Impact of Capital Structure on Risk-taking of Vietnamese Commercial Banks

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Abstract: - This study assesses the impact of capital structure on the risk-taking of Vietnamese commercial banks in the period 2012–2020. The study uses the system GMM regression model (SGMM) to estimate the results based on panel data collected by year from financial statements of 30 Vietnamese commercial banks. The variable representing bank risk-taking is Z-score; the variables representing the capital structure of commercial banks are customer deposits and non-deposit liabilities. Research results show that customer deposits and non-deposit liabilities increase the risk-taking of commercial banks. From the findings of this study, bank administrators will have a basis to decide on the appropriate capital structure and bring value to the bank.

Key-Words: - capital structure, commercial bank, customer deposits, non-deposit liabilities, risk-taking, Z-score.

1 Introduction

Over the years, the banking industry has been considered an essential industry. It plays an important role in the financial system and economy of each country, contributing to economic growth and market stability. In addition, banks are also considered as an active financial intermediary channel, acting as an intermediary organization with centralized functions, mobilizing temporarily idle money and circulating it to where it is needed. However, every business activity always faces different risks. It so does the banking system, which always faces various types of risks such as bankruptcy risk, credit risk, liquidity risk, interest rate risk, exchange rate risk. The financial risks occurred, causing banks to fall into a state of a liquidity shortage, business operations facing difficulties, profits decreasing, making many banks faced with the risk of collapse, people will lose confidence in the banking system, leading to rushing money withdrawals, switching to other investment channels such as buying gold and foreign currencies, which quickly leads to scarce of capital

and other serious problems affecting the development of the whole country [1] Batten and Vo (2019). Once these risks occur regularly and continuously, the bank is likely to lose capital, profit, and decrease asset value, thereby directly affecting the bank's operations and development [5] Heffeman (2005). Enterprises in each industry have their specific characteristics and have their unique capital structure. Particularly for the banking sector, a commercial bank is a remarkable enterprise in which its capital is financed mainly from external capital sources because the total assets financed are mainly debt [3] Berlin (2011). Thus, capital mobilization is one of the most basic and important operations for any bank, considered an input in the bank's business operations [18] Sealey and Lindley (1977). However, commercial banks always operate with a high level of risk and create risks for other businesses in the economy, having a strong influence on the entire economy in both positive and negative terms [4] Gropp and Heider (2010).

In Vietnam, in recent years, the banking industry has experienced rapid growth in both size and operations. Besides, Vietnam is a country with an open economy, so it is inevitable that the influence of the world economy can be avoided, so to ensure commercial banks are safe for business activities in a volatile environment; the decision on the capital structure is an important issue not only in enterprises but also in the banking sector [8] Le et al. However, the banking system is gradually revealing its weaknesses, and the risk of system breakdown is becoming more and more obvious. The credit growth rate is high, and the focus on lending to real estate and securities is very risky, leading to the consequences are non-performing loans increase rapidly, non-performing loans ratio is high and difficult to handle, short-term capital structure is the main. In contrast, medium and long-term loans account for a large scale. Therefore, it requires Vietnamese commercial banks to make drastic changes to adapt to the internal and external challenges of the economy [1] Batten and Vo (2019). A reasonable capital structure not only helps commercial banks achieve reasonable profits and saves costs but also serves as a buffer against the risk of bankruptcy when the economy has strong fluctuations. In addition, building a reasonable capital structure also helps the banks' managers to make decisions to prevent and limit risks at commercial banks in Vietnam, which is a crucial and urgent issue, to avoid any problems, contributing to improving the reputation and creating competitive advantages of commercial

