
CREDIT RISK AND PERFORMANCE OF VIETNAMESE BANKS

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ABSTRACT

The study aimed to empirically investigate the effect of credit risk on the financial performance of Vietnamese banks. Secondary data was collected from the 15 commercial banks in the country over a 8-year period from 2014 to 2021. The study utilized nonperforming loans, capital adequacy ratio, impaired loan reserve, and loan impairment charges as indicators of credit risk, with return on assets serving as the measure of financial performance. Data analysis was conducted using a balanced panel data regression model, and the findings indicate that nonperforming loans and capital adequacy significantly influence the financial performance of Vietnamese commercial banks. Therefore, controlling credit risk is essential for maintaining bank financial performance.

Key words: Credit risk, performance, Vietnam, Bank

1. INTRODUCTION

Credit risk is a fundamental concern in the banking sector, playing a pivotal role in determining the stability and profitability of financial institutions. It refers to the possibility that borrowers may fail to meet their obligations, resulting in financial losses for the bank. Effective management of credit risk is crucial because it directly impacts a bank's asset quality, earnings, and overall financial health (Dang et al., 2020; Dang & Nguyen, 2021b; Hassan et al., 2019). High levels of non-performing loans (NPLs) can erode a bank's capital base, restrict its lending capacity, and diminish investor and depositor confidence. Conversely, robust credit risk management practices, such as thorough credit assessments, ongoing monitoring, and proactive loan recovery efforts, can significantly enhance a bank's resilience to economic fluctuations and market volatility. Furthermore, maintaining an adequate capital adequacy ratio (CAR) ensures that banks have sufficient buffers to absorb potential losses, thereby supporting long-term stability and growth. In essence, the ability to effectively manage credit risk not only safeguards the bank's financial performance but also contributes to the broader economic stability and growth of the financial system (Akbar et al., 2017; Almustafa et al., 2023; Dang & Nguyen, 2022; Nguyen, 2024).

The Vietnamese banking system has undergone significant transformation and modernization over the past few decades, evolving into a more dynamic and resilient financial sector. Comprised of state-owned banks, joint-stock commercial banks, foreign banks, and smaller rural and cooperative banks, the system plays a crucial role in the country's economic development. The State Bank of Vietnam (SBV) serves as the central regulatory authority, overseeing monetary policy, financial stability, and banking regulation (Dang & Nguyen, 2022; Dang et al., 2022). The banking sector has seen rapid growth, driven by economic reforms, increased foreign investment, and a burgeoning middle class. Despite these advancements, the Vietnamese banking system faces challenges such as high levels of non-performing loans (NPLs), the need for improved risk management practices, and ongoing regulatory adjustments to align with international standards. The sector's continued development is vital for supporting Vietnam's economic ambitions, facilitating trade, investment, and inclusive growth across the nation (Dang & Nguyen, 2021a; Ho et al., 2023; Huynh et al., 2020).

The financial performance of banks is a critical factor in the stability and growth of any economy, particularly in emerging markets like Vietnam. In the banking sector, credit risk—the risk of a borrower defaulting on a loan—plays a significant role in influencing a bank's financial health. This study seeks to empirically investigate the impact of credit risk on the financial performance of Vietnamese banks. By examining how various credit risk indicators affect bank performance, this research aims to provide valuable insights into the importance of effective credit risk management. Specifically, this study focuses on the five largest commercial banks in Vietnam, analyzing data over an eight-year period from 2014 to 2021. This period encompasses significant economic developments and regulatory changes, making it a pertinent timeframe for assessing the dynamics of credit risk and financial performance.

To understand the relationship between credit risk and financial performance, we employed several key indicators of credit risk, including nonperforming loans, capital adequacy ratio, impaired loan reserve, and loan impairment charges. These indicators offer a comprehensive view of the different dimensions of credit risk that banks must manage. The nonperforming loan ratio reflects the quality of the loan portfolio, while the capital adequacy ratio indicates the bank's ability to absorb potential losses. Impaired loan reserves and loan impairment charges further highlight the bank's provisions against expected credit losses. For financial performance, we used return on assets (ROA) as the primary metric, as it effectively measures how efficiently a bank utilizes its assets to generate earnings.

By employing a balanced panel data regression model, we aimed to robustly analyze the data, ensuring that the results are both statistically significant and economically meaningful (Kubo & Phan, 2019; Lokanan et al., 2019; Stockport et al., 2009).

