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Influence of Banks Loan Management Practices on Bank Stability in Tanzania

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Abstract: This study examined the relationship between banks loan management practices and bank stability. It focuses on 45 banks located in Tanzania, using the Agency Theory and Credit Risk Management Theory. The study used the cross-sectional research design, focusing on staff from all 45 banks licenced by the Bank of Tanzania. A representative sample of five officer from each bank yielded 220 respondents. The selection based on their specialized tasks and responsibilities within the specific banking institutions, including key positions such as Finance Officer, Human Resource Officer, Internal Auditor, Loan Management Officer, and Risk Officer. The study used a semi-structured closed-ended questionnaire as source of data. The study used the Partial Least Squares Structural Equation Modelling (PLS-SEM) in data analysis. Based on the findings, the study strongly supported the guiding hypotheses that stringent loan diversification, effective loan loss provisioning and minimized non-performing loans positively contribute to enhanced bank stability. The study recommended that banking institutions in Tanzania and similar developing economies should strengthen their loan management practices, particularly by enhancing loan diversification and implementing stringent loan loss provisioning measures. Regulatory bodies should continue to enforce and monitor these practices to ensure that banks effectively manage risks and maintain financial stability. Finally, policymakers and regulatory agencies should provide clear guidelines on loan diversification and ensure the adoption of robust credit evaluation mechanisms to minimize defaults.

Keywords: Loan Management; bank stability; loan loss provisioning; loan diversification stringency.

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Introduction

Bank stability has been a constant and raising concern to the most of bank stakeholders including investors, managers, depositors and regulatory entities across nations (Salim et al., 2023; Vousinas, 2020). Adrian et al. (2023) emphasized the necessity of adaption of loan management practices to develop and maintain stable banks. This is

because of the fact that the primary activities of banks is to issue loans and the decisions to grant loans must follow appropriate loan management practices because the quality of the risky assets to a larger extent determines the bank's success or failure (Lynn, 2022).

Bank stability is the ability of a bank to maintain its operational consistency and financial health in the face of numerous risks, uncertainties and challenges (Gurley Holloway, 2023; Shetty et al., 2024) . Bank stability is the distance a specific bank has between the bank itself and the actual failure or insolvency (Chol et al., 2020). Conversely, bank stability is defined by Pohoață et al. (2024) as the capacity of banks to sustain their financial soundness in the event of economic shocks. Bank stability is of vital importance since unstable banks may affect negatively the economy by the inability to execute their role as financial intermediaries (Khasanah & Wicaksono, 2021).

The financial crisis of 2007 – 2009 served as a caution regarding the possibility of a systemic meltdown and its cascading impacts across the financial industry. Regulators, shareholders, deposit insurers and bank depositors all had profound concerns around bank stability. African banks were not directly exposed to collateralized debt contracts or other comparable instruments, such as sub-prime US mortgages. However, as the global financial crisis of 2007–2009 deepened, its aftermath affected a number of African nations. The banking system and particular banks that rely on foreign parent banks were affected by the crisis. Therefore, there was a cascading effect of the crisis to the home countries. For example, in Tanzania, there was a possibility of such effects to the subsidiaries of foreign banks, which had poor loan management practices (Mgema & Komba, 2021).

Some of the causes of the global financing crisis of 2007-2009 include excessive credit risk-taking fueled by lower lending standards, inaccurate credit ratings and complex structured instruments (Sufi & Taylor, 2022). Regulators, policymakers and banks operators have been discussing about bank stability throughout the years, including the instability brought by the most recent Covid-19 outbreak, which lead to the relaxing of lending standards to enable banks to support economy (Budnik et al., 2021).

The negative consequence of the COVID-19 pandemic was on the bank stability due to inability of borrowers to meet payment of their loan obligations to banks. This happened mostly to those banks which were having transactions with foreign banks in which risks were not properly mitigated prior to those financial transactions and during the pandemic. The majority of the banks that suffered during the crisis were foreign, government-owned, smaller and less capitalized banks with less diverse business models and inadequate loan management practices. Proper loan management practices, better institutional quality, financial development and regulatory environments reduced the impact of COVID-19 on bank stability and greatly boosted the strength and resilience of banks in those countries (Shabir et al., 2023).

The impact of COVID-19 on Tanzanian banks was found to be less severe than in other countries because of the central bank's intervention as a regulator of banks. The central bank intervention involved requirement for banks to relax their loan management practices but within the regulatory guidance, further the central bank reduced the discount rate so as to enable banks to get financing at a reduced cost. These helped borrowers to acquire financing at a minimized interest rate. In addition, banks were able to restructure loans more frequently than the one permitted by central bank regulations in order to align loan repayment with borrower's capacity to pay. This was made possible by regulatory forbearance through loan restructuring. The main purpose of all these mechanisms was to safeguard customers and banks during the pandemic (Magoma, 2022).

