

Growth of Loan Distribution and Bank Valuation: Evidence from Vietnam

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Abstract

Purpose: The aim of this article is to test the link between growth of loan distribution and Bank Valuation in Vietnam's banking sector. At the same time, the study also compared the differences in the effect of growth of loan to valuation bank in banks of different sizes, ownership rates and bank values. **Research design, data and methodology:** With panel data estimation techniques along with robust standard error for a sample of the banks listed on Vietnam stock exchange from 2012 to 2019. **Results:** Growth of loan has a positive impact on Bank Valuation (by Tobin's Q). A closer investigation provides evidence for the differential valuation effect of loan growth depending on different features of banks. Specifically, loan growth is found positively and significantly associated with Bank Valuation in small and non-state-owned banks only. Besides, bank size, deposit, and return on equity are found negatively associated with Tobin's Q, while loan loss provisions exhibit a positive relation with this measure of Bank Valuation. **Conclusions:** These findings provide contributions to the literature on the existence of the effect of loan growth on Bank Valuation. At the same time, the study also provides practical implications for policy makers in banks and investors

Keywords: Bank Valuation, Distribution Loan, Loan Growth, Vietnam

JEL Classification Code: B26, C33, G40

1. Introduction

It is widely acknowledged that well-functioning banking system fuels economic growth. By efficiently mobilizing and allocating funds, banks provide less expensive cost of capital to firms than do other intermediaries, which promotes capital accumulation, innovation and productivity (Niu, 2016). Theories of financial intermediation attribute the cost advantage of banks in lending activities to the complementarity between the provision of transaction and information production (Berger & Udell, 2004). This enables banks to better assess borrowers' quality and price their loans more appropriately in the presence of information asymmetry, which elicits positive stock price response in the

event of bank loan announcement. Therefore, increase in the volume of bank lending should reflect that the bank is currently able to seek out more profitable investment opportunities, generating higher interest income and thus higher market value. Most of previous studies, however, document a negative relationship between fast or abnormal loan growth and loan quality (Clair, 1992) (Berger & Udell, 2004), and bank performance (Dang, 2019; Fahlenbrach, Prilmeier, & Stulz, 2018; Foos, Norden, & Weber, 2010). Though the issue of loan growth has been theoretically and empirically studied, the findings have been ambiguous. Notably, the studies have been limited in the context of developed countries (Niu, 2016; Zemel, 2018), without any research investigating the relationship between loan growth and Bank Valuation in developing countries such as Vietnam.

The aim of this study is to examine the link between loan growth and Bank Valuation, and expects to find a positive valuation effect of lending growth in Vietnam's banking sector. Specifically, there is a growing collection of evidence that bank loans' announcements at either individual or portfolio level provide information to investors (James, 1987; Megginson, Poulsen, & Sinkey, 1995; Niu, 2016; Zemel, 2018). This new piece of information can be either good or bad news, and motivates a readjustment of the market value of the equity driven by new expectations of the earnings of

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the bank. If newly issued loans are viewed by investors as profitable investments, a positive assessment of the market value will be expected, and vice versa. As banks are able to accurately price their loans thanks to the complementary information in the intermediation process, loan announcement should increase the market valuation of the bank. In the absence of competitive forces, loans may even be overpriced by banks because borrowers are willing to trade off for more liquidity. Thus, loan growth should convey that banks are operating with higher interest income, or experiencing growth prospects in the lending market, thus leading to higher bank value. Alternatively, increased lending can cause a deterioration in loan quality, especially during a credit expansion when banks loosen their credit standards to pursue a risky high growth strategy. Subsequently, banks may have a weaker performance, which cause a downward readjustment of the bank value. Theories also predict under the pressure of regulation and reputation, banks even try to expand their lending to hide current losses and call such behavior “evergreening” (Rajan, 1994). Peek and Rosengren (2005) find substantive evidence of loan evergreening in Japanese banks, followed by a negative stock market response.

