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THE IMPACT OF BANK OWNERSHIP STRUCTURE ON GREEN BANKING PRACTICES IN INDONESIA: THE MODERATING ROLE OF CORPORATE GOVERNANCE

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ABSTRACT

This study aims to analyze the impact of institutional, foreign, and government ownership on green banking disclosure in Indonesia. The sample includes 578 observations of banking companies in Indonesia over the period 2004 to 2021, and is analyzed using the OLS multiple linear regression method. The findings show that institutional and foreign ownership are negatively correlated with green banking disclosure, while government ownership has no significant impact. In terms of corporate governance moderation, this study shows that governance strengthens the positive effect between institutional ownership and green banking disclosure, but weakens the relationship between foreign ownership and green banking disclosure.

Keywords : Corporate Governance, Green Banking Disclosure, Foreign Ownership, Institutional Ownership, Government Ownership
JEL : G21, M41, Q56

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I. INTRODUCTION

Banks serve a crucial role in propelling sustainability within the continuously evolving financial market (Carè & Carè, 2018; Chen et al., 2021; Gupta, 2015). As prominent financial institutions, banks possess the ability to guide investment directions, thereby influencing the operational strategies of industries and businesses (Akomea-Frimpong et al., 2022; Dörry & Schulz, 2018). By giving priority to sustainability in their investment decisions, banks can motivate companies to adopt practices that are more environmentally friendly and ethical (Lalon, 2015; Yip & Bocken, 2018). For instance, banks might opt to finance renewable energy projects instead of investing in fossil fuels, or they could support businesses that maintain fair and inclusive labor standards (Burke & Stephens, 2017; Weber & Feltmate, 2016). Furthermore, banks can also contribute to the promotion of corporate transparency and accountability through sustainability reporting requirements. The support of banks for environmental sustainability is often referred to as "sustainable banking" (Bouma et al., 2017). Sustainable banking is an approach that incorporates environmental, social, and governance (ESG) impacts into all facets of banking operations and strategic decisions (Weber & Feltmate, 2016; Yip & Bocken, 2018). The concept originated with "social banking," a philanthropic community development initiative, which evolved into "ethical banking" by integrating non-profit ethical principles into business operations (Abor et al., 2023; Mendez & Houghton, 2020; Relano, 2015). Subsequently, "green banking" emerged, taking into account the ecology of the debtor in lending practices (Trehan, 2015; Zahro, 2015). "Sustainable banking" is an evolution that considers the previous three aspects within an environmental, social, and governance framework that fosters sustainable development (Weber & Feltmate, 2016).

This study explores the relationship between bank ownership structure and green banking practices in the context of Indonesian banking companies. By looking at the ownership patterns of banks, which include institutional ownership, foreign ownership, and government ownership, this study seeks to uncover how these ownership structures can influence green banking practices. In addition, this study highlights the importance of good corporate governance in supporting green banking. The quality of banks' corporate governance mechanisms is an essential factor in encouraging banks' active participation in green banking. In particular, this research seeks to understand how certain aspects of corporate governance, such as board size, independent commissioners, and female directors, can moderate the relationship between ownership structure and green banking practices. According to the legitimacy theory framework, firms need social approval and are ultimately accountable to society for their actions and operations (Suchman, 1995). In line with this, this study explains that the legitimacy of banking firms can be affected by their ownership structure and the extent to which they implement green banking practices. One of the primary challenges is the lack

of comprehension among financial institutions regarding the significance of sustainability in banking. A considerable number of banks continue to prioritize short-term profitability over long-term environmental consequences, impeding the implementation of green policies. The elevated cost of green technology serves to further deter investment in sustainable initiatives.

Green banking disclosure is an integral part of corporate voluntary disclosure, this is because green banking disclosure also discloses environmental and social information voluntarily to stakeholders as well as voluntary disclosure (Gunawan et al., 2022). Corporate voluntary disclosure refers to companies voluntarily providing information to the public that goes beyond what is required by law or accounting standards. This information may be financial, non-financial, or both and is typically presented in a company's annual report, sustainability report, or other media, such as a company website or press release (Boateng et al., 2022; Breijer & Orij, 2022; Cordazzo et al., 2020; Pigatto et al., 2022; Pizzi et al., 2022). Companies' voluntary disclosure aims to increase transparency and build trust with stakeholders, including investors, employees, customers, and the general public. By providing more detailed information about the company's operations and performance, companies can help stakeholders make better and more informed decisions (Boshnak, 2022; Dumay et al., 2019; Nguyen & Nguyen, 2020). A previous study found that state, foreign and institutional ownership positively affects voluntary disclosure (Khlif, 2017). A similar study by Md Zaini et al. (2020) supports this argument by showing that ownership structure significantly impacts the level of voluntary disclosure in Malaysian companies.

Fuadah et al. (2022) in their study found that foreign and public ownership positively and significantly impacted ESG disclosure. However, state and family ownership had no impact on ESG disclosure. In this context, foreign ownership can promote good corporate governance practices and various disclosures, including ESG disclosures. The more foreign ownership, the greater the impact on ESG disclosure. Firms with foreign ownership are expected to disclose more social and environmental information to aid decision-making (A. Khan et al., 2013). In addition, Guo & Zheng (2021) found that companies may increase ESG disclosure under pressure from foreign owners. This may enhance the company's reputation and support its legitimacy. The positive influence of foreign and public ownership (institutional ownership) on corporate voluntary disclosure is based on several reasons. Institutional ownership can influence corporate disclosure because institutional owners can monitor and influence management decisions (David & Kochhar, 1996; Gillan & Starks, 2003; Johnson et al., 2010). In the context of corporate disclosure, institutional owners can promote transparency and accountability, improving the quality of corporate disclosure (Aluchna et al., 2022; Nair et al., 2019).

In further research, Adu et al. (2023) found that corporate governance is

important in moderating the relationship between ownership structure and sustainable disclosure in banks. This is supported by Lee & Lee (2022), who found that corporate governance structure can weaken the relationship between the level of industry competition and voluntary disclosure. In this context, a good corporate governance structure supports managers' disclosure decisions, as managers are more likely to choose disclosure policies that maximize firm value rather than personal gain, even in intense industry competition. However, this is not in line with the findings of Vadasi et al. (2021), who show that some corporate governance characteristics, such as block ownership and board independence, can reduce voluntary disclosure, while other characteristics, such as board size and audit committee size, can increase the level of disclosure.

This study provides empirical legitimacy to the research gap related to bank ownership structure and green banking practices in Indonesia. The contribution of this study lies in the fact that empirical academic literature demonstrates the relationship between bank ownership structure and green banking practices in Indonesia. This research also aims to substantiate whether bank corporate governance moderates the relationship between bank ownership structure and green banking practices in Indonesia. This is an essential step in understanding the role of ownership in promoting sustainable practices. In addition, this study provides empirical evidence that stakeholders can use to design policies that promote green banking practices in Indonesia. With this new knowledge, this research provides a strong foundation for policy and practice changes that could drive a more sustainable economy in Indonesia.

This study employs the Ordinary Least Square (OLS) multiple linear regression method to examine the influence of bank ownership structure on green banking disclosure, with corporate governance acting as a moderating variable. The data set comprises 578 bank observations in Indonesia over the period 2004-2021. The primary objectives of this study are to ascertain how institutional, foreign, and government ownership impact green banking disclosures and to elucidate the role of corporate governance in moderating the relationship.