The role of bank management is crucial in maintaining institutional stability, as they are required to operate within internal policies and regulatory frameworks. These guidelines necessitate the adoption of appropriate loan management practices that help mitigate excessive risk-taking behaviors among bank managers. As a result, compliance and risk management take precedence over the pursuit of maximum returns that could negatively impact bank stability (Conti-Brown & Vanatta, 2023). The adoption of loan management practices involves a thorough assessment of borrower creditworthiness and risk analysis to evaluate the likelihood of timely repayment. This process includes examining factors such as the borrower's financial stability, repayment history and available collateral. By ensuring that borrowers can meet their repayment obligations, these practices contribute to improved bank stability (Velez, 2020).

Further, loan management practices, which include evaluation of non-performing loans by banks, setting aside loan loss provisioning and adherence to limits on risk-taking activities are critical for enhancing bank stability. These strategies incentivize banks to adopt prudent risk management practices, thus reducing the likelihood of financial instability (Borio et al. 2020). Research indicates that banks with more rigorous loan management frameworks tend to be more resilient, especially during economic downturns (Nguyen, 2021).

Lack of proper loan management practices by banks in the lending process causes an increased level of non-performing loans, eventually negatively impacting the quality of the loan portfolio. Non-performing loans increase the level of provision for loan losses, which ultimately impacts banks' earnings, capital level and thereafter bank stability (Taswan et al., 2023). Loan management practices usually influence the success or failure of commercial banks and other financial institutions. This is because of the fact that the primary activities of the banks is to issue loans and the decisions to grant loans must follow loan management practices because the quality of the risky assets to a larger extent determines the bank's success or failure (Lynn, 2022).

Despite the extensive literature on the relationship between banks' loan management practices and bank stability, there is a gap in understanding the combined impact of key loan management elements specifically, the level of non-performing loans, loan loss provisioning and loan diversification on bank stability. Most existing studies have focused on these factors in isolation, but few have examined how these loan management elements interact, especially within developing economies like Tanzania. Moreover, the existing research often lacks empirical evidence on how these loan management practices influence bank stability over time, leaving a gap in understanding their cumulative impact in emerging markets (Karanja & Simiyu, 2022). This gap is particularly relevant in the context of developing countries, where regulatory frameworks are still evolving, and the effects of loan management practices may differ from those in more developed economies.

This study examines the impact of key loan management practices like non-performing loans (NPL), loan loss provisioning stringency (LLS) and loan diversification stringency (LDS) on bank stability in Tanzania. By analyzing their combined effect, the research provides empirical insights to enhance bank resilience in emerging economies.

Theoretical Perspective

Theoretical frameworks that anchored this study to understand the relationship between banks loan management practices and bank stability are the Agency Theory and the Credit Risk Management Theory.

Agency Theory

Agency Theory (Meckling & Jensen, 1976) focuses on the relationship between principals (shareholders) and agents (such as bank managers). In the context of level of Non-performing Loans, the theory would analyze the extent of the loan management practices needed to be adopted by managers to ensure that the shareholders and other stakeholders' interests are fulfilled, influence the behavior and decision-making of bank managers (the agents). Agency Theory also examines incentive structures, monitoring mechanisms and conflicts of interest that arise when managers prioritize personal goals over the institutional stability. These conflicts can impact risk management and decision-making, particularly regarding credit risk, lending policies and regulatory compliance. Research suggests that when banks implement strong loan management practices, they reduce agency costs and improve the overall performance and stability (Musa & Ibrahim, 2022).

The agency problem arises when managers, as agents, make decisions that may not always align with shareholder interests, potentially affecting risk-taking behavior and bank performance. While shareholders seek profit maximization, managers may avoid risk to protect the bank charter, a valuable asset that contributes to institutional longevity (Moloi et al., 2020). To mitigate agency conflicts, aligning the interests of managers and shareholders is crucial, including adopting stringent loan management processes to reduce default risks and enhance returns (Al-Faryan, 2024). Empirical studies support that banks with strong loan management frameworks experience improved stability due to reduced agency costs and enhanced risk management practices (Al-Ahdal et sl., 2022). Thus, Agency Theory provides valuable insights into how loan management strategies influence bank stability by addressing conflicts of interest and

promoting sound financial governance (Budiarto, 2021).