Using a panel of publicly traded Vietnamese commercial banks over the 8-year-period from 2012 to 2019, this study empirically tests the valuation effect of loan growth in the context of Vietnam. We construct a sample of annual observations from a number of listed banks, whose financial statements have all been audited. Following (Caprio, Laeven, & Levine, 2007; Niu, 2016), we use Tobin’s Q as a measure of bank’s market value. To measure the main exploratory variable - loan growth, we use the annual growth rate of total loans of each bank. Several panel estimation techniques, along with robust standard error estimator, are employed to ensure validity of the statistical results. Consistent with previous findings, we find a positive valuation effect of loan growth using the full sample. This positive effect is statistically significant when we control for various bank-specific variables such as bank size, capitalization, deposit ratio, and profitability, as well as bank fixed effects. Following (Zemel, 2018), we also test the differential valuation effect of loan growth depending on different features of banks by dividing into sub-samples based on size, ownership and market value, respectively. The finding of positive relation between loan growth and valuation is consistent for the whole distribution of the market value, and is statistically significant in small and non-state-owned banks only, which can be explained by some fundamental differences between these banks and others.

Our study contributes to extend the literature on loan growth and Bank Valuation in several important ways. First, we examine the value implication of loan growth in Vietnam’s banking sector, instead of focusing only on

performance indicators of profitability such as return on equity, return on assets or loan quality, namely non-performing loan ratio. This study, to the best of our knowledge, is the first to investigate such relation in the context of Asian developing countries like Vietnam. Second, we provide a closer look into whether the valuation effect of loan growth differs depending on size, market value and ownership, which is not yet considered in previous studies, but a critical factor in lending behavior due to the dominant role of state-owned banks in emerging market (Vo, 2018; Nguyen, 2015)

The rest of this paper is outlined as follows. Section 2 presents related literature on the issues of loan growth and Bank Valuation. Section 3 describes research model, data sources and analysis technique used in this study. Section 4 discusses empirical results. Section 5 concludes the paper.

2. Literature Review

Our work is most related to the studies examining the information content of loan announcements either at individual level and or at portfolio level. Hypothesizing about the unique role of banks regarding their lending activity, James (1987) present novel evidence of a positive stock price response to the announcement of a new loan, which is larger in terms of magnitude compared with the market reactions to other forms of debt. The assumption is that banks know more of an investment opportunity than do other investors possibly because of information production’s activities, and thus have a cost advantage over other outsiders in the provision of transaction. Examining the market value of banking firms in the event of announcements of syndicated loans, Megginson et al. (1995) propose several theories for upward and downward valuations of new credit agreements. In addition to a banks’ advantage in screening function and thus accurately pricing its loan, this institution may have the power to overprice the loan under an imperfect competition condition. The results are, however, limited to certain loan types and specific regulatory environment, and not appropriate to make inferences at the portfolio level.

Extending the prior literature, Zemel (2018) examines the effect of loan growth on valuation at the portfolio level, based on the stock price’s reaction to a bank’s quarterly loan growth. The paper finds that loan growth, in conjunction with earnings, is a good sign for banks with earnings above the expected level, deemed healthy banks, and bad sign for banks with earnings below expectations, suggesting the unique informative role played by loan growth apart from previously documented financial figures, namely discretionary loan loss provisions. When the significance of valuation effects is conditional on the three characteristics:

bank size, loan types, and prevailing macroeconomic states, Zemel (2018) further documents that the value implication is found particular in small banks, for commercial loans, and amid normal times. Niu (2016) provides consistent results for the positive correlation between loan growth and Bank Valuation at small and medium banks, but surprisingly discovers that this relationship is held in both crisis and non-crisis times. Consistent with this view, we expect that new loans convey meaningful information about the bank, which is then reflected in terms of market value of the equity, with higher level of loan growth translating into higher level of Bank Valuation.