The structure of the paper is as follows. The second part of the paper contains the literature review, which serves as the theoretical foundation and hypothesis development. In this section, previous studies and relevant theories are reviewed to understand the background of the topic and formulate the hypotheses to be tested in this study. The third section discusses the data and methodology used in this study. This includes information on how the data and sample were obtained, how the variables were operationalized, and the econometric model used to analyze the data. The fourth section presents the results and discussion. In this section, the statistical results of the hypothesis testing are presented and discussed in detail. The fifth section concludes the research. It includes general conclusions

drawn from the research findings, limitations of this study, and recommendations for future research. This section provides an overview of what this research has achieved and what needs further investigation. Finally, the sixth section provides policy recommendations for policymakers. Based on the findings and analysis, several recommendations are made to help policymakers make more informed and targeted decisions on green banking practices.

II. LITERATURE REVIEW

A. Legitimacy Theory

According to Aras et al. (2018), three prevailing theories are employed in understanding and analyzing green banking disclosure practices: legitimacy theory, agency theory, and stakeholder theory. In subsequent research, Gunawan et al. (2022) elaborated that legitimacy theory can serve as a framework for assessing voluntary disclosure practices in green banking. As articulated by Suchman (1995), legitimacy theory centers on corporations' endeavors to advance voluntary disclosure of environmental and social information to sustain public endorsement and support. This theory alludes to the concept that firms strive to attain and preserve social legitimacy by aligning their conduct with societal expectations. Suchman (1995) characterizes legitimacy as perceptions that the actions of an entity, such as an organization or organizational practices, are deemed desirable, suitable, and consistent with a socially established system of norms, values, and beliefs. This definition encompasses subjects of legitimacy that acquire collective approval through a process of social construction, culminating in social judgement (Bitektine, 2011).

Within the scope of green banking disclosures, legitimacy theory posits that banks voluntarily disseminate environmental and social information to stakeholders in order to cultivate a positive image and uphold their social legitimacy (Akhter et al., 2022; Gunawan et al., 2022; Hossain et al., 2016). This is undertaken because banks acknowledge their obligations towards the environment and society, as well as the significance of preserving their reputation in the view of various stakeholders, such as customers, shareholders, regulators, and the broader public. By revealing pertinent information, banks aim to exhibit their dedication to sustainability and transparency, thereby fortifying stakeholder trust and mitigating risks related to reputation and compliance. Any malpractice or adverse news concerning the organization can engender a legitimacy gap that could potentially damage the company's reputation and business continuity (Hossain et al., 2016). This legitimacy gap could lead to severe repercussions, such as the company having to halt operations or experiencing a substantial downturn in financial performance. Negative or erroneous perceptions of the company may also result in consumers boycotting their products and services, ultimately impacting the company's profits

and market share (Deegan et al., 2002; Hossain et al., 2016).

B. Empirical Literature Review and Hypothesis Development

An extensive literature review indicates that the institutional ownership aspect of a company's ownership structure has a substantial impact on environmental disclosure practices. Within the framework of institutional ownership, a synthesis of several studies demonstrates a close correlation between institutional ownership and environmental disclosure. A company's ownership structure significantly impacts the level of voluntary disclosure by the company to its stakeholders (Khlif et al., 2017). Concentrated ownership structures, such as family-controlled companies, tend to have lower levels of voluntary disclosure (Muniandy & Ali, 2012). This is due to the owners' greater control over the information disclosed and the lack of pressure to disclose further information to the public (Comyns et al., 2013). However, the ownership structure can also affect the level of voluntary disclosure in different ways. For example, companies with foreign ownership tend to have higher levels of voluntary disclosure(Alhazaimeh et al., 2014) . Management of companies with high managerial ownership may feel more motivated to make a voluntary disclosure in order to demonstrate their performance and competence (Alhazaimeh et al., 2014).

Ilhan et al. (2023) contends that institutional investors significantly impact climate change risk disclosure. This is linked to investors' inclination to promote ecologically-themed portfolios and advocate policies that address climate change issues (Ilhan et al., 2023). Research has indicated a positive correlation between institutional ownership and climate change awareness, which is achieved through climate risk disclosure (Ilhan et al., 2023). High institutional ownership in a company is associated with superior quality of climate risk disclosure at the company level. Widhiastuti & Safitri (2023) research highlights institutional ownership as a moderating factor that bolsters the disclosure of carbon emissions, providing a more nuanced perspective. This is attributable to the influence of regulations that already exist. In contrast, Wulansari & Adhariani (2023) research reveals more intricate findings on foreign ownership. Although Wulansari's findings indicate that foreign ownership does not directly enhance the link between waste disclosure and corporate risk-taking, additional testing shows that foreign institutional ownership, as a moderator, can considerably diminish the association between waste disclosure and corporate risk-taking. In the banking sector, institutional ownership has been demonstrated to have a crucial role in promoting sustainability disclosures and practices. According to Bose et al. (2018a), there is a positive correlation between institutional ownership and disclosures related to green-banking. This corresponds with the idea that institutional investors often urge companies to increase their accountability and adopt more sustainable practices (Bose et al., 2017; Cotter & Najah, 2012). Consequently, it can be inferred

that institutional ownership plays a vital role in promoting accountability and transparency towards green banking practices and sustainable business in banking companies. Overall, these findings indicate that ownership structure, especially institutional ownership, influences green banking disclosure practices.

H_1 : Institutional ownership has significant positive impact on green banking disclosure.

Foreign ownership has had a notable impact on advancing corporate governance and business transparency (Huang & Shiu, 2009; Pennathur & Vishwasrao, 2014; Yoshikawa et al., 2010). Within a global framework, foreign ownership is generally linked with implementing and disclosing corporate social responsibility (CSR) (A. Khan et al., 2013). This is particularly true of businesses operating in developing countries where foreign investors can champion higher standards. As past studies indicate, foreign ownership provides reputable evidence of CSR acceleration (Brancato, 1997; Huafang & Jianguo, 2007). This aligns with the notion that foreign investors, predominantly from the United States and Europe, often encourage international companies to adopt CSR practices, utilising their experience and expertise in the area (Huafang & Jianguo, 2007). This fosters a conducive atmosphere that upholds robust corporate governance, eliminates fraud, and endorses social action through CSR (Claessens & Yurtoglu, 2013). Foreign ownership's impact on corporate transparency is a crucial consideration. Transparency refers not only to financial statements, but also to the disclosure of environmental, social, and corporate governance (ESG) impact-related information (Al Amosh & Khatib, 2022; Saini & Singhania, 2019). Foreign ownership is often considered a factor that drives transparency through international standards that demand accountability and honest disclosure. Foreign ownership's role in driving CSR also prompts significant questions about the possible differences in approach between domestic and foreign investors. Some investors view CSR as an ethical obligation, while others see it as a strategy to manage risks or create value (Azam et al., 2019; Sandve & Øgaard, 2014). Foreign investors' experience and knowledge in CSR practices may help shape companies' strategies and actions regarding CSR practices.