The findings of this study reveal that nonperforming loans and capital adequacy are particularly influential in determining the financial performance of Vietnamese commercial banks. This underscores the critical need for robust credit risk management practices to safeguard bank profitability and stability. Effective management of nonperforming loans and maintaining adequate capital reserves are essential strategies for banks to mitigate credit risk and enhance their financial health. The implications of these findings are significant for bank managers, policymakers, and regulators, as they highlight the importance of stringent credit risk controls and the necessity for continuous monitoring and adaptation to changing economic conditions. In conclusion, controlling credit risk is not just beneficial but essential for the sustainable financial performance of banks in Vietnam, ensuring they can support economic growth and withstand financial shocks.

2. LITERATURE REVIEW

Barnhill Jr et al. (2002) conducted a study to determine the impact of credit risk on the profitability of Bangladeshi banks. Utilizing an unbalanced panel data set with 172 observations from 18 private commercial banks spanning the years 2003 to 2013, the study employed several credit risk indicators: NPLGL, LLRGL, LLRNPL, and CAR. Profitability was measured using ROAA, ROAE, and NIM. The analysis, conducted using OLS random effect models, GLS, and system GMM, revealed a robust negative and significant effect of NPLGL and LLRGL on all profitability indicators. Additionally, the results indicated a negative and significant impact of CAR on ROAE. The study also found that the implementation of Basel II had a significantly positive effect on NIM but a significantly negative effect on ROAE (Ghosh, 2015; Ozili, 2019).

Rusmanto et al. (2020) conducted a study to evaluate the effect of credit risk management on the financial performance of SACCOs, specifically in Bomet County. SACCOs, being crucial providers of financial services, have a broader and more extensive outreach compared to other financial institutions, offering savings, credit, and insurance services to a significant portion of the Kenyan population. They have substantially contributed to Kenya's economic development by providing financial services to the poor and small-scale businesses. However, the growth of SACCOs faces challenges due to ineffective credit risk management strategies. The study examined financial performance as the dependent variable, with capital adequacy and management efficiency as independent variables. A sample of 18 SACCOs participated in the study. The findings revealed a positive relationship between all predictor variables (CAR and ME) and financial performance, with the CAR coefficient being significant at the 5% level, confirming a statistically significant influence of CAR on SACCOs' financial performance.

Richard et al. (2008) aimed to enhance the understanding of how credit risk management (CRM) practices contribute to the profitability and long-term sustainability of commercial banks. CRM encompasses the identification, measurement, mitigation, monitoring, and control of credit risk exposures. The researcher analyzed secondary data on the financial status of Basic Bank Ltd and provided a comprehensive overview of CRM practices at different phases. Using MS Excel and SPSS software, the study established the relationship between CRM and bank profitability. The findings highlighted that effective CRM is crucial for banking profitability, as it aids in increasing both current and future financial performance. The study confirmed a positive relationship between CRM and bank profitability, emphasizing that efficient CRM contributes significantly to a bank's financial performance.

The rationale behind investigating credit risk is its impact on profit variability, which can reduce a bank's earnings and stakeholder confidence. Significant losses can lead to reduced credit availability, compromised liquidity, and failure to meet obligations, potentially resulting in loss of strategic positioning, withdrawal of licenses, or even bankruptcy. Therefore, the study aims to understand the impact of credit risk on banks' financial performance, emphasizing the need for effective credit risk management.

It is widely acknowledged that innovation and research in banking are highly sensitive, given that over 85% of their liabilities consist of customer deposits (Battaglia et al., 2014; Bertay et al., 2013; Chen et al., 2018; Cornett et al., 2006). Banks leverage these deposits to generate credit, their primary revenue-generating activity. With the expansion of credit transactions and loan customers, credit growth is inevitable, paralleling the nation's economic growth. However, this also increases credit risk. Traditionally, credit availability was based on financial status, business sustainability, reputation, and liquidity. Yet, unpredictable market conditions often affect these determinants, altering borrowers' financial positions and their ability to repay loans. The impact of credit risk on financial performance has been a focus of scholarly interest, as it is a major factor influencing banks' financial health. However, previous studies

have yielded mixed results, with some finding a positive impact of credit risk on performance, others a negative impact, and still others identifying different influential factors. This study aims to investigate the impact of credit risk on the financial performance of five major Vietnamese banks, providing managerial and policy implications, and contributing to existing literature on the subject.