Credit Risk Management Theory

Credit Risk Management Theory (Jorion, 2009) focuses on how banks identify, monitor, manage and control lending-related risks to guarantee bank stability and its resilience. This theory highlights the significance of effective risk-control measures, such as adopting proper loan management strategies along with establishing loan loss provisions, to safeguard against prospective defaults that could undermine bank capital and its stability (Khine, 2023). Given the fact that banks lend depositor's funds, proper credit risk management is critical to maintain their financial health. Banks that engage in risky lending may face strict regulatory requirements for credit losses, which may have an impact on their revenues, capital and ultimately, stability. Therefore, banks must employ effective credit risk management strategies that guarantee responsible lending, limit defaults and support economic growth (Natufe & Evbayiro-Osagie, 2023).

Credit Risk Management Theory provides a framework for understanding how effective banks loan management practices affect banks' lending behaviour and overall bank stability. By requiring banks to set aside sufficient provisions for probable loan defaults, regulatory bodies make sure that banks must have a buffer against unexpected credit losses to supports long-term financial stability.This alignment between loan management practices, non-performing loans and loan loss provisioning helps to ensure that banks perform their intermediary role effectively, minimizing credit risks while contributing to economic development (Kuznyetsova et al., 2022; Lumpkin & Schich, 2020). Therefore, Credit Risk Management Theory offers valuable insights into how banks loan management practices help banks to reduce non-performing loans and provision for loan losses and reduce the impact of loans losses on the bank stability (Al-Husainy & Jadah, 2021).

Empirical Literature Review

Empirical studies have extensively examined the impact of loan management practices on bank stability, highlighting the critical role of credit risk management, loan loss provisioning and loan diversification in mitigating financial instability. Research in various banking sectors, including Tanzania, suggests that effective loan management strategies contribute to reducing non-performing loans, enhancing profitability and strengthening overall financial resilience.

Empirical studies consistently highlight the dual impact of loan management practices on bank stability, with both positive and negative implications. Budiarto (2021) found that while effective credit collection capacity positively influences financial stability, high levels of non-performing loans (NPLs) negatively affect bank performance. His study on rural banks in Indonesia demonstrated that empathy-based credit risk models could mitigate the adverse effects of NPLs, reinforcing the need for strong risk assessment mechanisms. Similarly, Moudud-Ul-Huq et al., (2020) emphasized that inadequate loan management practices attract excessive credit risk, especially when combined with lower lending standards and inaccurate credit ratings, ultimately leading to bank instability. These findings indicate the importance of a balanced approach to credit risk management, where proper loan assessments can enhance stability, but poor risk controls can result in financial distress.

The impact of credit risk management on bank performance further illustrates this dual effect. Mahmood et al. (2023) found that while well-managed credit risk strategies positively influence key financial indicators, such as return on assets (ROA) and return on equity (ROE), poor NPL management significantly reduces profitability and weakens financial resilience. Likewise, Žunić et al., (2021) found a strong link between NPLs and loan loss provisions in Bosnia and Herzegovina, where increased NPL levels forced banks to allocate higher provisions, thereby reducing profitability and overall stability. Conversely, effective loan management can enable banks to maintain financial health and navigate economic downturns. These findings indicate that while well-structured loan management enhances performance, uncontrolled NPLs pose a significant threat to long-term bank stability.

In Tanzania, Majondo et al., (2023) examined commercial banks' credit risk management strategies and found that the adoption of reviewed credit risk frameworks significantly reduce NPLs and improve profitability and it positively contributes to bank stability. The study highlighted that proactive risk assessment and adaptive loan policies enhance financial sustainability, protecting banks from

excessive credit risks. However, they also noted that failure to implement stringent loan assessment policies can expose banks to high-risk borrowers, increasing default rates and financial vulnerabilities. These findings further reinforce the notion that while strong loan management practices safeguard stability, weak policies heighten risk exposure.

Taken together, these empirical insights highlight the necessity of a strategic balance in loan management, where both risk mitigation and financial performance objectives must be carefully aligned. While effective loan management fosters profitability and resilience, excessive risk-taking and inadequate credit risk controls can lead to financial instability. These studies collectively support the null hypothesis: *There is no significant relationship between the level of non-performing loans and bank stability.*

Research on loan loss provisioning (LLP) practices across different banking sectors highlights both positive and negative aspects related to their impact on bank stability, with varying practices observed during times of economic uncertainty or regulatory changes. Abaidoo et al. (2023) examined U.S. banks and found that during periods of increased economic policy uncertainty, banks tend to increase loan loss provisioning primarily for income smoothing rather than for capital management. This trend was especially pronounced in private banks compared to listed ones, where income smoothing through LLPs was more prominent during distress periods. This practice, while potentially beneficial for short-term financial performance and risk mitigation, may reduce the transparency of a bank's true financial health, negatively impacting long-term stability and investor trust. Conversely, during normal times, U.S. banks used provisions more flexibly for capital management, reflecting a more proactive approach to ensuring financial stability in non-crisis periods.