There are other strands of literature examining possible consequences of fast or abnormal loan growth, one of which explains the valuation effect of loan growth from the perspective of credit cycle. By looking at periodic shifts in lending practices favoring various economic conditions, (Ruckes, 2004) provides a theoretical framework consistent with the observed patterns, arguing that changes in underwriting standards are due to the bank's demand side. His model demonstrates that banks are less likely to assess borrowers thoroughly and maintain loose credit policies to provide more loans during an economic boom in order to cut down on screening costs and compete for market share, predicated on the assumption that the loan default rate is on average low. In contrast, when there is a downturn looming, banks tighten the standards by charging higher interest rate or increasing collateral requirements because the proportion of creditworthy businesses is expected to fall. In this sense, loan growth may signal that banks are entering an economic boom with higher overall loan demand. In response, (Dell'ariccia, Igan, & Laeven, 2012) document that banks lower discretionary loan loss provisions to increase lending motivated by relaxed credit standards, which leads to higher expected earnings and a positive market response.

Nonetheless, because such changes in credit policies help the bank communicate with its stakeholders, they are employed to serve bank managers' strategy. Rajan (1994) provides a model to explain that by loosening credit standards, reflected by reduced collateral requirements or weaker covenants, the bank can immediately boost its current earnings from increased lending without incurring any loan losses. Though these loans have deteriorating quality, they are barely defaulted on during the first year after being issued (Clair, 1992; Berger & Udell, 2004). Even when loan defaults occur, under the pressure of regulation and reputation, bank managers may evergreen those losses by providing more liquidity for defaulted firms so as to make interest payments on the outstanding loans, and delay bankruptcy. Because these newly issued loans only serve as a means to hide current losses out of the balance sheet, they bring negative profits and elicit negative market response. Evidence of evergreening behavior has been found in

Japanese banks during the crisis of 1990s by Peek and Rosengren (2005), where the banks are found to misallocate credit to defaulted firms to avoid bankruptcy. The implication is that fast loan growth, driven by too liberal a credit policy, may reflect the bank's manipulation of current earnings and need not lead to higher Bank Valuation.

Finally, a few papers focus on examining the relation between loan growth and bank performance (Dang, 2019; Fahlenbrach et al., 2018; Foos et al., 2010). (Fahlenbrach et al., 2018) test whether fast loan growth leads to poorer performance by banks in subsequent years. They find consistent evidence of negative relation between high credit growth and two- or three-year return, suggesting that the risk of loans issued at the time of high loan growth tends to be underestimated, causing subsequent lower returns of fast-growing banks. Investigating the effect of loan growth on bank risk, (Foos et al., 2010), find that past loan growth leads to higher future observed loan losses in subsequent years, driving the riskiness of banks. In the context of Asia's banking sector, (Soedarmono, Sitorus, & Tarazi, 2017) document that abnormal loan growth may even cause a higher possibility of systemic risk one year ahead, suggesting that better credit information management is the way to mitigate the negative effect of abnormal loan growth on banking system's stability. In Vietnam, the issues of loan growth and performance have also been empirically tested. (Dang, 2019) provides evidence that increased lending leads to higher loan loss provisions during two and three subsequent years, to a lower bank capital ratio during the next year; and to a higher bank profitability during both short- and long-term. According to the author, the surprising positive effect of loan growth on bank returns may be due to either the use of different measures of profitability, ROA and ROE, instead of interest income in aforementioned studies, or the diversification of operations by banks in an increasingly competitive environment. Consequently, our study will extend the insights of (Dang, 2019) in several ways. First, this study focuses on the value implication of loan growth, instead of bank performance indicators. Second, while (Dang, 2019) investigate the inter-temporal relation between past loan growth and performance, we examine the cross-sectional effect of loan growth which facilitates a closer investigation into different types of banks. Specifically, this study aims to discover whether the valuation effect of loan growth holds across bank size, ownership and market value.