The topic of foreign ownership within the corporate context has been extensively researched in recent decades, particularly in relation to sustainability practices and corporate social responsibility (CSR) disclosure. The studies aim to explore the different aspects of foreign ownership and their impact on various dimensions of sustainability. Saini & Singhania (2019) research found that foreign ownership in some cases prioritises profit-making over environmental protection initiatives. This finding offers an insight into the priorities of some foreign investors, who might be more interested in economic outcomes than the environmental impact of a company. However, further research in this area has revealed a more nuanced and varied perspective. For instance, Rustam et al. (2019) research

indicates that foreign ownership significantly affects the total sustainability disclosure (TCSRI). To be more specific, Rustam et al. (2019) reported a positive, significant correlation between foreign ownership and economic sustainability. In contrast, Rustam et al. (2019) found negative associations between foreign ownership and disclosure of environmental and social sustainability. Moreover, evidence demonstrates a positive correlation between foreign ownership and sustainability disclosure. In South Asian countries, Masud et al. (2018) observed a positive association between foreign ownership and environmental sustainability reporting performance (ESRP). Thus, the results suggest that foreign ownership may contribute to supporting and enhancing sustainability practices in specific regional contexts. Furthermore, various other studies have highlighted how foreign owners promote corporate disclosure. For instance, studies carried out by Ezhilarasi & Kabra (2017), H. Khan (2010), dan A. Khan et al. (2013) identified a positive link between foreign ownership and the corporate social responsibility (CSR) disclosure of listed firms in Bangladesh. Hence, the findings suggest that foreign ownership could encourage firms to adopt greater transparency in their CSR reporting. According to Bose et al. (2018a), there is a negative correlation between foreign ownership and green banking disclosure in Bangladesh.

H_2: Foreign ownership has significant positive impact on green banking disclosure.

The ownership of government in corporate ownership structure has been a significant focus of research, particularly in the banking and financial sector. Government shareholding in a bank can be perceived as an effort by the government to ensure the sustainability and integrity of the banking sector (Lassoued et al., 2016). This reflects the goal of safeguarding the public interest and ensuring that banks operate responsibly and sustainably. Despite its advantages, government ownership can reveal potential problems such as inefficiency. Excessive government bureaucracy and a lack of capital market monitoring may contribute to this. This structure may hinder innovation, responsiveness, and competitiveness of banks, negatively affecting their overall performance (La Porta et al., 2002; Xiao & Zhao, 2012). The government may, in some cases, perform a double agent function as both a regulator and a bank manager. This can create a conflict of interest because the government may use bank resources to serve its own interests instead of those of shareholders or society in general (Alexander, 2006; Levine, 2004). Instead, it presents strong contradictions that have the potential to support stability and good governance, but also inefficiency and conflicts of interest. Regulators, bank managers and other stakeholders face the important challenge of understanding and navigating these dynamics.

The influence of government ownership in corporate contexts on disclosure practices is varied and intricate. Studies suggest that government ownership does not impact disclosure quality, which points towards firms' lack of attention and

concern for disclosure quality (Fuadah et al., 2022; Sepasi et al., 2016). These results indicate a necessity to comprehend why government ownership structures do not always result in better disclosure. Nevertheless, alternative studies present a contrasting perspective. For instance, research by Rudyanto (2017) and Kumar et al. (2022) has demonstrated that government ownership has a positive influence on sustainability reporting. Furthermore, according to legitimacy theory and stakeholder theory, Naser et al. (2006) suggest that governments might exert pressure on companies to disclose more information concerning their social, environmental, and financial activities in order to enhance the public perception of these companies. In addition, Monk (2009) argues that state ownership boosts accountability and transparency of corporations, thereby increasing their legitimacy. Similarly, Khlif et al. (2017) and Al Amosh & Khatib (2022) have suggested that state ownership has a favourable impact on the disclosure of environmental, social, and governance matters. Eng & Mak (2003) found that there is a positive association between significant government ownership and increased disclosure. The positive relationship between government ownership and disclosure supports the argument that government ownership increases moral hazard and agency problems, and disclosure helps to mitigate these issues. Bose et al. (2018a) study found that government ownership promotes green banking disclosures. This finding validates the government's role in promoting more environmentally responsible banking practices.

H_3 : Government ownership has significant positive impact on green banking disclosure.

The relationship between banking ownership structure and sustainability practices has been an interesting and important subject. In this context, Adu et al. (2023) study has identified a complex relationship between these two aspects. The relationship is positively influenced by the extent of corporate governance disclosure. Banks with quality corporate governance mechanisms experience a stronger moderating effect (Adu et al., 2023). The interest in corporate governance within this context is not novel. Previous research has identified corporate governance mechanisms as a complementary pillar of green banking. Corporate governance acts as a control mechanism that facilitates greater oversight and balance towards sustainability goals in the banking industry. Corporate governance can include various proxies, such as board size, independent commissioners, and female directors. Each of these elements brings a specific dimension to corporate governance oversight and might influence how sustainability goals are internalised and prioritised in bank operations. However, what makes Adu et al. (2023) study significant is the explicit involvement of the moderating effect of corporate governance mechanisms on the relationship between banking ownership structure and sustainability practices. Previous research often only focuses on the direct effect of banking ownership structure on sustainability practices, without considering the potential moderating effect of corporate

governance mechanisms on this relationship (Cheng et al., 2022; Dam & Scholtens, 2012; Ghazali, 2007). Adu et al. (2023) research offers an important contribution in understanding how banking ownership structure and corporate governance interact in driving sustainability practices. Highlighting these moderating effects not only adds a level of complexity to our understanding of these dynamics, but also opens up opportunities for more targeted and effective interventions in support of sustainability in the banking industry.

H_4 : Corporate governance moderates the positive effect of institutional ownership on green banking disclosure

H_5 : Corporate governance moderates the positive effect of foreign ownership on green banking disclosure

H_6 : Corporate governance moderates the positive effect of government ownership on green banking disclosure

III. DATA AND METHOD

A. Data and Samples

This study employs research subjects in the form of banking corporations listed on the Indonesia Stock Exchange during the period from 2004 to 2021, with a total of 578 observations. Data collection methods utilized include documentation techniques and literature reviews. The documentation technique involves gathering financial reports of companies listed on the Indonesia Stock Exchange for the period from 2004 to 2021, as well as annual reports or company sustainability reports. Financial reports were sourced from the Indonesia Stock Exchange website, while annual reports or corporate sustainability reports were obtained from the respective company's website. The literature review method is implemented by collecting and examining various sources related to articles, journals, literature, and other written sources pertinent to the research subject. In this study, the sampling technique employed is a non-probability technique, where only specific elements or members of the population are selected as samples. According to Sugiyono (2018), non-probability sampling techniques are methods that do not provide equal chances or opportunities for each element or member of the population to be chosen as a sample. The sampling technique used is purposive sampling, a method with specific considerations. Purposive sampling was selected due to the existence of specified criteria for sample selection. The criteria established for sampling in this study are as follows:

1. Banking corporations that were listed on the official website of the Indonesia Stock Exchange during the period from 2004 to 2021,
2. Companies in the banking sector that published audited financial statements and annual reports for the years 2004 to 2021, and
3. Banking corporations chosen as samples have the necessary data for the research fully available.

B. Operationalisation of Research Variables

The operationalisation of the variables in this study is presented below.

