DETERMINATION OF FINANCIAL STABILITY OF BANKS IN INDONESIA

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Determinasi Stabilitas Keuangan pada Bank di Indonesia

Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh Green banking practices, Karakteristik Manajemen, Ukuran Bank, Umur bank dan kepemilikan publik terhadap Stabilitas Keuangan bank. Stabilitas keuangan merupakan kondisi dimana bank mampu menjalankan fungsi intermediasi keuangan dengan menjaga profitabilitas. Penelitian dilakukan pada bank yang ada di Indonesia dan terdaftar di Bursa Efek Indonesia dari tahun 2017 – 2023. Pemilihan sampel dengan menggunakan purposive sampling dan diperoleh sebanyak 12 perusahaan. Analisis data dilakukan dengan regresi dengan menggunakan alat analisis SMART PLS Ver 4. Hasil penelitian menunjukkan bahwa Kepemilikan Publik dan Ukuran bank berpengaruh positif terhadap Stabilitas Keuangan. Green banking practices, Karakteristik manajemen, dan Umur bank tidak berpengaruh terhadap Stabilitas keuangan. Temuan ini menegaskan pentingnya bank menjaga assetnya untuk Stabilitas keuangan. Bank perlu memperkuat Kepemilikan Publik serta peningkatan ukuran aset dan efisiensi operasional dapat menjadi strategi untuk memperkuat posisi Stabilitas Keuangan jangka panjang.

Abstract

This study aims to determine the effect of green banking practices, management characteristics, bank size, bank age, and public ownership on bank financial stability. Financial stability is a condition in which a bank can carry out its financial intermediation function while maintaining profitability and stability. The study was conducted on banks in Indonesia listed on the Indonesia Stock Exchange from 2017 to 2023. The sample selection employed purposive sampling and consisted of 12 companies. Data analysis was performed using Regression with the SMART PLS Ver. 4 analysis tool. The results showed that public ownership and bank size had a positive effect on financial stability. Green banking practices, management characteristics, and bank age did not affect financial stability. These findings emphasize the importance of banks maintaining their assets for financial stability. Banks need to strengthen public ownership, and increasing asset size and operational efficiency can be a strategy to enhance their position for long-term financial stability.

INTRODUCTION

In recent years, the Indonesian banking industry has faced significant pressure to maintain financial stability amidst the challenges of technological change, demands for environmental sustainability, and competitive pressures. Bank financial stability is defined as the ability of a bank to perform its financial intermediation function, maintain profitability, and meet liquidity obligations sustainably. According to Schinasi (2004), financial stability reflects the financial

system's ability to withstand economic shocks and carry out its primary functions without disruption. Bank financial stability is reflected in profitability indicators such as Return on Assets (ROA). Return on Assets illustrates a bank's efficiency in generating profits from its assets. These indicators complement each other; efficient banks with adequate liquidity reserves tend to be more resilient to financial risks, especially during crises.

Banks are also now beginning to adapt to green banking principles by adopting environmentally friendly policies and ESG (Environmental, Social, and Governance) reporting. Green banking is a banking concept that integrates environmental aspects into a bank's business and operational strategies. This includes adopting environmentally friendly policies, ESG (Environmental, Social, and Governance) reporting, and supporting green financing. Stakeholder theory (Freeman, 1984) posits that banks must consider the interests of various parties, including the environment and society, in their decision-making processes. Green banking can help banks mitigate environmental risks that could negatively impact financial performance and strengthen the institution's reputation among investors and customers. Several studies show that banks actively engaging in ESG practices have lower risks and more stable profitability (Weber, 2014). Green banking can indirectly contribute to banks' financial stability by enhancing risk management and fostering increased public trust. This is due to increasing attention to sustainability and pressure from regulators and investors.

Reference Value (RBV) theory is a strategic approach that focuses on an organization's internal resources as the basis for sustainable competitive advantage (Barney, 1991). RBV theory posits that organizations can achieve superior performance and long-term sustainability if they effectively manage and develop valuable, rare, inimitable, and non-substitutable resources.

