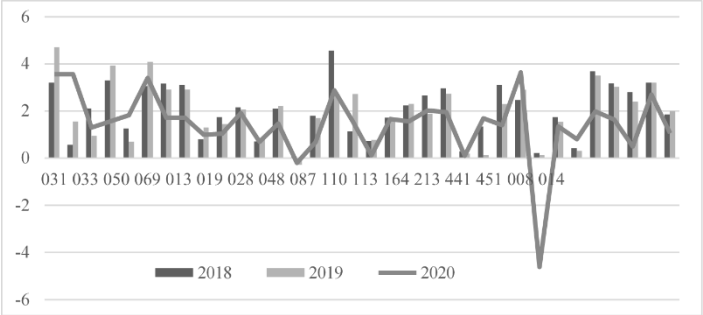
The Influence of Bank Profitability on Climate Change Disclosure

The estimation results in this study show that the bank profitability variable measured by Return on Assets (ROA) has no effect on climate change disclosure. This can be caused by several factors. First, banks that are more focused on short-term profitability may not see climate change disclosure as a top priority, because they prioritize immediate financial interests and risk management strategies related to faster financial results (Bertay et al., 2013). Second, existing regulations may not be urgent or adequate enough to encourage banks to disclose information related to climate change, so that banks do not feel compelled to make disclosures (Bertay et al., 2013). In addition, although climate change is an issue that is increasingly receiving global attention, some banks may feel that its impact on their profitability in the short term is insignificant, so they do not see the urgency to disclose information related to sustainability issues (Bertay et al., 2013). Another factor that may play a role is the lack of awareness or understanding of how climate change can affect the bank's business performance, which leads to a lack of initiative to make deeper disclosures (Bertay et al., 2013).

This is also in line with previous studies such as Hamid (2004), Chithambo & Tauringana (2014) and Wiratno & Muaziz (2020) which stated that profitability does not affect carbon emission disclosure or greenhouse gas disclosure. Another study by Liu & Anbumozhi (2009) stated that the effect of profitability on disclosure is often insignificant because it is more influenced by external pressure than the company's internal financial condition. Furthermore, previous studies such as Ramadani & Purbasari (2024) and Affan & Wicaksana (2023) also show that profitability is not always the main factor in driving sustainability disclosure, because its influence can be moderated by other factors such as regulation, public pressure, and the company's business strategy.

In addition, the Covid-19 pandemic in Indonesia since it was first discovered in March 2020 until it was declared over in June 2023 is estimated to have influenced the results of the profitability variable analysis. During the Covid-19 period, the bank's ROA ratio fluctuated and tended to decline, and there were even banks that experienced a decrease in the ROA ratio to negative. The ROA ratio of banks that were the research sample ranged from -0.28 to 4.7 in the year before the Covid-19 pandemic in Indonesia. However, in 2020, the ROA ratio of banks that were the research sample ranged from -4.61 to 3.9. There was a decrease in the ROA ratio in banks that had submitted climate change disclosure reports which were relatively high due to the Covid-19 pandemic.

Figure 2.
ROA Ratio of 34 Banks in 2018-2020



Source: secondary data, processed, 2025

The results of research related to the influence of corporate profitability on disclosure of social and environmental information tend to vary. There are other studies that show different things, including those stated by Wheeler (2012) who stated that banks often operate in stricter regulatory systems in their home countries, so they need to maintain higher standards of transparency, including in terms of sustainability and the environment. In addition, Yin et al. (2019) stated that companies with higher profitability tend to disclose social and environmental information as a strategy to strengthen their image and legitimacy in the global market. Other research by Kılıç & Kuzey (2019) also stated that there is a positive influence of bank profitability variables on the level of climate change disclosure.

The Impact of Bank Listings on Climate Change Disclosure

The results of the study indicate that the status of bank listing on the stock exchange has a positive and significant effect at the 1% significance level on climate change disclosure. This explains that banks listed on the stock exchange in this case the Indonesia Stock Exchange tend to be more transparent in disclosing climate change information. The results of this study indicate that banks listed on the Indonesia Stock Exchange disclose more CCDI items (an average of 44.37%) than banks that are not listed (an average of 23.17%).

Banks listed on the stock exchange generally have stricter regulatory and supervisory obligations, both from capital market authorities and other stakeholders. In addition, being listed on the stock exchange can also increase pressure from investors and the public to demonstrate commitment to environmental and sustainability issues, including climate change, in order to maintain their reputation and ensure that they meet public and regulatory expectations regarding disclosure of social and environmental information.