Table 1: Operationalisation of Variables

Variable	Operationalisation
Moderating Variables	
Board Size (BRDSIZE)	Measured as the natural logarithm of the total number of board members (Bose et al., 2018b).
Independent Commissioner (BRDIND)	Measured as the percentage of independent commissioners in the board of commissioners (Bose et al., 2018b).
Female Director (FEMDIR)	✓ Score 1 if there is a female director in the company ✓ Score 0 if there are no female directors in the company (Bose et al., 2018b)
Independent Variables	
Institutional Ownership (INSTOWN)	Measured as the percentage of share ownership by institutional investors (Bose et al., 2018b).
Foreign Ownership (FOREIGN)	Measured as the percentage of shares owned by foreign investors (Bose et al., 2018b).
Government Ownership (GOVOWN)	Measured as the percentage of shareholding by the government (Bose et al., 2018b).
Dependent Variables: Green Banking Disclosure	
Green Banking Disclosure Index (GBDI)	$\frac{\sum_{i=1}^{21} d_i}{21}$ ✓ Score $d_i = 1$ if there is disclosure in the company's annual report or sustainability report ✓ Score $d_i = 0$ if there is no disclosure in the company's annual report or sustainability report (Bose et al., 2018b).
Control Variable	
Return On Assets (ROA)	Pre-tax income divided by total assets (Muthitacharoen, 2020).
Return On Equity (ROE)	Pre-tax income divided by total equity (Yoon et al., 2021).
Price-to-Book Value Ratio (PBV)	Share Price divided by Equity-Per-Share (Husna & Satria, 2019).
Company Size (FSIZE)	Measured as the natural logarithm of the company's total assets (Bose et al., 2018b).
Company Age (FAGE)	Measured as the natural logarithm of the number of years since company incorporation (Bose et al., 2018b).

The dependent variable in this study is identified as the Green Banking Disclosure Index (GBDI). This metric is adapted from a study conducted by Bose et al. (2018a), which was devised to measure the extent of information disclosure related to green banking practices. In that study, the GBDI was constructed based on 21 information items that encapsulate various significant aspects of green banking.

C. Econometric Model

The approach used in this study is Ordinary Least Squares (OLS). The research model developed refers to the framework in the research of Adu et al. (2023). The following is the regression model used:

$$GBDI_{i,d} = f\begin{pmatrix} CG_{i,d} \\ BOS_{i,d} \\ CG_{i,d} * BOS_{i,d} \end{pmatrix} + \varphi_{i,d} \quad (1)$$

The dependent variable in this study is the Green Banking Disclosure Index (GBDI). While the independent variable is bank ownership structures (BOS) include Institutional Ownership (INSTOWN), Foreign Ownership (FOREIGN), and Government Ownership (GOVOWN). The green banking practices moderating variables in this study are Board Size (BRDSIZE), Independent Commissioner (BRDIND) and Female Director (FEMDIR). The variable $\mathbf{j}_{i,d}$ is a control variable consisting of company size (FSIZE), company age (FAGE), Price-to-Book Value Ratio (PBV), Return-on-Assets (ROA), and Return-on-Equity (ROE).

IV. RESULT AND DISCUSSION

A. Descriptive Statistics and Correlation Coefficient

Table 2 presents the summary statistics of the measures employed in this study. The average values for Board Size (BRDSIZE), Independent Commissioners (BRDIND), and Female Directors (FEMDIR) are 1.9161, 0.5815, and 0.7197, respectively. The mean values for Institutional Ownership (INSTOWN), Foreign Ownership (FOREIGN), and Government Ownership (GOVOWN) are 0.6245, 0.2936, and 0.1009, respectively.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GBDI	578	0.3891	0.3827	0.0000	0.9048
INSTOWN	578	0.6245	0.3301	0.0000	0.9871
FOREIGN	578	0.2936	0.3915	0.0000	0.9871
GOVOWN	578	0.1009	0.2250	0.0000	0.7948
BRDSIZE	578	1.9161	0.3647	1.0986	2.4849
BRDIND	578	0.5815	0.0924	0.3333	0.7500
FEMDIR	578	0.7197	0.4495	0.0000	1.0000
PBV	578	2.3642	5.1096	-2.2022	85.6500
ROA	578	0.0055	0.0584	-1.3035	0.0910
ROE	578	0.0727	0.3044	-3.5334	4.7421
FSIZE	578	24.0901	1.8206	18.3128	28.1766
FAGE	578	3.7325	0.5354	1.9459	4.8363

The possible correlation between independent variables was assessed through a multicollinearity test, and the results are presented in Table 3. This analysis used the Variance Inflation Factor (VIF) test. The statistical literature generally accepts 10 as the upper limit of the VIF. Variables with VIF values greater than 10 are said to have multicollinearity. All test panels show VIF values below 10 based on the presented results. Therefore, the regression model used in this study passed the multicollinearity test. The analysis groups the panels by ownership aspect within the banking sector to provide a detailed understanding of the impact of each ownership type on green banking disclosure. The first panel is specifically designed to test regression equations that examine the impact of institutional ownership on green banking disclosure. The panel is named 'The Effect of Institutional Ownership on Green Banking Disclosure'. Next, Panel 2 analyses the impact of foreign ownership on the disclosure of green banking practices, entitled 'The Effect of Foreign Ownership on Green Banking Disclosure'. Moreover, Panel 3 investigates the regression equation concerning the influence of government ownership on disclosing green banking. Each panel has four models that illustrate specific aspects of the relationship between ownership type and green banking disclosure. A comprehensive analysis of each of these models will be described in the following section named Multivariate Statistical Analysis.

Table 3: Variance Inflation Factor

PANEL 1

The Effect of Institutional Ownership on Green Banking Disclosure

Model a	VIF	Model b	VIF	Model c	VIF	Model d	VIF
FSIZE	1.54	FSIZE	3.21	FSIZE	1.58	FSIZE	1.69
ROA	1.37	BRDSIZE	2.69	ROA	1.37	ROA	1.38
ROE	1.36	ROE	1.38	ROE	1.36	ROE	1.36
FAGE	1.31	ROA	1.38	FAGE	1.33	FAGE	1.31
INSTOWN	1.18	FAGE	1.31	INSTOWN	1.28	INSTOWN	1.18
PBV	1.03	INSTOWN	1.18	BRDIND	1.09	FEMDIR	1.14
		PBV	1.04	PBV	1.03	PBV	1.03
Mean VIF	1.3	Mean VIF	1.74	Mean VIF	1.29	Mean VIF	1.3

PANEL 2

The Effect of Foreign Ownership on Green Banking Disclosure

Model a	VIF	Model b	VIF	Model c	VIF	Model d	VIF
FAGE	1.42	FSIZE	3.04	FAGE	1.48	FSIZE	1.53
ROA	1.38	BRDSIZE	2.75	ROA	1.38	FAGE	1.42
FSIZE	1.37	FAGE	1.42	FSIZE	1.38	ROA	1.38
ROE	1.35	ROA	1.38	ROE	1.35	ROE	1.35
FOREIGN	1.13	ROE	1.37	FOREIGN	1.34	FEMDIR	1.14
PBV	1.03	FOREIGN	1.15	BRDIND	1.2	FOREIGN	1.13
		PBV	1.04	PBV	1.03	PBV	1.03
Mean VIF	1.28	Mean VIF	1.74	Mean VIF	1.31	Mean VIF	1.28