Similarly, Olszak et al. (2023) explored the impact of macroprudential policies on loan loss provisioning in European banks from 1996 to 2019. The study found that tighter macroprudential regulations typically led to a reduction in LLPs, which may be indicative of banks adjusting their provisioning to comply with regulatory standards rather than responding purely to financial stability needs. Under Basel III, the relationship between LLP practices and macroprudential tightening evolved. Prior to Basel III, tightening regulations exacerbated income smoothing tendencies, which could obscure banks' financial resilience. However, after the implementation of Basel III, the interest of holding provisions for loan losses for income smoothing diminished and banks adopted more proactive provisioning strategies, which contributed to improved capital level, liquidity and thereafter overall bank stability.

This shift suggests that regulatory changes can influence the manner in which banks manage their loan loss provisions, highlighting the dynamic nature of provisioning practices in response to evolving regulatory environments.

Jutasompakorn et al. (2021) further examined the impact of Basel III on discretionary loan loss provisioning (DLLP) practices among European banks. The findings revealed that the implementation of Basel III enhanced banks' use of DLLPs for capital management, aligning more closely with the regulatory requirement to increase Tier 1 capital ratios. This shift resulted in more timely and proactive loan loss provisions, which were viewed as positive for overall bank stability. The study also found that banks with conflicting incentives exhibited greater improvements in provisioning timeliness, demonstrating that regulatory frameworks can drive banks to adopt more efficient loan management practices. The shift towards using LLPs for capital management, instead of income smoothing, under Basel III provided a more stable and transparent approach to managing risks and ensuring long-term financial health.

Taken together, these studies highlight the complex relationship between loan loss provisioning and bank stability. While practices such as income smoothing through increased provisions may offer short-term financial relief, they can undermine long-term stability by masking a bank's true financial condition. On the other hand, regulatory reforms, such as Basel III have encouraged banks to adopt more proactive, transparent, and timely provisioning practices, which have been shown to contribute positively to capital management and overall stability. This suggests that while the hypothesis is supported by evidence of improved capital management and enhanced stability under stringent regulations, it also underscores the need for banks to carefully balance provisioning practices to avoid potential negative impacts on their long-term financial health. From these explanations, a

null hypothesis develops: *Loan loss provisioning does not have a significant impact on bank stability.*

Existing literature indicates that loan diversification stringency plays a crucial role in influencing bank stability, with strict diversification practices potentially enhancing resilience but also presenting challenges for banks' lending strategies. Koskei (2020) highlights that loan diversification involves spreading loans across various sectors, geographic regions and borrower types to mitigate risk. Stringent loan diversification requirements encourage banks to manage risk more effectively by reducing exposure to any single sector or borrower group. This, in turn, can improve bank stability by buffering against economic downturns in particular industries. However, overly stringent diversification policies may limit banks' lending flexibility, potentially reducing profitability in favorable economic conditions, as banks may be forced to operate within tighter risk parameters that restrict opportunities for high returns.

Hunjra (2021) examined how diversification practices influenced bank risk-taking behavior in growing Asian economies. The study found that diversification, along with capital restrictions and corporate governance mechanisms reduced banks' willingness to take on excessive risk. By spreading loans across different sectors, banks can avoid heavy losses from a downturn in any single sector, thus enhancing stability. However, the study also indicated that while diversification helps reduce risks, it may also lead to lower returns in the short term, as banks spread their capital across more conservative investments. This balancing act between reducing risk and maintaining profitability is a key consideration for banks implementing strict diversification policies.

In a similar vein, Gwatidzo (2024) examined the relationship between bank regulations and performance in South Africa and found a positive relationship between activity restrictions (such as diversification) and bank performance. Regulatory restrictions that require banks to diversify their portfolios are shown to benefit the banks by improving overall stability. However, these restrictions may also constrain banks' ability to take advantage of profitable, high-risk opportunities. The study suggests that while regulations enhance long-term stability by limiting risk exposure, they could limit banks' flexibility to respond to changing market conditions or capitalize on more lucrative ventures, which could be seen as a downside.

Adem (2022) conducted a study on the impact of diversification on bank stability in emerging and developing countries, using panel data from 45 African nations. The study found that diversification lowers risk and boosts stability in both crisis and non-crisis situations, supporting portfolio theory. This positive effect of diversification on stability suggests that stricter diversification requirements can help banks weather economic crises by maintaining a more balanced risk profile. However, the study also acknowledged that diversification might reduce the potential for higher returns, as banks limit their exposure to higher-risk sectors or borrowers. This highlights the need for banks to strike a careful balance between adopting strict diversification policies and ensuring profitability.