banks [15] Pham and Bui (2019). Many empirical studies have shown an impact of capital structure on the risk-taking of commercial banks. However, the results of the studies show that the direction of impact of capital structure on the risk of commercial banks is different. Some studies show that financial leverage increases bank risk-taking [8] Le et al., 2020; [15] Pham and Bui (2019); [13] Nguyen and Nguyen (2015) or reduces the bank's risk-taking [17] sSaif-Alyousfi and Saha (2020); [9] Mercan (2021). The different results of domestic and foreign economists may be due to the fact that studies conducted in space, time, and different approaches lead to different conclusions. In addition, the studies use criteria such as equity to total assets, total debt to total assets, short-term debt to total assets, and long-term debt to total assets to represent the capital structure of commercial banks. However, such indicators are similar to those reflecting the capital structure of non-financial enterprises. Meanwhile, the capital structure of commercial banks is very different from the capital structure of non-financial enterprises [4] Gropp and Heider (2010); [19] Sibindi (2018), showing the limitation of previous studies. Therefore, the new point in this study compared with previous studies is that the author uses customer deposits and non-deposit liabilities to represent the capital structure of Vietnamese commercial banks. The results of the study are the basis to help bank managers plan a more suitable capital structure to better control risks and reduce the risk of losses for banks. According to the author's review, in the current studies in Vietnam in the period from 2012 to 2020, no studies have been conducted to measure the influence of capital structure and other factors on the risk Vietnamese commercial banks in this period. Therefore, this study will help to build the foundation for future research. In addition, this helps managers identify the impact of capital structure on the risk of Vietnamese joint stock commercial banks.

The following sections of the paper research include part 2: theoretical background, part 3: research methods and models, part 4: research results and discussion, part 5: conclusion and policy suggestions.

2 Literature Review

2.1 Theories
Trade-off theory

This theory was initially proposed by [10] Modigliani and Miller (1958) based on tax benefits, bankruptcy costs, and agency costs, where there is no offsetting cost of debt; therefore, firms can only use debt financing in their capital structure. Hen, [7] Kraus and Litzenberger (1973) argued about the cost-benefit trade-off of debt to provide an optimal capital structure. In this model, borrowing has an advantage over equity because interest provides the benefit of tax avoidance. However, borrowing can increase financial risk, resulting in increased costs compared to equity financing. Therefore, the trade-off theory suggests that a bank's debt ratio is also higher due to its advantage over equity, which in turn leads to a higher risk for the bank.

Pecking order theory
Developed by [12] Myers and Majluf (1984) and [11] Myers (1984), also called information asymmetry theory. The idea behind this theory is that a company follows an order of preference for different sources of funding, from internal to external sources. The theory is based on the assumption that the cost of adverse selection is the result of risk from external financing due to asymmetric information, management optimism, or both. To minimize the cost of adverse selection, firms prefer to finance capital from internal sources first and then external sources. If outside funding is needed, their first preference is to issue debt and then, a less popular option, issue a mix of securities as a secondary debt and then equity as a source of final funding.

Agency theory
According to [6] Jensen and Meckling (1976), optimal capital structure is obtained by trading off the management costs of debt with the benefits of debt. Agency costs refer to costs incurred when there is a conflict between executives, bondholders, and company owners. Executives can choose investments that are less riskier and have lower debt levels to reduce the risk of bankruptcy. This may be contrary to the desire of shareholders to maximize the value of the company. Managers use the money to expand their businesses, making their positions more stable, salary and power more excellent, and therefore higher debt ratio and risk. Executives are also riskier in taking short-term profits to strengthen their position. Therefore, agency theory implies that a higher debt ratio of the bank creates a more significant benefit for the manager and the risk of the bank is also higher.

2.2 Empirical studies

[9] Mercan (2021) studies the factors affecting the risk of commercial banks in George in the period 2006 - 2014. The study uses the OLS regression method, unbalanced panel data by the method of Random Effects Models and Fixed Effects Models. Research results show that financial leverage reduces bank risk-taking. In contrast, the size of the bank, and the bank loan have the effect of increasing the bank's risk-taking.

[16] Pricillia (2015) explores the factors affecting the risk of Indonesian banks. Using a 2SLS regression method, the study found seven factors influencing bank risk-taking in Indonesia. Those factors are capital adequacy ratio (CAR), financial leverage, profit expectations, expectations of inefficiency, industry concentration, the importance of banks in the Indonesian economy, and the movement of Bank Indonesia. In which financial leverage increases the bank's risk-taking.

[17] Saif-Alyousfi and Saha (2020) conduct a study to examine the impact of bank-specific financial structures and macroeconomic factors on the risk-taking and the profitability of banks in different financial institutions in the Gulf Cooperation Council (GCC) economy for the period 1998 to 2017. Using the SGMM method, the research results show that banks with low financial leverage and high loan growth rates have higher risk-taking and returns. Larger commercial banks are less risky and more stable, with better returns than smaller banks before the global financial crisis. Islamic banks perform better in terms of fee income, capitalization, liquidity, asset quality, and have a higher level of market concentration than conventional banks.