PANEL 3
The Effect of Government Ownership on Green Banking Disclosure

Model a	VIF	Model b	VIF	Model c	VIF	Model d	VIF
FSIZE	1.54	FSIZE	3.29	FSIZE	1.59	FSIZE	1.74
ROA	1.37	BRDSIZE	2.71	ROA	1.37	ROA	1.37
ROE	1.36	ROE	1.38	ROE	1.36	ROE	1.36
FAGE	1.31	ROA	1.37	GOVOWN	1.35	FAGE	1.31
GOVOWN	1.26	FAGE	1.31	FAGE	1.31	GOVOWN	1.28
PBV	1.03	GOVOWN	1.27	BRDIND	1.08	FEMDIR	1.15
		PBV	1.04	PBV	1.03	PBV	1.03
Mean VIF	1.31	Mean VIF	1.77	Mean VIF	1.3	Mean VIF	1.32

In this section, we will discuss the results of the correlation test between the variables in this study. The scale used to measure this correlation is the correlation coefficient value, where values between 0.1 and 0.3 are interpreted as a weak relationship, between 0.3 and 0.5 as a moderate relationship, and above 0.5 as a strong relationship. The results of the correlation test are displayed in Table 4. In this context, the Green Banking Disclosure Index (GBDI) has a positive and significant relationship with Board Size (BRDSIZE), Government Ownership (GOVOWN), Company Size (FSIZE), and Company Age (FAGE). GBDI has a negative and significant relationship with Independent Commissioner (BRDIND), Institutional Ownership (INSTOWN), and Price-to-Book Value Ratio (PBV). Board size (BRDSIZE) has a positive and significant relationship with Female Directors (FEMDIR), Foreign Ownership (FOREIGN), Government Ownership (GOVOWN), Company Size (FSIZE), Company Age (FAGE), Return On Assets (ROA), and Return On Equity (ROE), and a negative and significant relationship with Independent Commissioners (BRDIND) and Institutional Ownership (INSTOWN). Independent Commissioner (BRDIND) has a positive and significant relationship with Government Ownership (GOVOWN) and a negative and significant relationship with Institutional Ownership (INSTOWN) and Foreign Ownership (FOREIGN). Female Directors (FEMDIR) show a positive and significant relationship with Firm Size (FSIZE), Firm Age (FAGE), and Return On Assets (ROA). However, a negative and significant relationship is seen with Institutional Ownership (INSTOWN). Meanwhile, Institutional Ownership (INSTOWN) shows a positive and significant relationship with Foreign Ownership (FOREIGN), and a negative and significant relationship with Government Ownership (GOVOWN), Firm Size (FSIZE), Firm Age (FAGE), Return On Assets (ROA), and Return On Equity (ROE). In the context of foreign ownership (FOREIGN), there is a positive and significant relationship with firm size (FSIZE) and firm age (FAGE). However, FOREIGN has a negative

and significant correlation with government ownership (GOVOWN). On the other hand, GOVOWN shows a positive and significant relationship with FSIZE, FAGE, Return on Assets (ROA), and Return on Equity (ROE).

Table 4: Correlation Matrix

This table presents the Pearson correlation coefficients between the variables used for hypothesis testing (p-values are in parentheses).

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) GBDI	1.000											
(2) INSTOWN	-0.149*	1.000										
	(0.000)											
(3) FOREIGN	-0.040	0.569*	1.000									
	(0.332)	(0.000)										
(4) GOVOWN	0.147*	-0.837*	-0.337*	1.000								
	(0.000)	(0.000)	(0.000)									
(5) BRDSIZE	0.100*	-0.268*	0.180*	0.301*	1.000							
	(0.016)	(0.000)	(0.000)	(0.000)								
(6) BRDIND	-0.152*	-0.238*	-0.357*	0.220*	-0.088*	1.000						
	(0.000)	(0.000)	(0.000)	(0.000)	(0.035)							
(7) FEMDIR	0.006	-0.155*	0.012	0.062	0.436*	0.056	1.000					
	(0.892)	(0.000)	(0.781)	(0.135)	(0.000)	(0.179)						
(8) PBV	-0.106*	0.073	-0.078	-0.059	-0.061	-0.012	0.002	1.000				
	(0.011)	(0.081)	(0.060)	(0.157)	(0.145)	(0.773)	(0.970)					
(9) ROA	0.020	-0.102*	-0.063	0.094*	0.096*	0.025	0.095*	-0.002	1.000			
	(0.639)	(0.014)	(0.131)	(0.024)	(0.020)	(0.543)	(0.023)	(0.964)				
(10) ROE	-0.064	-0.108*	0.023	0.119*	0.171*	-0.017	0.009	-0.067	-0.464*	1.000		
	(0.126)	(0.010)	(0.573)	(0.004)	(0.000)	(0.684)	(0.829)	(0.108)	(0.000)			
(11) FSIZE	0.313*	-0.363*	0.126*	0.439*	0.787*	-0.037	0.342*	-0.148*	0.155*	0.129*	1.000	
	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.375)	(0.000)	(0.000)	(0.000)	(0.002)		
(12) FAGE	0.179*	-0.089*	0.314*	0.280*	0.377*	0.052	0.119*	-0.116*	0.132*	0.041	0.472*	1.000
	(0.000)	(0.033)	(0.000)	(0.000)	(0.000)	(0.214)	(0.004)	(0.005)	(0.002)	(0.328)	(0.000)	

*** p<0.01, ** p<0.05, * p<0.1

B. Multivariate Statistical Analysis

1. The Effect of Institutional Ownership on Green Banking Disclosure

This section focuses on the statistical analysis of the effect of institutional ownership on green banking disclosure, with the crucial role of moderating corporate governance. Four regression equations have been developed according to the framework presented in the Econometric Model section in Table 5. The first model, referred to as Model a, investigates the effect of institutional ownership on green banking disclosure without any moderating variables. The analysis shows that the adjusted R^2 is 11.7%, with a p value of less than 0.001. The results indicate that the institutional ownership variable (INSTOWN) does not have a significant effect on the green banking disclosure index (GBDI) in Model a. In contrast, Models b, c, and d investigate the impact of institutional ownership on green banking disclosure, accounting for moderating variables such as Board Size (BRDSIZE), Independent Commissioner (BRDIND), and Female Director (FEMDIR). In Model b, moderating for BRDSIZE, the results resemble those in Model a, with an adjusted R^2 of 16.5% and $p < 0.001$. However, the INSTOWN variable does not have a significant effect on GBDI. In contrast, Model c depicts a different scenario, with the INSTOWN variable having a significant negative impact on GBDI, reflected by an adjusted R^2 of 14.7% and $p < 0.001$. This implies that institutional ownership's increase may hinder green banking disclosure concerning BRDIND moderation.

Table 5 presents the results of a robust Ordinary Least Squares (OLS) regression analysis investigating the effect of institutional ownership on green banking disclosure, as well as the moderating effect of corporate governance on the relationship between institutional ownership and green banking disclosure. The analytical model employed in this study is an OLS regression model: $GBDI_{i,d} = b_0 + b_1 INSTOWN_{i,d} + b_2 j_{i,d} + ', GBDI_{i,d} = b_0 + b_1 INSTOWN_{i,d} + b_2 BRDSIZE + b_3 BRDSIZE * INSTOWN + b_4 j_{i,d} + ', GBDI_{i,d} = b_0 + b_1 INSTOWN_{i,d} + b_2 FEMDIR + b_3 FEMDIR + * INSTOWN + b_4 j_{i,d} + '$. The variable $j_{i,d}$ is a control variable that comprises of factors such as company size (FSIZE), company age (FAGE), Price-to-Book Value Ratio (PBV), Return-on-Assets (ROA), and Return-on-Equity (ROE). The table includes regression coefficients and t-statistics $\left(\frac{b}{t_{stat}}\right)$. . Robust regressions have been presented to account for heteroscedasticity and autocorrelation. The significance levels are denoted by ***, **, and *, corresponding to levels of 1%, 5%, and 10% respectively.