Management characteristics, such as gender, particularly the proportion of female managers, can influence strategic decision-making at the organizational level. Upper Echelons Theory (Hambrick & Mason, 1984) states that managers' personal and professional backgrounds will be reflected in an organization's strategic choices. Gender diversity in banking is believed to strengthen the quality of governance and risk management processes. Studies by Liu & Wu (2023) and Sbai & Ed-Dafali (2023) show that the presence of female management can reduce bank risk. A study by S. Vähämaa et al. (2023) found that banks led by women, whether as CEOs, executives, or directors, tend to make more conservative decisions, have higher capital buffers, and are more resilient to external shocks. Therefore, the proportion of female management is an essential indicator in assessing governance quality and its potential impact on organizational stability and performance.

Banks with significant assets tend to be more stable due to economies of scale and stronger risk management capacity. Bank size is a critical factor influencing the efficiency and stability of financial institutions. Based on the Theory of Economies of Scale, larger banks can optimize their resources and operations, thereby reducing transaction costs and risk per unit of service (Berger & Humphrey, 1997). Large-scale operations enable banks to access advanced technology and portfolio diversification, contributing to increased financial stability. Bank age is also considered an important indicator in assessing institutional stability and reliability. Organizational Experience Theory posits that banks with longer operating histories tend to possess more mature knowledge and capabilities in risk management and adapting to external environmental changes (Argote & Ingram, 2000). The experience gained over this time can increase stakeholder trust and strengthen the bank's financial foundation. These phenomena demonstrate that a bank's economic stability is determined not only by its financial performance but also by the innovative strategies it implements, its concern for environmental issues, its management structure, and the institution's characteristics. However, research that simultaneously integrates these factors remains limited, particularly in the Indonesian banking context. Increasing global attention to sustainability has driven significant transformations in banking practices. Banks are now required to implement green banking practices.

In the context of sustainability, several studies have demonstrated the importance of green banking practices in supporting bank performance and stability. A study by Khan et al. (2025) in Bangladesh found that green banking initiatives had a positive impact on bank profitability, particularly through environmental training, green financing, and the adoption of environmentally friendly technologies. This research focused more on financial performance and did not explicitly measure the contribution of green banking to financial stability indicators. Considering these gaps,

this study aims to address the existing literature by comprehensively examining the influence of green banking practices, management characteristics, firm age, firm size, and public ownership on bank financial stability.

METHOD

This quantitative study employs a causal approach, aiming to investigate the influence of independent variables on the dependent variable. This approach was chosen because the study focuses on examining the causal relationship between green banking practices, management characteristics, bank size, bank age, and public ownership on bank financial stability. The population in this study was all banks listed on the Indonesia Stock Exchange (IDX) during the 2017–2023 period. The sample was selected using a purposive sampling technique, with the following criteria: banks consistently listed on the IDX during the 2017–2023 observation period; banks that published complete annual reports and sustainability reports during the study period; and Banks that had complete data related to the study variables. This study used secondary data obtained from each bank's annual report and sustainability report, as well as financial data published on the official Indonesia Stock Exchange website (www.idx.co.id).

The following is the operational definition of the study:

Table 1. Definition Operational

Variable	Operational Definitions	Indikator
Financial Stability (Y)	The bank's ability to maintain its intermediation function while maintaining profitability and controlled risk levels..	Return on Asset
Green Banking Practices (X1)	Implementation of bank policies and operational activities that are oriented towards environmental sustainability. Disclosure of green practices in sustainability reports, using the disclosure index.	ESG Disclosure (Indeks GRI)
Management Characteristics (X2)	Management Gender influences decision-making and organizational performance.	Number of Female Managers
Bank Size (X3)	The scale of a bank's size is measured based on the total assets it owns	Ln(Total Assets)
Bank Age (X4)	The length of time the bank has been established, from the year it first started operating until the year of observation	Observation Year – Bank Establishment Year
Public Leadership (X5)	The proportion of bank shares owned by the public or public investors	$\dfrac{Public\ Shares}{\sum Shares\ outstanding} \times 100\%$

Data analysis was performed using the SmartPLS application, version 4.0, for Regression analysis. Hypothesis testing was performed; if the p-value $<5\%$ ($\alpha = 0.05$), then it was stated that the independent variable affected the dependent variable. Before conducting the hypothesis test, descriptive statistical tests, multicollinearity tests, and autocorrelation tests were performed.