Taken together, these studies suggest that loan diversification stringency, when implemented effectively, can enhance bank stability by reducing risk exposure and improving resilience during economic downturns. However, overly stringent diversification policies may limit banks' ability to capitalize on profitable opportunities, leading to potential trade-offs between stability and profitability. The following null hypothesis develops: *Loan diversification stringency does not have a significant effect on bank stability.*

Methodology

Research Design

This study used a cross-sectional research design as its approach. This strategy entailed providing a semi-structured questionnaire to designated personnel from all 45 Tanzanian banks. The decision to use the cross-sectional design was driven by its capacity to quickly obtain data within a short timeframe, which was well suited to the study's specific time constraints. Furthermore, the strategic selection of officials in key positions within banks, such as Finance Officer, Human Resource Officer, Internal Auditor, Loan Management Officer and Risk Officer, was critical. These key positions were identified as critical contributors to the study's objectives, justifying their inclusion in the data collection method. Additionally, the researchers assessed several variables using multiple indicators. These included Non-Performing Lons (NPL), Loan Loss Provisioning Stringency (LLS), Loan Diversification Stringency (LDS) and Bank Stability (BS), providing a comprehensive framework for

evaluating the pertinent factors within the scope of the study. This methodological approach facilitated a thorough examination of how these variables interplay and impact the operational dynamics and stability of banks.

Population and Sampling

The study focused on staff from all 45 banks licenced by the Bank of Tanzania (BOT, 2022). Due to the limited number of banks, census sampling was employed. A representative sample of 5 officers was selected from each bank, resulting in a total of 220 respondents. These officers were chosen based on their specialized tasks and responsibilities within the specific banking institutions, including key positions such as Finance Officer, Human Resource Officer, Internal Auditor, Loan Management Officer, and Risk Officer. The staff in these positions are considered critical as they are involved in risk assessment, controls, reporting and monitoring of banking operations. Some are responsible for adopting appropriate loan management practices to ensure enhanced bank performance and compliance with regulatory standards, aligning closely with the study's objectives (Besmir & Aliu, 2021). This approach was designed to provide a thorough understanding of the dynamics influencing the banking sector's operations and management in Tanzania.

Data Collection Instrument

The quantitative data collection for this study included the organized distribution of a semi-structured closed-end questionnaire aimed at producing statistical insights relevant to the specified hypotheses.The questionnaire construction followed a rigorous approach outlined by Churchill and Iacobucci (2006), encompassing nine recommended steps to ensure validity and reliability. Each questionnaire item pertaining to the variables under investigation was rated on a seven-point Likert scale, facilitating a precise assessment of respondents' perceptions. The decision to utilize quantitative data collection methods was driven by their capability to generalize findings and enable predictive analysis, as emphasized by Akter *et al*. (2019).

Reliability and Validity

Confirmatory Factor Analysis (CFA) served as the methodological foundation for carefully assessing the suggested model's alignment with the acquired dataset. This entailed an in-depth examination of both the reliability of individual indicators and the construct patterns that they reflect, as well as convergent and divergent validity.

Prior to commencing with the main study, a pilot investigation was undertaken involving 20 (10%) financial institutions to validate the items included in the final questionnaire. Convergent validity indices were computed, yielding the values of 0.610 for Non-Performing Loans (NPL), 0.616 for Loan Loss Provisioning Stringency (LLS) and 0.591 for Loan Diversification Stringency (LDS). Additionally, reliability analyses were conducted, resulting in coefficients of 0.862 for Non-performing Loans (NPL), 0.906 for Loan Loss Provisioning Stringency (LLS) and 0.813 for Loan Diversification Stringency (LDS). Based on the insights gleaned from the pilot study, items deemed redundant, overly complex, or ambiguous were accurately eliminated from the final questionnaire intended for the main study in order to ensure robustness and clarity of the instrument employed for data collection.

Techniques of Data Analysis

Data collected in the field was carefully entered into SPSS Version 27, ensuring accuracy and reliability. The researcher conducted rigorous checks to identify and correct data entry errors, handle missing values and address outliers. Linear interpolation was used to impute missing data, and box plots were examined to manage outliers effectively. Following these data preparation steps, Partial Least Squares Structural Equation Modelling (PLS-SEM) was used for comprehensive analysis using Smart PLS software. The coefficient of determination (R^2) was closely evaluated to assess the model's predictive capability.

Ethical Considerations

Ethical considerations in this study included ensuring informed consent from all participants, guaranteeing their confidentiality and protecting their anonymity. Participants were fully briefed on the study's purpose and the voluntary nature of their involvement. The data collected was used solely for academic purposes, and participants were assured that no personal identifiers would be linked to their responses.