Table 5: Ordinary Least Squares (OLS) models of the effect of institutional ownership on green banking disclosure

	Model a GBDI	Model b GBDI	Model c GBDI	Model d GBDI
INSTOWN	-0.0722	-0.426	-0.855**	0.0299
	(-1.51)	(-1.52)	(-2.54)	(0.29)
INSTOWN*BRDSIZE		0.175		
		(1.35)		
BRDSIZE		-0.486***		
		(-4.83)		
INSTOWN*BRDIND			1.198**	
			(2.13)	
BRDIND			-1.534***	
			(-3.81)	
INSTOWN*FEMDIR				-0.134
				(-1.19)
FEMDIR				-0.00368
				(-0.04)
PBV	-0.00474***	-0.00275**	-0.00454**	-0.00438***
	(-2.92)	(-2.50)	(-2.46)	(-2.64)
ROA	-0.774*	-0.765*	-0.800*	-0.724
	(-1.70)	(-1.71)	(-1.75)	(-1.63)
ROE	-0.214	-0.181	-0.216	-0.216
	(-1.53)	(-1.34)	(-1.54)	(-1.60)
FSIZE	0.0627***	0.123***	0.0587***	0.0704***
	(6.26)	(10.62)	(5.60)	(6.94)
FAGE	0.0341	0.0377	0.0634*	0.0286
	(1.03)	(1.21)	(1.96)	(0.83)
_CONS	-1.173***	-1.689***	-0.232	-1.342***
	(-5.06)	(-5.97)	(-0.78)	(-5.78)
N	578	578	578	578
R^2-Adj	0.117	0.165	0.147	0.127
Prob > F	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The study's findings provide insights into the relationship between institutional ownership and green banking disclosure. Regarding institutional ownership, the study identifies a negative correlation between its presence and green banking disclosure. Specifically, a higher proportion of ownership by institutional shareholders is associated with lower levels of green banking disclosures by the company. This finding contradicts the initial hypothesis (H1) formulated at the beginning of the study. An explanation for this phenomenon could be that institutional shareholders prioritize short-term investment returns

over the long-term sustainability aspects that are emphasized in green banking. Moreover, the results reveal different patterns based on the proxies used, when considering the moderating role of corporate governance. With respect to the BRDSIZE proxy, while it is observed that board size strengthens the relationship between institutional ownership and green banking disclosures, the relationship is not statistically significant. This suggests that board size may not be a critical determinant influencing the relationship between institutional ownership and green banking disclosure. When using the BRDIND proxy, the results suggest a significant relationship between institutional ownership and green banking disclosure. This suggests that the presence of independent commissioners on the board may influence the relationship between institutional shareholders and green banking disclosure policies. However, when considering the FEMDIR proxy that measures the presence of female directors on the board, the results reveal that FEMDIR weakens the relationship between institutional ownership and green banking disclosure, although this relationship is not statistically significant. This indicates that gender may play a certain role, albeit not a dominant one, in the context of the relationship under study. We tested three corporate governance proxies to determine their moderating effect on the correlation between institutional ownership and green banking disclosure. Our findings indicate that exclusively the BRDIND proxy, which represents the proportion of independent commissioners on the board of directors, significantly enhances the correlation mentioned in Hypothesis 4.

This study found a significant relationship between institutional ownership and green banking disclosure, particularly in Model c. This supports Ilhan et al. (2023) research which highlights the influence of institutional investors on climate change risk disclosure. These findings suggest that institutional investors play a crucial role in shaping banking policies and actions related to sustainability issues. Moreover, this study's results align with Saleh et al. (2010) findings, which demonstrated a negative association between environmental disclosure and institutional ownership. Saleh attributes this negative relationship to the perception that sustainability policies may impose additional costs on investors. Additional costs may arise if banks need to adopt environmentally friendly technologies. The view is reasonable, particularly when we consider the short-term orientation of certain institutional investors like unit trusts and investment trusts. These investor groups tend to focus on short-term risks and returns, so they may overlook the long-term advantages of sustainability policies. Thus, they may view sustainability initiatives as an unnecessary expense. Although there is a negative relationship between them, it is undeniable that corporate governance plays a vital role in directing and influencing disclosure of green banking practices. Within this context, corporate governance reinforces the positive influence that institutional ownership has on disclosure of green banking practices. It follows that, despite the possibility of institutional owners reducing disclosure of green

banking practices, strong corporate governance can promote and support better disclosure practices. Effective governance mechanisms can address information imbalances and encourage institutional owners to take a more active role in supporting sustainability initiatives. An independent board is a key element in corporate governance, and in this analysis it is represented by BRDIND. The study discovered that BRDIND plays an important role in reinforcing the positive correlation between institutional ownership and green banking disclosure. This indicates that the existence of an independent board can boost transparency in disclosure and promote more widespread adoption of green banking practices. Independent boards are often free from conflicts of interest and tend to support initiatives that enhance a company's credibility and reputation in the view of stakeholders. As such, their presence promotes transparency and integrity in the disclosure process. Therefore, the presence of independent boards promotes transparency and integrity in the disclosure process. In the banking industry, where trust and reputation are critical factors, independent boards can act as catalysts for promoting green banking practices.

2. The Effect of Foreign Ownership on Green Banking Disclosure

This section analyses the impact of foreign ownership on green banking disclosure and the moderating effect of corporate governance aspects. Referring to the Econometric Model section presented in Table 6, four regression models were created to investigate the relationship further. The first model (Model a) without moderating variables indicates that foreign ownership has a significantly negative effect on green banking disclosure, with an adjusted R^2 of 12.6% and a p value less than 0.001. This implies that an increase in foreign ownership in banking may lead to a decrease in the disclosure of green banking practices. Model B, which accounts for the moderation of board size (BRDSIZE), reinforces the negative outcome, with an adjusted R^2 of 20% and a p-value less than 0.001. Once again, foreign ownership displays a negative and significant influence on reporting green banking practices. On the other hand, Model C, with independent commissioners (BRDIND) as a moderating factor, reveals distinct outcomes. In this model, foreign ownership does not have a significant impact on green banking disclosure (adjusted R^2 = 16.4%, $p < 0.001$). These findings suggest that the role of independent commissioners may moderate the relationship between foreign ownership and green banking disclosure. Model d, which includes Female Director (FEMDIR) as a moderating variable, reports a negative and significant impact of foreign ownership on green banking disclosure. The adjusted R^2 for the model is 15.9% and the p-value is less than 0.001.