RESULTS AND DISCUSSION

Results

The following are the study's results.
Descriptive Statistics

Table 2. Descriptive Statistics Results

	Mean	Median	Standard deviation	Excess kurtosis	Skewness
Intercept	0,000	0,000	0,000	n/a	n/a
Financial Stability	2,025	1,880	0,921	-0,559	0,369
Public Leadership	0,230	0,200	0,158	-1,556	0,157
Green Banking Practices	0,474	0,440	0,136	-0,493	0,631
Bank Size	8,567	8,438	0,433	-1,191	0,220
Management Characteristic	3,558	3,000	1,964	-0,686	0,367
Bank Age	67,545	65,000	22,996	2,215	0,727

Source : Processed data, 2025

Based on Table 2, the highest average value is found in Bank Age (67.545 years), indicating that most banks in the sample have a long operational age. Meanwhile, the lowest average is in Public Leadership (0.230), meaning that the portion of shares owned by the public is relatively small compared to the main or institutional owners. Median values that are close to the mean for most variables indicate that the data distribution is relatively symmetrical, except for Management Characteristics, which has a median lower than the mean (3.558 vs. 3.000), indicating a tendency for high values in some samples. The highest standard deviation value is found in Bank Age (22.996), indicating a significant variation in operational age between banks. Conversely, green banking practices (0.136) have the lowest deviation, indicating that the level of implementation of environmentally friendly practices across banks tends to be uniform. All variables have positive skewness values (<1), indicating that the data distribution is skewed to the right (positively skewed), with most of the data falling below the average value. The variable with the highest skewness is Bank Age (0.727), indicating that some banks are significantly older than others. Most variables exhibit negative excess kurtosis, except for Bank Age, which has a high positive kurtosis (2.215). This indicates that the Bank Age distribution is leptokurtic, meaning it has a sharp peak and long tails. Several banks have extremely high ages, well above the average.

The following are the results of the Multicollinearity Test:

Table 3. Multicollinearity Test

	VIF
Public Leadership	1,592
Green Banking Practices	1,044
Bank Size	1,775
Management Characteristic	1,208
Bank Age	1,047

Source: Processed data, 2025

The results of the multicollinearity test indicate that all independent variables have VIF values <10, ranging from 1.044 to 1.775. It can be concluded that the regression model does not experience multicollinearity issues, so all independent variables (Green Banking Practices, Management Characteristics, Bank Size, Bank Age, and Public Leadership) are suitable for use in multiple linear regression analysis.

The following are the results of the autocorrelation test and the coefficient of determination.

Table 4. Autocorrelation Test Results

	Financial Stability
R-square	0,354
R-square adjusted	0,308
Durbin-Watson test	2,017

Source : Processed data, 2025

The Adjusted R-Square value of 0.308 indicates that 30.8% of the variation in bank financial stability can be explained by the independent variables, consisting of green banking practices, management characteristics, bank size, bank age, and public leadership. Factors outside the research model explain the remaining 69.2%. Meanwhile, the Durbin-Watson value of 2.017, which falls between the du (1.7704) and 4-du (2.2296), indicates no autocorrelation in the regression model. Thus, this model can be considered stable, feasible, and valid for use in analyzing the relationship between the independent variables and bank financial stability.