Theoretically, legitimacy theory states that companies with higher visibility, such as listed companies, tend to increase disclosures related to social and environmental responsibility to meet stakeholder expectations (Akhter et al., 2022). This is in line with research by Kılıç (2016) and Kılıç & Kuzey, (2019) which found that listed banks in Turkey disclose more information related to climate change or environmental disclosures than unlisted banks. Gonzalez-Gonzalez & Ramírez (2016) also showed that Spanish companies listed on major stock indices tend to have higher levels of transparency regarding carbon disclosures, due to pressure from shareholders to maintain corporate legitimacy. Likewise, research by Hamid (2004) and Sobhani et al. (2012) stated that a bank's listing status affects the level of sustainability disclosure and environmental disclosure.

However, there is also previous research by Liu & Anbumozhi, (2009) which shows that listing status is not a significant predictor of a company's sustainability disclosure score. This finding contradicts the legitimacy theory, which assumes that visibility in the capital market will increase transparency. Banks tend to focus more on financial performance than environmental

disclosure, so they do not see an urgent need to improve sustainability reporting even though they are listed on the stock exchange. In addition, shareholder pressure in this group of banks may be more oriented towards profitability and operational efficiency than environmental transparency.

The Influence of Bank Age on Climate Change Disclosure

Based on the results of the study, it is known that the age of the bank has a positive and significant effect at a significance level of 1% on the disclosure of climate change information. This result confirms the hypothesis that the longer a bank has been operating, the more likely the bank is to disclose information related to sustainability and climate change. It is known from this study that banks that are over 50 years old disclose more CCDI items (an average of 38.54%) than banks that are 50 years old and under (an average of 24.43%).

Thus, this finding indicates that older banks have greater resources and experience to allocate to environmental disclosure, including those related to climate change. Banks that have been operating for a long time often have better structures and resources to meet regulatory demands and stakeholder expectations. In addition, older banks are more aware of the importance of maintaining their image and reputation in the long term or are more sensitive to reputational risk, so they are more likely to disclose relevant information related to sustainability. This finding also indicates that more experienced banks have better policies in managing environmental risks and are more prepared to disclose such information to the public.

Theoretically, legitimacy theory explains that the age of the company is closely relatedwith its reputation and involvement in social disclosure (Hamid, 2004). Banks that have been operating longer tend to have a long history of carrying out social and environmental business activities, in terms of sustainability disclosure. One possible reason is that some older banks may be more conservative and less responsive to changing sustainability trends than younger, more progressive banks. Sobhani et al. (2012) also show that older banks do not outperform younger banks in terms of corporate sustainability disclosure even though they may have more experience, because it is not easy to change business culture and companies tend to become more rigid with age.

The Impact of Foreign Ownership on Climate Change Disclosure

The estimation results in this study show that the effect of foreign ownership on climate change disclosure is not significant. This is possible because foreign investors or owners have different values, cultures, or knowledge that affect their expectations regarding reporting on environmental issues (Khan et al., 2013). The management culture implemented by foreign shareholders may differ from local needs for transparency in sustainability issues, such as climate change. Not all foreign investors have the same concern for sustainability transparency. Companies with foreign ownership tend to focus more on short-term financial goals and financial risk management, while sustainability and climate change issues have not been a top priority, especially if their impact on profits indirect or visible in the short term (Michelon, G., & Parbonetti, 2012). In addition, Clarkson et al. (2004) also stated that banks with foreign ownership are often focused on global risk management and stricter regulations in international markets, which may make them less concerned with disclosures related to environmental issues in the countries where they operate.

In addition, based on research data, banks that are mainly wholly owned by foreign parties tend to only report in general, as seen from the number of CCDI items reported only reaching

30.13%. These banks also tend to only make general disclosures related to climate change and do not disclose the steps taken specifically in Indonesia in efforts to address climate change. Banks owned by non-foreign or domestic parties show an increasing and better level of climate change disclosure due to the awareness of the banking sector regarding the importance of climate change issues and the existence of policies or regulations in Indonesia, including the Law ratifying the Paris agreement, the sustainable finance roadmap for banking in Indonesia, related regulations such as the obligation to implement sustainable finance, sustainable financing and financial products and the implementation of the Indonesian green taxonomy by regulators and the interest in maintaining reputation in the community where the bank operates its business.

Another possible reason that environmental disclosure is not affected by foreign ownership is that foreign investors, especially those from countries with looser environmental regulations, may not exert enough pressure on companies to increase transparency on sustainability issues. In addition, foreign-owned companies are often more focused on complying with minimal international regulations rather than on more proactive efforts to disclose their environmental impacts. Foreign-owned companies may simply try to meet the minimum requirements for sustainability disclosure without feeling the need to provide more information than required by regulators. This is in line with the findings of Cormier et al. (2011), who stated that although foreign owners are more concerned about global issues, the level of disclosure made by companies still depends on the regulatory pressure and incentives available. If regulations on environmental disclosure are still loose, then companies, including banks, tend to only comply with the minimum standards without disclosing more widely.