3. METHOD

The study employed a model similar to that used by Chen et al. (2018), utilizing ROA as the measure of financial performance, the dependent variable. Credit risk, the independent variable, was assessed through the non-performing loan ratio, capital adequacy ratio, impaired loan reserve, and loan impairment charges. These indicators were deemed appropriate for the country of study and were chosen based on data availability in accordance with reporting standards. Data for the variables were obtained from bank financial statements covering the period from 2014 to 2021, sourced from the banks' websites.

The model: $ROA = \beta_0 + \beta_1NPL + \beta_2CAR + \beta_3IMPLR + \beta_4LIMPC + e$

Where β_0 is a constant term, $\beta_1 - \beta_4$ coefficients of independent variables ROA is a dependent variable net income / total asset

NPL is Non-performing loan ratio CAR is Capital Adequacy ratio IMPLR is impaired loan reserve ratio LIMPC is loan impairment charges

Return on Assets (ROA) is an efficiency measure that indicates how effectively a bank utilizes its scarce resources to generate profits. It is calculated as the ratio of net income to total assets. A higher ROA signifies better financial performance. This measure has also been employed in similar previous studies (Berger et al., 2005; Khai, 2022; Nayak, 2021; Nguyen & Dang, 2020; Nguyen, 2020).

Nonperforming loans to gross loans (NPL) serve as credit risk indicators, as used by prior study (Bennouri et al., 2018; Lin & Zhang, 2009; Mollah & Zaman, 2015; Nguyen, 2021, 2022b, 2022c). This ratio measures the percentage of gross loans that are nonperforming or doubtful within a bank's loan portfolio. It is one of the most critical indicators of credit risk and loan quality. A lower NPL ratio indicates better asset quality, fewer doubtful loans, lower credit risk, and consequently, better financial performance.

Capital adequacy ratio (CAR), also utilized by prior studies (Mateus & Belhaj, 2016; Nguyen, 2022a, 2022b; Peni & Vähämaa, 2012; Sun et al., 2009; Uddin & Suzuki, 2014), is recommended by the Basel Accord for assessing asset quality and prudent credit risk management. CAR is the ratio of total capital to risk-adjusted assets. A higher CAR indicates adequate capital and better asset quality, leading to lower credit risk. This ratio is a core measure of a bank's financial strength from a regulatory perspective, comprising the most reliable and liquid types of financial capital, primarily shareholders' equity. Banks with a strong CAR typically exhibit good financial performance.

Impaired loan reserve ratio to gross loans (IMPLR) is a credit risk indicator used by previous studies (Eluyela et al., 2018; Nguyen, 2022a, 2022d; Peni & Vähämaa, 2012). This ratio measures the percentage of gross loans that have been reserved but not yet charged off. Historically, a higher IMPLR indicates weaker loan portfolio management quality and higher credit risk.

Loan impairment charge to gross loans (LIMPC) is another measure of credit risk, indicating the percentage of loans that have been charged off as impaired. This measure impacts financial performance by reducing the bank's profitability. A higher LIMPC ratio signifies more irrecoverable impaired loans, reflecting inefficiency and higher credit risk faced by the bank (Moudud-UI-Huq et al., 2023; Nguyen, 2023c; Nguyen & Dang, 2022a, 2022b; Owen & Temesvary, 2018).

This study applied fixed effect estimation method which was used in large literature (Aebi et al., 2012; Giannetti & Ongena, 2009; Nguyen, 2023a, 2023b; Nguyen & Dang, 2022a; Phan et al., 2020; Rokhim & Susanto, 2011)

4. RESULT

Table 1 displays the descriptive statistics of the variables utilized in the study, including the four credit risk indicators—NPL ratio, CAR, IMPLR, and LIMPC—as well as the financial performance measure, ROA.

| Table 1: Descriptive Statistics | | | | | |
|---------------------------------|-----|------|------|--------|----------------|
| | N | Min. | Max. | Mean | Std. Deviation |
| roa | 126 | .87 | 1.36 | 1.1731 | .16420 |
| npl | 126 | .84 | 4.32 | 1.4511 | .32112 |

| | | | | | |
|--------------------|-----|------|------|--------|--------|
| car | 126 | 2.46 | 6.57 | 6.2244 | .43214 |
| implr | 126 | 2.65 | 5.44 | 2.3113 | .63143 |
| lichgl | 126 | 0.23 | 1.56 | 0.6262 | .26072 |
| Valid N (listwise) | 126 | | | | |

As anticipated, the relationship between the nonperforming loan ratio and financial performance is found to be negative and significant, indicating that higher levels of nonperforming loans reduce a bank's ROA. Holding other factors constant, the results show that a one-unit increase in nonperforming loans decreases return on assets by 0.10 units. This negative impact is consistent with findings from other researchers (such as Nguyen & Dang, 2023a, 2023b).