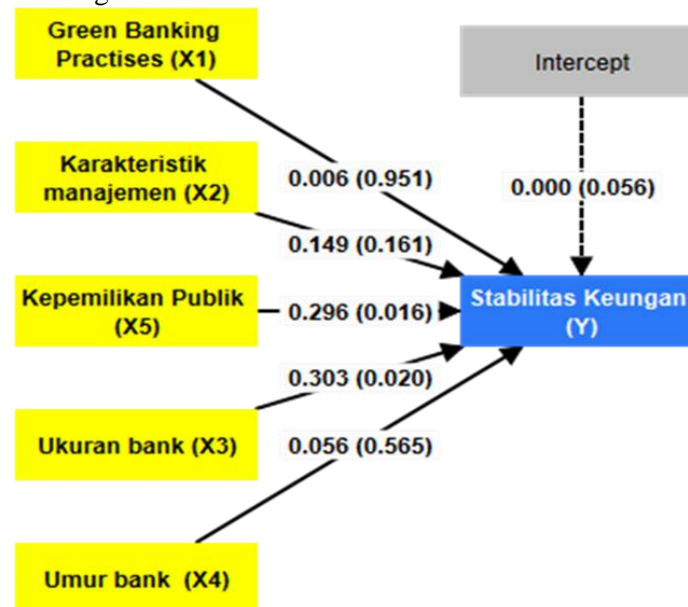The following are the regression results:

Figure 1. Regression Result

The following are the regression table result :

Table 5. Regression Test

	Unstandardized coefficients	Standardized coefficients	SE	T value	P value	2.5 %	97.5 %
Public Leadership	1,727	0,296	0,702	2,459	0,016	0,327	3,127
Green Banking Practices	0,041	0,006	0,661	0,062	0,951	-1,278	1,360
Bank Size	0,644	0,303	0,270	2,383	0,020	0,105	1,183
Management Characteristic	0,070	0,149	0,049	1,417	0,161	-0,028	0,168
Bank Age	0,002	0,056	0,004	0,578	0,565	-0,006	0,010
Intercept	-4,311	0,000	2,217	1,945	0,056	-8,730	0,108

Source : Processed data, 2025

The Public Leadership variable has a p-value <0.05, indicating a significant effect on bank financial stability. The positive coefficient (1.727) indicates a unidirectional relationship, meaning that the greater the proportion of public share ownership, the higher the bank's financial stability. This can be explained because public involvement in share ownership encourages greater transparency, accountability, and good corporate governance practices. With increased public investor confidence, the bank's financial condition becomes more stable and sustainable. The very high p-value (0.951 > 0.05) indicates that green banking practices have no significant effect on bank financial stability. Although the coefficient is positive, the effect is minimal and statistically insignificant. This suggests that banks' implementation of environmentally friendly principles (such

as energy efficiency, green financing, or service digitization) has not directly impacted short-term financial performance. The effect may only be felt in the long term, when sustainable practices become part of the bank's core business strategy.

The Bank Size variable has a significant positive effect on financial stability, as the p-value <0.05. A positive coefficient (0.644) indicates that the larger the bank size (as measured by total assets or the logarithm of assets), the higher the level of financial stability. Larger banks generally have broader portfolio diversification, better risk management capabilities, and more stable access to funding. Therefore, bank size is a key factor supporting the resilience and sustainability of the financial system. A p-value of 0.161 (>0.05) indicates that management characteristics have no significant effect on financial stability. Although the direction of the relationship is positive, the effect is not statistically strong enough. This could be due to differences in leadership style, experience, or managerial background between banks, which have not yet created a consistent pattern of increasing stability. Nevertheless, the positive coefficient still indicates that competent and experienced management has the potential to strengthen financial stability through appropriate strategic policies.

The Bank Age variable also showed a p-value above 0.05, indicating no significant effect on financial stability. Although the direction of the relationship is positive, the effect is minimal. This means that the length of time a bank has been operating does not necessarily guarantee its financial stability. External factors such as regulatory changes, technological innovation, and market competition can influence stability more significantly than the institution's age. The negative constant value (-4.311) indicates that if all independent variables were zero, the bank's Financial Stability would be negative. However, because the p-value is slightly above 0.05, this constant is not statistically significant and serves only as a baseline in the model without strong substantive significance.

Discussion

The Effect of Green Banking Practices on Bank Financial Stability

The results of this study suggest that green banking practices have no significant impact on a bank's financial stability. This indicates that the implementation of environmentally friendly policies and activities by banks has not significantly contributed to improving economic stability. This situation may be because the implementation of green banking in Indonesia is still normative and not fully integrated into banks' core business strategies. Many banks implement green policies solely to meet regulatory requirements or to promote a sustainable image, rather than as a long-term strategy with a direct impact on financial performance. Furthermore, green projects often require high initial costs and long payback periods, so their impact on profitability and economic stability is not yet directly felt.