TABLE 6: Ordinary Least Squares (OLS) models of the effect of foreign ownership on green banking disclosure

	Model a GBDI	Model b GBDI	Model c GBDI	Model d GBDI
FOREIGN	-0.113***	-1.469***	-0.208	-0.372***
	(-2.97)	(-5.64)	(-0.66)	(-5.03)
FOREIGN*BRDSIZE		0.677***		
		(5.40)		
BRDSIZE		-0.454***		
		(-7.10)		
FOREIGN*BRDIND			0.00760	
			(0.01)	
BRDIND			-0.923***	
			(-4.52)	
FOREIGN*FEMDIR				0.348***
				(4.20)
FEMDIR				-0.194***
				(-4.55)
PBV	-0.00523***	-0.00357***	-0.00578***	-0.00403***
	(-3.15)	(-3.20)	(-2.65)	(-2.60)
ROA	-0.827*	-0.879*	-0.865*	-1.001**
	(-1.80)	(-1.92)	(-1.87)	(-2.09)
ROE	-0.212	-0.188	-0.218	-0.229
	(-1.51)	(-1.37)	(-1.54)	(-1.60)
FSIZE	0.0674***	0.117***	0.0633***	0.0742***
	(7.14)	(10.41)	(6.35)	(7.98)
FAGE	0.0565*	0.0818***	0.0924***	0.0708**
	(1.71)	(2.69)	(2.88)	(2.20)
_CONS	-1.381***	-1.802***	-0.850***	-1.456***
	(-6.53)	(-8.61)	(-3.68)	(-6.99)
N	578	578	578	578
R^2-Adj	0.126	0.200	0.164	0.159
Prob > F	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6 presents the results of a robust Ordinary Least Squares (OLS) regression analysis investigating the effect of foreign ownership on green banking disclosure, as well as the moderating effect of corporate governance on the relationship between foreign ownership and green banking disclosure. The analytical model employed in this study is an OLS regression model: $GBDI_{i,d} = b_0 + b_1 FOREIGN_{i,d} + b_2 j_{i,d} + ', GBDI_{i,d} = b_0 + b_1 FOREIGN_{id} + b_2 BRDSIZE + b_3 BRDSIZE * FOREIGN + b_4 j_{i,d} + ', GBDI_{i,d} = b_0 + b_1 FOREIGN_{i,d} + b_2 BRDIND + b_3 BRDIND + * FOREIGN + b_4 j_{i,d} + ', GBDI_{i,d} = b_0 + b_1 FOREIGN_{i,d} + b_2 FEMDIR + b_3 FEMDIR + * FOREIGN + b_4 j_{i,d} + '$. The variable $j_{i,d}$ is a control

variable that comprises of factors such as company size (FSIZE), company age (FAGE), Price-to-Book Value Ratio (PBV), Return-on-Assets (ROA), and Return-on-Equity (ROE). The table includes regression coefficients and t-statistics $\left(\frac{b}{t_{stat}}\right)$. Robust regressions have been presented to account for heteroscedasticity and autocorrelation. The significance levels are denoted by ***, **, and *, corresponding to levels of 1%, 5%, and 10% respectively.

The results of the test demonstrate a negative association between foreign ownership and green banking disclosure. This suggests that as the percentage of foreign shareholders increases, a company tends to disclose less information about green banking practices. This finding is contradictory to the previously proposed H_2, which implies that foreign ownership should boost green banking disclosure. However, when the moderating variable of corporate governance is included, the situation becomes more intricate. The study, utilising three different proxies, has discovered varying impacts of the moderating variable on the relationship between foreign ownership and disclosure of green banking information. The investigation reveals that the board size has a substantial positive effect on the relation between foreign ownership and disclosure of green banking information on the BRDSIZE proxy. This finding implies that the size of the board plays a crucial role in influencing a corporation's determination to disclose green banking details, especially when the firm has high foreign ownership. In the context of BRDIND, independent commissioners were found to have a negligible influence on the relationship between foreign ownership and green banking disclosure. This indicates that independent commissioners may not play a vital role in establishing green banking disclosure policies in the presence of foreign shareholders. The FEMDIR proxy, which measures female directors on the board, has yielded significant results. The presence of female directors strengthens the relationship between foreign ownership and green banking disclosure, providing evidence for the significance of gender in corporate governance and disclosure policies. Overall, these findings confirm that corporate governance strengthens the relationship between foreign ownership and green banking disclosure. This is consistent with the formulated Hypothesis 5. Therefore, the conclusion can be drawn that foreign ownership may reduce the level of green banking disclosures, but proper corporate governance practices can encourage companies to maintain transparency in their disclosures.

An interesting phenomenon is observed in the relationship between foreign ownership and green banking disclosure in the banking industry. The results of this study have revealed a significant negative correlation between them, which is supported by previous research as demonstrated by Saini & Singhania (2019) and Rustam et al. (2019). Foreign investors tend to focus more on economic outcomes than on considering the environmental impact of banking operations. This demonstrates the thought paradigm where economic returns are frequently

deemed more critical than sustainability commitment. For instance, companies with a prevailing proportion of foreign ownership have a tendency to provide less green banking disclosures. This is apparent from their annual and sustainability reports, which report fewer sustainable practices. This may suggest that foreign investors prioritize short-term profits at the expense of considering the long-term effect of their operations on the environment. It is worth noting that corporate governance plays a critical role in this context. Governance mechanisms, such as the size of the board (BRDSIZE), the presence of an independent board (BRDIND), and the female directors (FEMDIR), significantly influence the relationship between foreign ownership and green banking disclosure. Good corporate governance can pressure companies with high foreign ownership to improve transparency in sustainability matters. Essentially, an effective board that consists of independent members and balanced gender representation can ensure that green banking practices are prioritised in the strategic agenda of the company, even with dominant foreign ownership.

3. The Effect of Foreign Ownership on Green Banking Disclosure

This section analyses the impact of government ownership and the moderating effects of corporate governance aspects on green banking disclosure. Referring to the analyses presented in Table 7, four regression modelling approaches are conducted to investigate this relationship further. The first model presents a basic analysis of how government ownership affects green banking disclosure without moderating variables. Based on the results obtained from Model a, which have an adjusted R^2 of 11.4% and a p-value < 0.001, it is clear that the variable GOVOWN does not have a significant effect on GBDI. Moreover, Model b, which incorporates Board Size (BRDSIZE) as a moderating variable, indicates an adjusted R^2 of 16.1% with a p value lower than 0.001. This outcome is in line with Model a, where the variable GOVOWN does not have a significant impact on GBDI. Similarly, Model c presents a corresponding outcome with the moderating variable Independent Commissioner (BRDIND), displaying an adjusted R^2 of 13.6% and a p value lower than 0.001. Last but not least, Model d, which takes Female Director (FEMDIR) as a moderating variable, gives comparable results, with an adjusted R^2 of 12.4% and a p value lower than 0.001, implying that the variable GOVOWN does not make a considerable contribution to GBDI.