The study by [8] Le et al. (2020) was conducted to evaluate the factors affecting the risk-taking of Vietnamese commercial banks in the period 2014 - 2018 by collecting data sets of 19 Vietnamese commercial banks. Using panel data regression models: OLS, fixed effect regression model, random effects models. Research results show that NIM increases the risk-taking of banks. The factors of financial leverage, bank size, and bank loan reduce risk-taking.

Research by [14] Nguyen and Duong (2020) explores the impact of factors on the risk-taking of 27 Vietnamese commercial banks in the period 2010 - 2017. Using the GMM method, the author concludes that financial leverage, non-performing ratio, loan loss provisions, bank loans, bank size, and GDP growth are factors that increase risk-taking. In contrast, the rate of return, and inflation have the effect of reducing risk-taking.

[15] Pham and Bui (2019) conducted a study to assess the impact of factors on risk-taking of 21 Vietnamese commercial banks in the period 2010 to 2018. Using the GLS method, the results show that banks having higher financial leverage will increase risk-taking. In addition, concentrated large shareholders, institutional shareholders, and state shareholders reduce risky behaviors that have a risk-reducing effect

2.3 Research Hypothesis
Customer deposits
Commercial banks have large financial leverage with capital mainly from outside. Customer deposits indicate a bank's ability to raise capital regularly. This source is the largest and most important source of capital in the total capital structure of commercial banks. As credit intermediaries, banks mobilize deposits from depositors and lend money to those short of cash, playing a key role in helping banks maintain business operations, expand the scale, and diversify banking services and credit products. When the bank builds a reputation, good product quality, and service, it will attract a large number of depositors, thereby helping the bank to lend as well as reach customers in other products and services. However, when banks use too high financial leverage, which can reduce the financial stability of commercial banks, the risk-taking of commercial banks will increase. Therefore, the author proposes the hypothesis:
Hypothesis H1: Customer deposits have a negative relationship with Z-score.

Non-deposit liabilities
Banks mobilize this source of capital at a lower and infrequent cost than deposits to finance credit and investment portfolios, meeting the bank's liquidity needs. However, this is a highly stable source of capital and is not required reserve. Moreover, similar to customer deposits, when banks increase non-deposit liabilities in total capital, their financial leverage will also increase [4] Gropp and Heider (2010), thereby increasing risk-taking for the bank. Therefore, the author proposes the hypothesis:
Hypothesis H2: Non-deposit liabilities has a negative relationship with Z-score.

3 Research Models and Methodology

3.1 Research Methodology

The study uses secondary data collected from Vietnamese commercial banks' published annual financial statements for the period 2012–2020. The author has selected 30 banks as the research sample based on the collected data. From there, calculate and classify the independent variables, control variables, and dependent variables of individual banks. The data were then aggregated and formatted as panel data for SGMM regression. The SGMM regression method provides robust estimates for multicollinearity, heteroskedasticity, and endogenous or autocorrelation problems.

To show that the results obtained from the SGMM method are reliable, the study conducted AR(2) and Sargan tests. AR(2) considers the problem of autocorrelation with the hypothesis H0: there is no autocorrelation, and Sargan considers the validity of the instrumental variable with the hypothesis H0: the instrumental variables are not correlated with the residuals of the model. In case both tests have a p-value greater than 10% significance level, it shows that the research results obtained from SGMM method are reliable and can be analyzed.

3.2 Research Model
Based on the theoretical framework of capital structure and inheriting the research of the reviewed authors, the author proposes a specific research model as follows:

$$\text{Z-score}_{it} = \beta_0 + \beta_1 \text{DEP}_{it} + \beta_2 \text{NONDEP}_{it} + \beta_3 \text{SIZE}_{it} + \beta_4 \text{LOAN}_{it} + \beta_5 \text{OPE}_{it} + \beta_6 \text{INF}_{it} + \beta_7 \text{GGDP}_{it} + u_{it}$$

where:
Z-score_{it}: Risk-taking of bank i year t, with the Z-score used as a proxy. However, the Z-score is often skewed, so this variable will be corrected by taking the natural logarithm of the Z-score.
DEP_{it}: Customer deposits of the bank i year t, representing the capital structure of the bank, measured by dividing customer deposits by total assets.
NONDEP_{it}: Non-deposit liabilities of bank i year t, representing a bank's capital structure, measured by dividing non-deposit liabilities by total assets.
SIZE, LOAN, OPE, INF, GGDP are control variables, detailed in Table 2.
For the banking industry, the Z-score is used to assess a bank's probability of bankruptcy or default risk. The Z-score considers a bank's likelihood of bankruptcy in terms of the interaction between its ability to generate income (ROA), business shocks through ROA variability), and the bank's available capital to deal with these shocks. The nature of the

Z-score shows that the higher the Z-score, the more resources the bank has (profit & capital) to absorb shocks and cope with fluctuations in the business better, so the ability to not low repayment (risk of default).