This finding aligns with research by Putri & Sulistyowati (2022), which found that green banking practices in Indonesia have not significantly impacted financial performance because their implementation is still limited to reporting and does not address key operational aspects. These results are also supported by international research by Bose et al. (2018) in India, which found that green banking initiatives have not had a direct impact on bank profitability and stability, as they are still in the early stages of implementation. In contrast, research by Nguyen et al. (2021) in Vietnam found that a green credit policy integrated with risk management can actually improve financial stability. This difference in results suggests that the effectiveness of green banking practices depends mainly on the extent to which a bank integrates sustainability principles into its business strategy.

The Influence of Management Characteristics on Bank Financial Stability

The results showed that management characteristics, measured in this study by the number of female managers, did not affect financial stability. The results also showed that management characteristics, proxied by the number of female managers, had no significant effect on a company's financial stability, as measured by return on assets (ROA). This finding indicates that the proportion of female managers in the management structure has not significantly impacted a

company's ability to generate profits from its assets. Theoretically, the presence of female managers is often associated with a more cautious, communicative, and long-term-oriented leadership style, which can improve decision-making quality and financial performance. However, the results of this study do not support this assumption. One possible reason is that the number of female managers in companies is still relatively small, so their contribution to strategic decisions and financial policies is not yet significant. In this context, the presence of female managers may not have been fully integrated into the decision-making process that directly impacts profitability. Therefore, although gender diversity in management is an essential aspect of corporate governance, its impact on financial stability was not significantly observed within the study period and sample.

These results align with research by Ridloah et al. (2022), who found that gender diversity on boards of directors did not affect ROA in the Indonesian banking sector, and Simionescu et al. (2021), who also reported that the percentage of female executives had no significant effect on ROA in technology companies in the United States. Similarly, research from Japan by Takahashi and Kubo (2024) showed that female representation in management had a negative or insignificant effect on financial performance.

The Influence of Bank Size on Bank Financial Stability

Research results show that bank size has a positive effect on bank financial stability. This means that the larger the bank's size, the greater its ability to maintain economic stability. Larger banks generally have better product and portfolio diversification, broader access to funding, and stronger risk management capabilities than smaller banks. This allows large banks to be more resilient to economic shocks and market volatility. This finding aligns with research by Fauziah & Rahmawati (2020), which states that bank size has a positive effect on the financial stability of banks in Indonesia, as larger economies of scale provide greater flexibility in asset and risk management. Similar results were also found by Liu & Wilson (2013) in the UK, who concluded that large banks have a higher level of stability due to operational efficiency and business diversification. However, it is essential to note that excessive size can also pose systemic risk (too big to fail). Therefore, the growth of bank size must be balanced with a strong supervisory and governance system to maintain stability. The Effect of Bank Age on Bank Financial Stability

Bank Age does not affect financial stability. This indicates that a bank's longevity does not guarantee greater economic stability. Although older banks typically have experience and a good reputation, this does not always translate into stable financial performance. External factors, such as regulatory changes, technological innovation, and the level of competition, can also impact financial stability, regardless of the bank's operational age. These results support research by Rahmah & Yuliana (2021), which found that company age has no significant effect on the financial stability of banks in Indonesia, as stability is more influenced by managerial efficiency and business strategy than by entity age. A similar study by Altunbas et al. (2017) in Europe also found that bank age does not directly correlate with stability, as innovation and risk adaptation are more important determinants of bank resilience.