Table 7: OLS models of the impact of government ownership on green banking disclosure

	Model a GBDI	Model b GBDI	Model c GBDI	Model d GBDI
GOVOWN	0.0432	-0.375	0.401	-0.0983
	(0.59)	(-1.04)	(0.68)	(-0.83)
GOVOWN*BRDSIZE		0.184		
		(1.07)		
BRDSIZE		-0.398***		
		(-6.14)		
GOVOWN*BRDIND			-0.455	
			(-0.48)	
BRDIND			-0.642***	
			(-3.65)	
GOVOWN*FEMDIR				0.188
				(1.33)
FEMDIR				-0.107***
				(-2.85)
PBV	-0.00487***	-0.00330***	-0.00502***	-0.00458***
	(-3.01)	(-2.90)	(-2.60)	(-2.74)
ROA	-0.741	-0.695	-0.732	-0.690
	(-1.64)	(-1.56)	(-1.63)	(-1.57)
ROE	-0.208	-0.166	-0.212	-0.208
	(-1.50)	(-1.24)	(-1.53)	(-1.56)
FSIZE	0.0657***	0.126***	0.0595***	0.0728***
	(6.69)	(10.49)	(5.92)	(7.25)
FAGE	0.0274	0.0364	0.0370	0.0241
	(0.83)	(1.13)	(1.12)	(0.70)
_CONS	-1.270***	-1.993***	-0.789***	-1.353***
	(-5.73)	(-8.98)	(-2.94)	(-5.99)
N	578	578	578	578
R^2-Adj	0.114	0.161	0.136	0.124
Prob > F	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

While previous literature implies that there is a positive correlation between the two variables, the test results of this study demonstrate that there is an insignificant effect of government ownership on green banking disclosures. This discovery contradicts the previously formulated H_3. The analysis using three different proxies, namely BRDSIZE, BRDIND, and FEMDIR, reveals the same outcomes. In particular, all of these proxies weaken the connection between government ownership and green banking disclosure, although the results remain statistically non-significant. The analysis demonstrates that board size

(BRDSIZE), proportion of independent commissioners (BRDIND), and female directors (FEMDIR) do not significantly contribute to strengthen or weaken the relationship between government ownership and green banking disclosure. This fact suggests that corporate governance may not have a considerable impact on the connection between the variables.

After conducting the analysis, it is confirmed that the relationship between government ownership and green banking disclosure is insignificant. Some people may be surprised considering the high expectations of the government's ability to urge banks to become more proactive in terms of green banking disclosure. Nevertheless, when we take corporate governance variables into account as moderation, we observe that the impact of government ownership on green banking disclosure diminishes. This phenomenon can be comprehended by considering past research, particularly the findings of Alexander (2006) and Levine (2004). Both researchers discovered that state ownership in the banking industry usually results in inefficiency. The presence of government bureaucracy can impede the operational process of banks, contributing to inefficiency. Moreover, the government-controlled banks' performance and transparency may also be affected by the lack of effective monitoring of the capital market. Moreover, there is a phenomenon where the government frequently plays a double agent role in the banking sector. The government functions not only as a regulator that safeguards and regulates bank operations, but also as a party that manages and runs bank management. This dual role can potentially create a conflict of interest. There is a possibility that the government may use the bank's resources for its interests instead of improving transparency and environmental sustainability. Thus, this finding shows that although the government has the ability to encourage green banking through policy and regulation, government bank ownership may not provide a significant boost to green banking disclosure in practice. Regulators should critically assess the role and strategy of the government in promoting the green banking agenda in the future.

4. The Effect of Control Variables

The study showed that various control variables have a significant association with green banking disclosure. Price-to-Book Value Ratio (PBV), a financial indicator that measures a company's market value against its book value, negatively influences green banking disclosure, according to the study. This suggests that companies are less likely to reveal their green banking activities as PBV increases. This phenomenon could be attributed to the notion that companies with high PBV may prioritize short-term shareholder gains over the long-term sustainability that underpins green banking. In contrast, the study found a positive correlation between company size (FSIZE) and green banking disclosure. This indicates that larger companies have a higher propensity to divulge information about their

green banking practices. Furthermore, the maturity of the firm, as measured by the Company Age (FAGE) metric, has a positive impact on green banking disclosure. This indicates that well-established companies are more aware of the significance of sustainability and, as a result, are more prone to adopting green banking practices. It is interesting to note, however, that profitability indicators, such as the Return On Assets (ROA) and Return On Equity (ROE), have a negative impact on green banking disclosures. This could imply that companies with high profitability focus more on short-term financial gains rather than long-term sustainability commitments.

V. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

This study aimed to investigate how institutional, foreign, and government ownership impact green banking disclosure. The analysis revealed that institutional ownership and foreign ownership have a significant negative effect on green banking disclosure. However, the study confirmed government ownership has an insignificant effect on green banking disclosure. The study suggests that corporate governance plays a crucial role in moderating variables which significantly impacts green banking disclosure. The study found that an independent board, the presence of which is ensured through corporate governance, strengthens the favourable effect of institutional ownership on green banking disclosure. Conversely, under foreign ownership, a positive relationship is moderated by corporate governance. The reasons underlying these findings are intricate. Institutional ownership attract investors with an in-depth understanding of the significance of disclosing environmental risks and sustainability, leading to enhanced transparency. Conversely, foreign ownership, that prioritises short-term economic outcomes, perceives sustainability costs as an impediment, thereby impeding its support for green banking disclosure. Nonetheless, with efficient corporate governance, foreign investors could recognise the value of sustainability in the long run, thereby enabling a positive correlation. Conversely, government ownership is not without its challenges. Government ownership is unlikely to significantly enhance green banking disclosure due to bureaucratic costs, inefficiencies, and potential conflicts of interest between the government and bank management as a regulator. Therefore, this study sheds light on the importance of combining ownership structure with corporate governance to influence green banking disclosure. This confirms that the role of corporate governance cannot be overlooked in the pursuit of transparent green banking disclosure.

This study, though informative, has several limitations worth noting. To start with, this study has not used proxies that comply with Indonesia's existing regulations in measuring green banking disclosures. Thus, the measurement

methods used may not be entirely applicable to Indonesia's regulatory framework and business customs. Thus, the obtained findings may not accurately reflect the level of green banking disclosures in Indonesia. The secondary constraint pertains to data accessibility. If annual reports and sustainability reports are not published by the companies, evaluating their sustainability practices becomes challenging. It may lead to biased research outcomes because only companies that actively report can be assessed, leaving out others. Drawing on the aforementioned limitations, there are several recommendations for future research. It is recommended that future researchers develop and deploy proxies to measure green banking disclosures conforming to the Indonesian authorities' regulations and policies. This approach will offer a more precise and pertinent understanding of green banking disclosure practices among Indonesian firms. Furthermore, there should be further attempts aimed at accessing data from corporations that do not often release annual or sustainability reports. This will enable more thorough research, covering a broader range of green banking practices in Indonesia.

B. Recommendations

On the basis of the findings of this study, there are a number of crucial policy recommendations that can be made to the Financial Services Authority (OJK). Firstly, the OJK must enhance its supervisory capabilities towards banking companies that have a greater proportion of institutional and overseas investor ownership. Even though these two groups of investors contribute substantially to the capitalisation of banks, they frequently chase short-term gains that could lead to the neglect of sustainability elements. Furthermore, in the case of banks with larger government ownership, the OJK ought to promote enhancements in efficiency. Government ownership often implies inefficiencies that arise from internal bureaucracy and probable conflicts of interest. Therefore, the OJK must ensure that banks owned by the government operate with management principles that are efficient and effective, to offer optimal services to the public and to maintain environmental sustainability. In order to reduce the bureaucratic obstacles faced by state-owned banks, it is essential to implement annual evaluations that assess operational efficiency and commitment to green banking practices. Moreover, in general, OJK should enhance the regulation and supervision of good governance practices in the banking sector. Implementing good governance will assist banks in identifying, managing, and mitigating emerging risks, which include environmental and social risks. Consequently, banks will be able to operate sustainability. Ultimately, banking management must integrate the principles of good governance into day-to-day operations. Management should ensure that the bank embraces robust sustainability practices, not only in business operations but also in strategic decision-making and stakeholder interactions.

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