The results of this study are in line with previous studies such as Monteiro & Aibar-Guzmán (2009), Kiliç (2016), Kılıç & Kuzey (2019), Wulan (2022), Saini & Singhania (2019) and Ika et al. (2022) which show that the ownership structure of banks or companies owned by foreign parties tends not to have a significant impact on disclosures related to climate change or the environment. However, there is another study by Devi et al. (2011) which states that companies with foreign ownership tend to increase social disclosure to attract investors and maintain capital flows. In the banking context, foreign ownership should encourage banks to be more transparent in disclosing sustainability issues, including climate change, because they operate in a more complex environment and are faced with higher expectations from international stakeholders (Mobus, 2005).

The Influence of Bank Governance on Climate Change Disclosure

The estimation results in this study show that bank governance does not have a significant effect on climate change disclosure. This may be because although good governance can encourage transparency, in some cases, disclosure of information related to climate change may be more influenced by external factors such as government regulations, stakeholder pressure, or market preferences (Gjølberg, M, 2009). Banks with good governance may still ignore disclosures related to environmental issues if they are not seen as a priority or there are no regulatory obligations that encourage them. In addition, disclosures related to climate change often require resources and investments that are not always considered part of the main focus in corporate management, especially if there are no direct financial incentives. On the other hand, although good governance aims to increase information disclosure, the main focus of banks may still be more on aspects of compliance with financial regulations than disclosures related to environmental issues. Banks with stronger governance structures may prioritize aspects of credit risk, liquidity, and operational stability over environmental transparency.

This is supported by previous research by Purnayudha & Hadiprajitno (2022) which states that the number and level of independence of the board of directors do not have a significant impact on increasing carbon emission disclosure. This is due to the conservative nature of independent boards in understanding climate change issues and the need for complex policy support in disclosing climate change information. This situation is also because most independent

directors are elected by shareholders with significant ownership to represent their interests and have the ability to directly or indirectly collect information through public disclosure. This study is also in line with Nur et al. (2023) which highlights the implementation of corporate governance in terms of the number of boards of commissioners which does not have a positive effect on environmental or climate-related disclosures because the company's greater focus on company operations and the increase in the number of commissioners can potentially be unproductive for the company.

However, there is a different study by Haniffa & Cooke (2005) which emphasizes that the characteristics of the board of directors, such as the proportion of independent directors and directors with dual positions, have a relationship with the level of corporate social disclosure. Similarly, research by Ong & Djajadikerta (2018) found that aspects of governance, such as the presence of female directors and the proportion of independent directors, have a positive correlation with the level of corporate sustainability disclosure.

In addition, the data in this study used the parameters for assessing the ranking of governance implementation in banks, the results of which were mostly in the range of ranking 2 (good). This condition may also influence the results of the study due to the lack of variation in the results of the ranking of bank governance implementation.

5. Conclusion

Based on the data analysis, hypothesis testing, and discussion presented in the preceding chapter, several important conclusions can be drawn regarding the determinants of climate change information disclosure in the banking sector. First, the results of Hypothesis 1 testing indicate that bank size has a positive and significant effect on climate change information disclosure. Larger banks are more inclined to provide extensive disclosures, possibly due to increased public attention and scrutiny that influence their need to maintain legitimacy. These banks also possess more resources to meet stakeholder expectations. Furthermore, fluctuations in bank profitability during the COVID-19 pandemic may have further shaped the dynamics observed in this relationship.

Second, the results from Hypothesis 2 reveal that bank profitability does not have a significant effect on climate change disclosure. This suggests that profitability alone, as measured by return on assets, is not a primary driver of environmental transparency. Instead, other factors—such as regulatory obligations, stakeholder pressures, and strategic business priorities—appear to play a more critical role in influencing disclosure behavior.

Third, testing of Hypothesis 3 shows that bank listing status has a positive and significant effect on climate change information disclosure. Banks listed on the Indonesia Stock Exchange are subject to more rigorous regulatory standards and greater stakeholder scrutiny, prompting them to be more transparent about their environmental impact. Listed banks are also more likely to enhance their reputation and attract environmentally conscious investors by improving the quality and quantity of their disclosures.

Lastly, the results of Hypothesis 4 testing demonstrate that bank age has a positive and significant effect on climate change disclosure. Older banks, with longer operational histories, tend to possess greater experience in managing stakeholder expectations and regulatory demands. These banks are also more likely to have established internal policies and dedicated resources that support environmental transparency, thereby contributing to more proactive climate-related reporting practices.

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