The Influence of Public Leadership on Bank Financial Stability

The results of this study indicate that public leadership has a positive effect on bank financial stability. This finding suggests that the greater the proportion of public leadership in a bank's ownership structure, the more stable the bank's financial condition. Banks with public leadership tend to have more transparent governance, a high level of public trust, and access to broader funding sources, thus enabling them to maintain stable financial performance in the long term. These results align with research by Boulanouar, Alqahtani, and Hamdi (2021), which examined banks in the Gulf Cooperation Council (GCC) region. They found that banks with state or public ownership exhibited higher levels of stability than private banks. Government support and strict supervision of publicly owned banks are considered effective in reducing liquidity risk and strengthening public trust in the banking system. These findings are also supported by domestic research by Pratiwi and Rahmawati (2023), which analyzed the banking sector in Indonesia. Their results indicate that public leadership has a significant positive effect on bank financial stability, as

measured using the Z-score ratio. Banks with public leadership are considered more prudent in taking risks and have strong government support in maintaining liquidity and capital. Research by Alamsyah and Hidayat (2022) also found that state-owned banks in Indonesia have relatively more stable financial performance than private banks, especially in the face of global economic pressures and macroeconomic fluctuations. This demonstrates that the role of public leadership in maintaining banking system reliability remains highly relevant, particularly in the context of a developing country like Indonesia.

CONCLUSION

The results indicate that public ownership and bank size have a significant impact on bank financial stability. Meanwhile, green banking practices, bank age, and management characteristics do not. This study is limited by its sample size, which covers only 12 banks, and the observation period of 2017–2023; therefore, the results cannot be generalized to the entire banking sector. Furthermore, the measurement of green banking practices is still based on sustainability report disclosures, and management characteristics are only assessed by the number of female managers. Nevertheless, the results suggest that enhancing public leadership and expanding bank asset scale can improve financial stability. Green banking practices need to be more integrated into business strategies to make a significant contribution to economic performance. Therefore, it is recommended that bank management enhance public leadership as a means of fostering public trust in banks. Further research should expand the sample, extend the research period, and add variables that reflect the quality of governance and a more comprehensive implementation of green banking.

BIBLIOGRAPHY

Altunbas, Y., Thornton, J., & Yurukoglu, M. (2017). *Bank age, efficiency, and financial stability in Europe*. Journal of Banking & Finance, 82, 150–161.

Alamsyah, R., & Hidayat, A. (2022). Perbandingan stabilitas keuangan antara bank BUMN dan bank swasta di Indonesia. *Jurnal Keuangan dan Perbankan, 26(3)*, 211–225.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.

Bose, S., Khan, H. Z., Rashid, A., & Islam, S. (2018). What drives green banking disclosure? An institutional and corporate governance perspective. *Asia Pacific Journal of Management, 35*(2), 501–527.

Boulanouar, Z., Alqahtani, F., & Hamdi, B. (2021). Public ownership and financial stability: Evidence from GCC banks. *International Journal of Islamic and Middle Eastern Finance and Management, 14*(3), 456–472.

BCBS (Basel Committee on Banking Supervision). (2013). *Basel III: The liquidity coverage ratio and liquidity risk monitoring tools*. Bank for International Settlements.

Doerr, S. (2024). *Bank geographic diversification and funding stability* (BIS Working Paper No. 1221). Bank for International Settlements. https://www.bis.org/publ/work1221.htm

Donaldson, L. (2001). *The Contingency Theory of Organizations*. Sage Publications.

Fauziah, N., & Rahmawati, D. (2020). Pengaruh ukuran bank terhadap stabilitas keuangan bank di Indonesia. *Jurnal Ilmiah Akuntansi dan Keuangan, 9*(2), 89–102.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193-206.

Lalon, R. M., Faruk, M. O., & Amir, K. B. (2025). Investigating the impact of green banking initiatives on bank performance: Empirical evidence from an emerging economy (Bangladesh). *Future Business Journal, 11*(1), Article 79. https://doi.org/10.1007/s43621-025-01279-6

Le, T. D. Q., & McMillan, D. (2021). Geographic expansion, income diversification, and bank stability: Evidence from Vietnam. *Cogent Business & Management, 8*(1), Article 1885149. https://doi.org/10.1080/23311975.2021.1885149

Liang, Y., Wei, R., & Duan, D. (2025). Digital Financial Development and Commercial Bank Stability. *The Quarterly Review of Economics and Finance, 97,* 68–84. https://doi.org/10.1016/j.qref.2024.07.001

Liu, C., & Wu, Y. W. (2023). Gender diversity and bank risk‑taking: Female directors and executives. *Managerial Finance, 49*(5), 761‑788. https://doi.org/10.1108/MF‑01‑2022‑0059

Liu, H., & Wilson, J. O. S. (2013). *Competition and stability in banking: The case of the United Kingdom*. The British Accounting Review, 45(4), 327–340.