Results and Discussions

This section present findings derived from the data analysis and interpret their implications in relation to the study's hypotheses and objectives. This section critically examines the outcomes to provide

meaningful insights and conclusions based on the research questions.

Demographic characteristics

Findings show that 50% of the respondents held a bachelor's degree, 35% a master's degree and 2% a PhD. In terms of experience, 49% had 16-25 years of work experience. The age distribution indicates significant professional experience, with 35% of respondents aged 40-49 years. A diverse representation in areas like credit, risk, compliance and finance ensures a well-rounded perspective on the study's objectives (see Table 1).

Table 1: **Demographic profile of the respondent**

SN	Type	Profile	Frequency	Percentage
1	Sex	Male	113	55%
		Female	93	45%
2	Age	21-29 years	34	17%
		30-39 years	67	33%
		40-49 years	72	35%
		50 years and above	30	15%
3	Education	(a) Diploma	19	9%
		(b) Bachelor's degree	103	50%
		(c) Master's Degree	72	35%
		(d) Phd	4	2%
		(e) Others (please specify)	8	4%
4	Experience	3 to 5 yrs	6	3%
		6 to 15 yrs	37	18%
		16-25 yrs	101	49%
		26 to 35 yrs	54	26%
		36 and above	8	4%
5	Area of Operations	Credit	47	23%
		Audit	40	19%
		Risk and compliance	42	20%
		Finance	41	20%
		Human resources	36	17%

Table 2: Descriptive statistics for central banks supervision effectiveness

Variable	Variable	Mean	Std. Dev
BS1	Higher capital requirements can enhance banks' resilience to shocks	5.015	1.201
BS2	Adequate provisioning may reduce the likelihood of bank failures.	4.728	1.103
BS5	Diversification can mitigate risk, leading to greater stability	4.883	1.245
BS6	Stronger regulations may lead to improved trust in the banking system	4.976	1.327
LDS1	Stringent loan diversification policies improve my bank's risk profile	5.243	1.088
LDS2	Diversified loan portfolios contribute to bank stability	5.277	1.177
LDS4	Bank's adherence to diversification regulations has a positive effect on stability	5.277	1.177
LLS1	Higher provisioning requirements reduce the likelihood of bank failures.	4.471	1.353
LLS2	Bank's stability is enhanced by rigorous loan loss provisions.	4.728	1.331
LLS3	Adequate provisioning helps mitigate the impact of economic downturns	4.655	1.212
LLS4	Loan loss provisioning helps in maintaining confidence in the banking system.	4.568	1.387
LLS5	Stricter provisioning regulations influence my bank's lending practices positively	4.869	1.216
LLS6	Adequate provisioning Policies improves loan quality	4.791	1.358
NPL4	Appropriate credit policy	4.682	1.275
NPL5	Loan analysis	4.728	1.248
NPL6	Approval process	4.791	1.207
NPL7	Loan default management	4.782	1.253

In terms of descriptive statistics, Table 2 indicates a strong consensus among respondents on the benefits of a diversified loan portfolio, with a mean of 5.277, indicating a strong consensus. This suggests that loan diversification enhances banks' resilience against defaults. Similarly, adequate loan

loss provisioning is viewed positively, with a mean score of 4.728, showing an agreement and highlighting its role in mitigating bank failure risks. The perceptions regarding loan diversification regulations further emphasize their importance in risk reduction, with a mean of 5.277 indicating that diversified portfolios positively contribute to bank stability. Overall, the findings highlight the importance of balanced loan management practices, which promote bank stability while maintaining operational flexibility. The effectiveness of these practices is contingent on the policies and procedures developed by the bank and their consistent application to enhance the quality of the loan portfolio.

Measurement

This section presents the results of the measurement model analysis, which confirms a strong fit with the data.

The guiding hypotheses were essential in structuring the analysis and presentation of results, specifically addressing the roles of NPLs, LLP and loan diversification in shaping bank stability. The results demonstrated a strong fit of the measurement model to the data, with the majority of factor loadings exceeding the conventional criterion of 0.7 (Hair et al., 2013). Construct reliability was evaluated through composite reliability, with a minimum threshold of 0.7 indicating satisfactory scale reliability (Hair *et al*., 2013). Additionally, the constructs' reliability was further assessed using the Cronbach's Alpha Coefficient, which exceeded 0.7 for all constructs, affirming high levels of internal consistency and reliability (Hair & Alamer, 2022).

Convergent validity was determined using the AVE criterion, and all constructs had AVE values of at least 0.5, indicating robust convergent validity (Hair & Alamer, 2022). Divergent validity was thoroughly evaluated by comparing the square root of AVE with the correlation values between constructs. The results, presented in Table 3, confirmed satisfactory the divergent validity among the constructs, thereby validating the distinctiveness of each construct (Fornell & Larcker, 1981; Hair et al., 2021).