4 Research Results and Discussion

4.1 Descriptive Statistics

Descriptive statistical results from Table 3 show an overview of the financial situation of Vietnamese commercial banks in the period 2012 - 2020. The author uses the natural logarithm of the Z-Score to represent the risk-taking of commercial banks in Vietnam, through which we see that the variable representing the level of risk-taking is the average Z-score of 30 Vietnamese commercial banks in the period 2012-2020 is 4.1249, with the lowest and highest value are 1.2208 and 7.9168 respectively and the standard deviation is 1.0798..

For the variables showing the capital structure of commercial banks, the Customer Deposit (DEP) variable has an average value of 67.4% and varies between 17.46% and 92.82%, showing that customer deposits of banks account for the majority of the total capital of Vietnamese commercial banks. Besides, Non-Deposit liabilitites (NONDEP) on average accounted for 23.22%, the lowest value was 1.61%, the highest was 50.62% with a standard deviation of 0.1018. That shows that Non-Deposit liabilities plays an important role in the capital structure of Vietnamese commercial banks. Control variables belonging to bank characteristics include Bank size (SIZE), bank loan (LOAN), and Operating expenses (OPE). There is a significant difference in bank size between banks, as shown by the significant standard deviation (1.14). The average size of banks is 32.4212, the most significant value is 34.9553, and the smallest is 29.4911. The average bank loan (LOAN) of banks was 56.85, varying between 21.62% and 78.80%. Operating expenses (OPE) fluctuate between 0.67% and 6.92% and have an average value of 1.71%.

The correlation coefficient matrix between the variables in the model is presented in Table 4. The correlation between the variables in the model is shown through the correlation coefficient matrix in Table 4, which can generally evaluate the correlation

Table 1. Independent and dependent variables in the model

Var.	Notation	Previous studies	Expected results	Calculation
Dependent variable	Z-score	Mercan (2021), Pricillia (2015), Saif-Alyousfi và Saha (2020), Le et al. (2020), Nguyen and Duong (2020), Pham và Bui 2019)		$Z-score = \dfrac{ROA + E/A}{\delta(ROA)}$
Independent variables	DEP	Gropp and Heider (2010), Sibindi (2018)	-	Customer deposits/Total assets
	NONDEP	Gropp and Heider (2010), Sibindi (2018)	-	Non-deposit liabilities /Total assets

Table 2. Control variables used in the model

SIZE	Logarithm of total assets
LOAN	Bank loans/total assets
OPE	Operating expenses/total assets
INFLAT	Yearly inflation rate
GGDP	Yearly GDP growth rate

Table 3. Descriptive statistics of research variables in the period 2012 – 2020

Var.	Number of obs.	Mean	Std.	Min	Max
lnZ-score	233	4.1249	1.0798	1.2208	7.9168
DEP	248	0.6740	0.1139	0.1746	0.9282
NONDEP	248	0.2322	0.1018	0.0161	0.5062
SIZE	248	32.4213	1.1431	29.4911	34.9553
LOAN	248	0.5685	0.1134	0.2162	0.7880
OPE	248	0.0171	0.0068	0.0067	0.0692
INFLAT	261	0.0422	0.0230	0.0063	0.0921
GGDP	261	0.0592	0.0123	0.0291	0.0708

Source: Calculation results from STATA software

Table 4. Matrix of correlation coefficients between variables

	lnZSCORE	DEP	NONDEP	SIZE	LOAN	OPE	INFLAT	GGDP
lnZSCORE	1.00							
DEP	0.17	1.00						
NONDEP	-0.10	-0.93	1.00					
SIZE	0.12	0.21	0.01	1.00				
LOAN	0.04	0.46	-0.44	0.28	1.00			
OPE	-0.33	-0.14	-0.04	-0.23	0.08	1.00		
INFLAT	-0.27	-0.25	0.15	-0.22	-0.27	0.16	1.00	
GGDP	0.06	0.05	-0.02	-0.03	0.04	0.01	-0.29	1.00