Mustafa, J. A. (2024). From innovation to stability: Evaluating the ripple influence of digital payment systems and capital adequacy ratio on a bank's Z-score. *Business: Theory and Practice, 19*(3), 67-79

Nagina, R. (2025). *Effectiveness of Green Financing Activities and Performance Management on the Banking Sector*: An Empirical Study

Nguyen, T. T. H., Le, T. T. H., & Tran, M. D. (2021). Green credit policy and bank stability: Evidence from Vietnam. *Journal of Sustainable Finance & Investment, 11*(4), 345–361.

Palvia, A., Vähämaa, E., & Vähämaa, S. (2020). Female leadership and bank risk-taking: Evidence from the effects of real estate shocks on bank lending performance and default risk. *Journal of Business Research, 117*, 897-909. https://doi.org/10.1016/j.jbusres.2020.04.057

Pratiwi, D., & Rahmawati, E. (2023). Public leadership dan stabilitas keuangan bank di Indonesia. *Jurnal Ekonomi dan Bisnis Indonesia, 38*(1), 77–92.

Putri, A. D., & Sulistyowati, R. (2022). Green banking practices dan kinerja keuangan bank di Indonesia. *Jurnal Keuangan dan Perbankan, 26*(1), 45–59.

Rahmah, F., & Yuliana, N. (2021). Pengaruh umur perusahaan terhadap stabilitas keuangan bank di Indonesia. Jurnal Ekonomi dan Bisnis, 24(2), 133–144.

Ridloah, S., Nugroho, Y., & Sari, M. (2022). Gender diversity dan kinerja keuangan perbankan Indonesia. *Jurnal Akuntansi Multiparadigma, 13*(2), 213–227.

Rogers, E. M. (1995). *Diffusion of Innovations (4th ed.).* Free Press.

Sa'adah, W. N., Nadialinda, L. P., & Soegiarto, D. (2024). The Influence of Executive and Independent Roles of Women Board Members on Bank Risk: Evidence from Indonesia. *KnE Social Sciences, ICEMA 2024,* 217 231. https://doi.org/10.18502/kss.v9i17.16328

Sbai, H., & Ed‑Dafali, S. (2023). Gender diversity and risk‑taking: Evidence from dual banking systems. *Journal of Financial Reporting and Accounting*. Advance online publication.

Simionescu, M., Bilan, Y., & Strielkowski, W. (2021). The impact of gender diversity on firm performance: Evidence from U.S. technology companies. *Economics & Sociology, 14*(3), 205–220.

Schumpeter, J. A. (1942). *Capitalism, Socialism, and Democracy*. Harper & Brothers

Takahashi, K., & Kubo, K. (2024). Gender diversity in management and firm performance: Evidence from Japan. *Journal of Asian Economics, 87*, 101543.

Tariq, W., Chen, Y., Tariq, A., & Torkkeli, M. (2024). Breaking the glass ceiling in banking: The impact of female directors, digitalization, and income diversification on financial stability. *Balance Leadership*. https://doi.org/10.1108/BL-08-2023-0234

Vähämaa, S., et al. (2023). *Female leadership enhances bank stability*. University of Vaasa. Universitas Wasa

Weber, O. (2014). The Financial Sector's Impact on Sustainable Development. *Journal of Sustainable Finance & Investment, 4*(1), 1-8. https://doi.org/10.1080/20430795.2014.887345

Wu, X., & Cheng, G. (2024). The Performance and Stability of Financial Institutions Following Digital Transformation: The Importance of Regional Policies. *Finance Research Letters, 66*, 104281. https://doi.org/10.1016/j.frl.2024.104281