Table 3: Factor loading for constructs and composite reliability

Indicator	BS	LDS	LLS	NPL
BS1	0.793			
BS2	0.732			
BS5	0.769			
BS6	0.826			
LDS1		0.761		
LDS2		0.847		
LDS4		0.745		
LLS1			0.796	
LLS2			0.843	
LLS3			0.741	
LLS4			0.815	
LLS5			0.733	
LLS6			0.779	
NPL4				0.739
NPL5				0.827
NPL6				0.807
NPL7				0.755

Table 4: Construct reliability and validity

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BS	0.784	0.783	0.861	0.607
LDS	0.754	0.56	0.813	0.591
LLS	0.875	0.881	0.906	0.616
NPL	0.789	0.887	0.862	0.61

Table 5: Discriminant validity-HTMT

Variable	BS	LDS	LLS	NPL
BS				
LDS	0.448			
LLS	0.636	0.44		
NPL	0.737	0.356	0.553	

Table 6: Collinearity statistics - VIF

Variables	VIF
LDS -> BS	1.142
LLS -> BS	1.354
NPL -> BS	1.292

Table 7: R-square and Q-square to assess the Quality of the Structure Model

Variable	R^2	Q^2	f^2
BS	0.450	0.255	
LDS		0	0.020
LLS		0	0.126
NPL		0	0.250

To interpret the results in Table 6, the Variance Inflation Factor (VIF) values for the independent variables (Non-Performing Loans (NPL), Loan Loss Provisioning Stringency (LLS) and Loan Diversification Stringency (LDS) predicting the dependent variable, Bank Stability (BS), suggest that multicollinearity is not a concern, indicating that the independent variables are not excessively correlated and their individual effects on bank stability can be reliably assessed.

Furthermore, the outcomes displayed in Table 7 include the R^2 values, which gauge the proportion of variation in the dependent variable explained by the model and its ability to predict outcomes. Additionally, in the context of Structural Equation Modeling (SEM) models, the cross-validity redundancy and commonality measure Q^2 are evaluated. In SEM, a Q^2 value greater than zero for a reflective endogenous latent variable indicates the model's predictive relevance for that specific construct. According to the guidelines by Hair *et al*. (2014), a Q^2 value of 0.02 suggests small predictive relevance, while Q^2 = 0.15 implies medium relevance, and Q^2 = 0.35 indicates large predictive relevance. By assessing the Q^2 values, we can ascertain the extent to which the SEM model accurately predicts the variability in the reflective endogenous latent variables. These values offer valuable insights into the model's ability to capture and explain the underlying relationships among the constructs under investigation.

In the results from Table 7, Q^2 values notably exceed zero, providing substantial evidence supporting the model's predictive relevance for the specified endogenous construct. Examining the columns of the f-square, the value of 0.250 represents the f-square effect for the predictive value of NPL on BS, indicating that NPL has a more significant impact on producing the R-square for BS. Conversely, the values of 0.126 (LLS) and 0.020 (LDS) suggest relatively medium and smaller effects on $R,^2$ respectively. The structural model presented in Table 8 serves as a framework for testing the hypotheses formulated in the research model. The table provides a concise summary of the hypothesis results, offering insights into the significance of the relationships between the variables under investigation. In this analysis, all t-statistics are expected to be significant at a p-value less than 0.001 to establish statistical significance. A p-value below the significance level indicates that the null hypothesis is rejected, suggesting a meaningful relationship between the variables.

Specifically, the T-values presented in Table 8 play a crucial role in determining the significance of the paths between the variables. A T-value greater than 2.63 signifies that the path is significant at $p < 0.001$, indicating strong reason to reject the null hypothesis. Conversely, a T-value falling between 2.63 and 1.96 is considered significant at $p < 0.05$, providing moderate evidence against the null hypothesis (Sergey & Tienan, 2013). On the other hand, a T-value below 1.96 is not considered statistically significant ($p < 0.001$).

In this study, three hypotheses were formulated, and Partial Least Squares (PLS) Bootstrapping was

employed to rigorously test these hypotheses. PLS Bootstrapping is a robust statistical technique used to assess the reliability and significance of the estimated parameters in structural equation modelling, particularly when dealing with small sample sizes or non-normal data distributions. By scrutinizing the T-values and corresponding p-values in Table 8, researchers can evaluate the support for each hypothesis and draw meaningful conclusions regarding the relationships between the variables in the research model. These findings contribute to advancing theoretical understanding and informing practical implications in the relevant field of study.