Source: Calculation results from STATA software

between the variables in the research model. The correlation coefficient indicates a linear relationship between two variables, regardless of whether one variable depends on the other. The larger the correlation coefficient, the stronger the relationship between the two variables, and vice versa, when the correlation coefficient is low, the relationship between the two variables is not strong. If the correlation coefficient between variables in the regression model exceeds 0.8, it will likely lead to high multicollinearity in the estimated model. Then, the sign of the regression coefficients in the model may be changed, leading to skewed research results. In general, the correlation coefficient between all pairs of variables in the regression model has an absolute value of less than 0.8. Therefore, multicollinearity is not a severe problem affecting the estimated results of the model.

The results from Table 4 show that, for the independent variables DEP and NONDEP, the correlation coefficient is -0.93, showing a high correlation between these two variables. Besides, the correlation coefficients of the control variables are all less than 60%, that is, the control variables in the model have low correlation coefficients. Therefore, it can be concluded that there is no correlation of control variables in the model.

Table 5. Regression results for dependent variable lnZ-score by SGMM method

	Coef.	Std.	p>t	95% Conf. Interval	
DEP	-14.4764	8.0236	0.071	-30.2025	1.2496
NONDEP	-13.6754	7.4388	0.0660	-28.2554	0.9044
SIZE	-0.0554	0.1455	0.7030	-0.3406	0.2297
LOAN	2.9136	1.008	0.0040	0.9376	4.8896
OPE	-101.0606	40.5336	0.1210	-180.5005	-21.6161
INF	-11.9292	2.5777	0.0000	-16.9811	-6.8772
GGDP	-1.1872	3.9983	0.7607	-9.0237	6.6493
con_	17.4721	4.7418	0.0000	8.1798	26.7644
Sargan test	0.9464				
AR(2) p-value	0.2828				

Source: Calculation results from STATA software

4.2 Results
The results of the estimation by SGMM method show that the model has statistical significance, the results of testing heteroskedasticity, autocorrelation are overcome, p-value of AR(2) = 0.2828 >0.05. Sargan's test shows that the SGMM model is suitable by showing p-value = 0.9464 > 0.05.

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The regression coefficient of the independent variable Customer deposits (DEP) representing commercial banks' capital structure is -14.4764, with a negative value, which means that it has a negative effect on Z-score, which is positive for the ability of bankruptcy of Vietnamese commercial banks. This result shows that banks with higher customer deposits will reduce the Z-score. In other words, the higher a bank has a customer deposit ratio, the higher the risk that banks face. This result can be explained that if the bank receives more deposits, the total assets will increase, putting pressure on the effective use of the mobilized capital. As a result, banks may be able to fund portfolios or extend credit that are inefficient and high-risk, leading to an increased risk of bankruptcy. This result is consistent with the proposed hypothesis, trade-off theory, agency theory, and studies by [16] Pricillia (2015), [2] Bhagat et al. (2015), [14] Nguyen and Duong (2020), [8] Le et al. (2020), [15] Pham and Bui (2019), [13] Nguyen and Nguyen (2015), [9] Mercan (2021) but contrary to the research results of [17] Saif-Alyousfi and Saha (2020).

The next variable representing the capital structure of commercial banks is Non-Deposit liabilities (NONDEP). Unlike customer deposits, non-deposit liabilities has a negative effect on Z-score in the regression model. This result shows that the higher the bank's non-deposit liabilities, the lower the Z-score of the bank. In other words, when non-deposit liabilities is high, the bank's risk-taking will increase. When commercial banks mobilize more with non-deposit liabilities such as issuing bonds, certificates of deposit, bank promissory notes, the bank's financial leverage also increases accordingly. Banks can use this borrowed money to invest in high-risk portfolios or lend with long terms for higher returns and higher risks, leading to increased systemic risk. This result is consistent with the proposed hypothesis, trade-off theory, and agency theory and studies by [16] Pricillia (2015), [9] Mercan (2021), [2] Bhagat et al. (2015), [14] Nguyen and Duong (2020), [8] Le et al. (2020), [15] Pham and Bui (2019), [13] Nguyen and Nguyen (2015) but contrary to the research results of [17] Saif-Alyousfi and Saha (2020).