Capital adequacy enhances the bank's strength, improving its ability to absorb impaired loan losses and maintain efficient operations. The results indicate that capital adequacy has a positive and significant effect on return on assets. Keeping other factors constant, a one-unit increase in capital adequacy raises return on assets by 0.06 units. Similar findings were reported by Kosmidou et al. (2005) and Gizaw (2015). This suggests that Vietnamese commercial banks rely on equity capital to boost profitability, as evidenced by the improved financial performance.

Table 2: Results of the Regression Analysis

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---------------------|-------------|--------------------|-------------|----------|
| C | 0.651014 | 0.110405 | 8.613838 | 0.0000 |
| NPL | -0.100686 | 0.030561 | -4.864053 | 0.0000 |
| CAR | 0.061663 | 0.030631 | 3.644404 | 0.0067 |
| IPLRESERV | -0.005443 | 0.038358 | -0.303513 | 0.8411 |
| LICHARGE | 0.031600 | 0.086613 | 0.363583 | 0.7191 |
| Weighted Statistics | | | | |
| R-squared | 0.603060 | Mean dependent var | | 1.444038 |
| Adjusted R- squared | 0.843343 | S.D. dependent var | | 0.408534 |
| S.E. of regression | 0.066685 | Sum squared resid | | 0.116661 |

The impact of the impaired loan reserve to gross loan ratio on return on assets is also negative, as noted by Kolapo et al. (2012) and Sufian (2009). As banks allocate more profit to buffer against impaired loans, their profitability decreases. The beta coefficients for the impaired loan reserve ratio indicate that, holding other variables constant, a one-unit increase in this ratio reduces return on assets by 0.006 units.

Conversely, the ratio of loan impairment charges to ROA is found to have a positive effect. The results reveal that a one-unit increase in loan impairment charges leads to a 0.03-unit increase in financial performance, holding other factors constant. This suggests that Vietnamese banks have managed to keep the impaired loans charges to gross loan ratio at a level that enhances profitability. Some impaired loans are recovered before being written off as bad debts, thereby improving financial performance, as evidenced by the low levels of this ratio in the banks studied.

The relationship between non-performing loans (NPLs) and bank performance in Vietnam reveals critical insights into the health and stability of the banking sector. NPLs, which represent loans in default or close to being in default, significantly impact a bank's profitability and overall financial performance. High levels of NPLs indicate poor credit risk management and inefficiencies in loan recovery processes. These problematic loans require banks to set aside large provisions to cover potential losses, directly reducing their profitability. Additionally, the presence of NPLs can erode investor confidence, leading to higher costs of capital and reduced stock valuations. In the Vietnamese context, where the banking sector is a pivotal component of the economy, the negative association between NPLs and bank performance underscores the need for robust credit risk management practices and effective regulatory frameworks to maintain financial stability and support sustainable economic growth.

On the other hand, the Capital Adequacy Ratio (CAR) is a crucial indicator of a bank's financial health, reflecting its capacity to withstand financial stress and absorb potential losses. A higher CAR ratio indicates a stronger capital base, which enhances a bank's ability to endure economic downturns and financial shocks. In Vietnam, the positive relationship between the CAR ratio and bank performance suggests that well-capitalized banks are more resilient and better positioned to pursue growth opportunities. A high CAR ratio reassures depositors and investors about the bank's

stability and solvency, fostering trust and confidence in the banking system. Moreover, banks with higher capital adequacy can invest in advanced risk management systems, innovate in financial products, and expand their market presence, all of which contribute to improved performance. This positive correlation highlights the importance of maintaining adequate capital levels to ensure long-term sustainability and competitiveness in the banking sector.

5. CONCLUSION

Overall, the findings from the study emphasize the critical role of both NPLs and CAR in influencing bank performance in Vietnam. Managing NPLs effectively through stringent credit assessment, continuous monitoring, and proactive recovery strategies is essential for maintaining bank profitability and stability. Concurrently, adhering to regulatory capital requirements and maintaining a robust CAR ratio is vital for ensuring that banks are equipped to handle potential financial stresses. Policymakers and bank management must prioritize these aspects to foster a resilient banking environment that can support Vietnam's economic development. By addressing the challenges posed by NPLs and leveraging the strengths conferred by a strong CAR ratio, Vietnamese banks can enhance their performance and contribute to a more stable and prosperous financial system.

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