Table 8: Structural model for testing hypothesis

Hypothesis	Path coefficient	Sample mean	Std deviation	T statistics	P values	Decision
LDS -> BS	0.111	0.117	0.064	2.867	0.031	Accept
LLS -> BS	0.306	0.308	0.065	4.696	0.000	Accept
NPL -> BS	0.421	0.424	0.063	6.660	0.000	Accept

The findings reveal that hypotheses H1 (LDS->BS), H2 (LLS->BS), and H3 (NPL->BS) are accepted indicating that there is a causal relationship between Non-Performing Loans, Loan Loss provisioning Stringency and Loan Diversification Stringency, on one hand, and Bank Stability, on the other hand.

The primary objective of this study was to offer insights into the evolving relationship among Non-Performing Loan, Loan Loss provisioning and Loan Diversification to the Bank Stability. The findings presented in Table 8 shed light on this relationship and they contribute valuable insights to the field.

The findings highlight a significant and statistically robust influence of Loan Diversification Stringency (LDS) on Bank Stability (BS), providing strong support for Hypothesis 1 (H1). The results indicate that variations in Loan Diversification Stringency (LDS) significantly impacts Bank Stability, demonstrating that changes in LDS are associated with fluctuations in the stability of banks. The beta coefficient signifies both the strength and direction of this relationship, revealing a positive association: as Loan Diversification Stringency increases, bank stability tends to improve. The statistical significance underscores the reliability of this relationship between Loan Diversification Stringency and Bank Stability.

Moreover, the findings demonstrate a substantial impact of Loan Loss Provisioning (LLS) on Bank Stability (BS), which is statistically significant, thereby providing a robust support for Hypothesis 2 (H2). The results indicate that variations in Loan Loss Provisioning Stringency significantly affect the stability of banks. Specifically, an increase or enhancement in Loan Loss Provisioning Stringency correlates positively with improved bank stability. The beta coefficient signifies both the strength and direction of this relationship, suggesting a positive effect wherein higher Loan Loss Provisioning Stringency is associated with greater bank stability. The statistical significance of this relationship is underscored by the findings. A p-value of less than 0.001 indicates high statistical significance, indicating that the observed relationship is unlikely to occur by random chance alone. Additionally, the t-value of 4.696 surpasses the critical value of 1.963 for a significance level of 0.05, further confirming the robust statistical significance of the relationship between Loan Loss Provisioning Stringency and Bank Stability.

Further, the results demonstrate that there is a significant influence of level of Non-Performing Loans (NPL) on Bank Stability (BS). This indicates strong support for Hypothesis 3 (H3), indicating that the controlled level of Non-Performing Loans (NPL) has a significant impact on Bank Stability (BS). In simpler terms, the research findings strongly suggest that when non-performing loans are minimized (NPL), it significantly influences and improves the stability of banks (BS).

Specifically, the results of the analysis suggest that changes in the level of non-performing loans (NPL) have a meaningful effect on Bank Stability (BS). This implies that a Beta Coefficient represents the strength and direction of the relationship between non-performing Loans (NPL) and Bank Stability (BS). In this case, a beta coefficient of 0.421 indicates a negative relationship, suggesting that as the level of non-performing loans decreases, Bank Stability tends to improve. The statistical significance indicates the reliability of the relationship between Non-Performing Loans (NPL) and Bank Stability (BS). This finding aligns with previous studies by Hassan et al. (2022) as well as Akhter (2023), who

emphasized the importance of effective loan management practices in enhancing bank stability.

Conclusions and Recommendations

Conclusions

In conclusion, this study highlights the significant roles of Loan Diversification Stringency (LDS), Loan Loss Provisioning (LLS) and Non-Performing Loans (NPL) in influencing Bank Stability (BS). The findings strongly support the hypotheses that stringent loan diversification, effective loan loss provisioning and minimized non-performing loans all positively contribute to enhanced bank stability. As such, the study underscores the importance of robust loan management practices and proactive risk mitigation strategies in fostering financial resilience and stability within banking institutions. These insights provide valuable guidance for both policymakers and banks in enhancing their operational strategies and ensuring long-term financial stability.

Recommendations

Based on the findings of this study, it is recommended that banking institutions in Tanzania and similar developing economies strengthen their loan management practices, particularly by enhancing loan diversification and implementing stringent loan loss provisioning measures. Regulatory bodies should continue to enforce and monitor these practices to ensure that banks effectively manage risks and maintain financial stability. Banks should also adopt comprehensive credit risk management strategies to mitigate non-performing loans and align managerial decisions with shareholder interests, as suggested by Agency Theory. Policymakers and regulatory agencies should provide clear guidelines on loan diversification and ensure the adoption of robust credit evaluation mechanisms to minimize defaults. Furthermore, future research should explore how these loan management practices influence bank stability in diverse global contexts to broaden the understanding of these relationships.

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