For control variables, bank size (SIZE) has the effect of reducing the lnZ-score. As banks increase in size, but governance cannot keep up, banks may face a higher risk of bankruptcy.

Bank loan (LOAN) increases the LnZ-score, which reduces the risk of bankruptcy of banks. Banks with high lending rates also receive customers' trust, thereby maintaining financial stability for the bank. Operating expense (OPE) has the effect of increasing the bank's risk. Inefficient management of expenses to conduct banking activities will make the bank unable to balance its profit. Costs that are too high will reduce profits, putting the bank at risk if this situation persists for a long time.

5 Conclusion and Policy Implications

The study was conducted to evaluate the effect of capital structure on the risk-taking of Vietnamese commercial banks in the period 2012 to 2020. The variable representing bank risk-taking is Z-score, and the variable representing the structure of commercial banks is customer deposits and non-deposit liabilities. By SGMM regression method, the research results show that customer deposits and non-deposit liabilities have an impact on increasing the bank's risk-taking. The research results will help state management agencies, and bank administrators have a complete view of the capital structure of each bank, assess their capital management capacity, recognize the impact of capital structure on the risk of banks, see the importance of capital structure planning for the stability of the banking system. From the above research results, the author proposes some recommendations for commercial banks and the State Bank of Vietnam, specifically as follows:

Firstly, it is necessary to use customers' deposits more effectively, and avoid taking short-term capital for medium- and long-term loans, which means the mismatch between loan and deposit terms, especially small banks with low capital, which can easily cause bankruptcy risk-taking for banks. Research results show that customer deposits have the effect of increasing risks for commercial banks; therefore, it is important to prioritize mobilizing deposits with low-interest rates, avoiding the phenomenon of raising interest rates too high to raise deposits. Vietnamese commercial banks, especially small-sized banks, often use high-interest rates to attract depositors. However, this poses many risks for the bank itself because in order to ensure profits and cover expenses, banks are forced to increase lending interest rates, making it difficult for customers to borrow capital in the future, repayment of principal and interest, causing instability to the entire banking system. Therefore, using interest rate tools is not an appropriate method for attracting depositors, but banks need to actively seek and mobilize deposits at a low cost.

Second, it is necessary to make more efficient use of customer deposits. Vietnamese commercial banks need to make a more thorough and reasonable appraisal when lending to ensure the quality of the bank's assets as well as the quality of its loans. When a bank's assets increase but asset quality deteriorates, it will lead to long-term consequences such as the inability to recover capital to meet customers' withdrawal needs, increased liquidity risk, and default risk.

Third, commercial banks need to develop an appropriate business strategy, and need to more closely appraise investment projects as well as long-term loans. Recently, banks have increased strongly buying corporate bonds, especially businesses in real estate and securities. Because these businesses often offer very high-interest rates on issued bonds, banks can reap large profits from investing in these bonds.

However, the risks that banks face are very high because the issuance of corporate bonds still has many shortcomings, many major mistakes related to the issuance of bonds, and the use of capital by enterprises. Therefore, in order to reduce risks, banks need to limit investment in corporate bonds; when investing, it is necessary to be more cautious and evaluate investments in corporate bonds more carefully; It is necessary to focus on using the mobilized capital to provide credit for production and business activities, creating prosperity for the economy.

Fourth, the State Bank of Vietnam should have a mechanism to increase competition in temporarily allocating idle budget funds deposited at commercial banks. This source is a huge source of capital, but currently, it is being deposited mainly at state-dominated banks, creating inequality among commercial banks. Therefore, this capital needs to be reallocated throughout the banking system based on competition mechanism, reducing barriers created when bidding for this capital source such as conditions on total asset size, total equity, credit quality, and business results of each bank.

Although the study has collected data from a sample of 30 Vietnamese commercial banks in the period from 2012 to 2020, the sample does not include other types of banks, such as foreign banks and joint venture banks. It limits the conclusions that can be drawn from the estimation results and does not cover the entire banking system. Further studies need to supplement the data collected,

thereby improving the quality and quantity of the data.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

Ha Thanh Doan built research framework.
Daan Thanh Bui analyzed research results.
Thi Hong Nhung Pham and Hai Nam Pham conducted research overview, research model, data collection.

Conflict of Interest
The authors have no conflicts of interest to declare that are relevant to the content of this article.