3. Methods

3.1 Research Model

As this paper focuses on examining the link between

loan growth and Bank Valuation in Vietnamese commercial banks, a research model is proposed as follows:

$$TOBIN'S Q_{it} = \alpha_i + \beta_1 LOANG_{it} + \beta_2 \text{Control variables}_{it} + \varepsilon_{it}$$

Following (Caprio et al., 2007) and (Niu, 2016) we use Tobin's Q as a proxy of Bank Valuation, measured by the ratio of the market value of equity plus the book value of liabilities to the book value of assets. A high value of Tobin's Q (greater than 1) implies that a bank's market value is greater than the value of its recorded assets, or overvalued. In contrast, a low value (between 0 and 1) suggests that the market may be undervaluing the bank. For our main explanatory variable, we construct LOANG to capture the annual growth rate of total loans for each bank.

Table 1: Variables and definitions

Variable	Definition
Dependent variable	
TOBIN'S Q	Ratio of the market value of equity plus the book value of liabilities to the book value of assets
Independent variable	
LOANG	Annual growth rate of total loans
Control variables	
SIZE	Natural logarithm of total assets
CAP	Ratio of total equity to total assets
DEPOSIT	Ratio of total deposits to total liabilities
ROE	Ratio of pre-tax profits to the book value of equity.
CIR	Ratio of total non-interest expense to total operating income
LLP	Ratio of loan loss provisions to total loans
NPL	Ratio of nonperforming loans to total loans, where nonperforming loans are loans that are 90 days or more past due or have nonaccrual status.

In this model, we also include several control variables that may influence Bank Valuation. We account for the effect of bank size (SIZE) measured by the natural logarithm of total assets, as size is an important determinant of a bank's capital ratio and risk-taking behavior (Rime, 2001). Prior literature also documents the effect of bank size on valuation's measures (Avramidis, Cabolis, & Serfes, 2018; Bertay, Demirgüç-Kunt, & Huizinga, 2013; Demirgüç-Kunt & Huizinga, 2013). Capitalization (CAP) is also included in the model, because the ratio of total equity to total assets is found positively correlated with profitability and stability (Lee & Hsieh, 2013). Hence, banks with higher capitalization tend to be attractive to investors. Additionally, we incorporate the ratio of total deposits to total liabilities

(DEPOSIT) as the third control variable to account for the bank liability structure. Following (Niu, 2016), we include additional control variables such as return on equity (ROE) measured by the ratio of pre-tax profits to book value of equity, and cost-income ratio (CIR) as total noninterest expense divided by total operating income. Finally, the loan-loss accounting numbers, nonperforming loan (NPL) and loan loss provisions (LLP) are included in the regression. The definition of each variable used in this study is presented in.

3.2 Data collection

The data used in this study is collected from publicly traded commercial banks, which are listed on Vietnamese stock exchange. From Fimpro database of audited balance-sheet and income statements, a balanced panel data is constructed including 18 Vietnamese commercial banks over the 8-year-period from 2012 to 2019.

Table 2: Summary Statistics

Variable	Mean	Standard deviation	Min	Max
TOBIN'S Q	1.037	0.074	0.956	1.502
LOANG	0.222	0.160	-0.045	1.068
Total assets (in trillion VND)	278	311	15.1	1490
CAP	0.082	0.028	0.041	0.220
DEPOSIT	0.756	0.108	0.457	0.967
ROE	0.128	0.077	-0.045	0.304
CIR	-0.535	0.163	-1.085	0.000
LLP	0.108	0.042	0.036	0.275
NPL	0.020	0.013	0.000	0.088

Table 2 presents the descriptive statistics of all variables used in the research model. The results show that the values of sampled banks average around 1.037, suggesting that these banks have good market prices, with the highest peaking at 1.502 and the lowest at 0.956. On average, the annual rate of loan growth is 0.222 (22.2%), of which the fastest growth over the 8-year period is recorded at 106.8% and the smallest at -4.5%. In terms of size, it is notable that the average value of total assets is 278 trillion (in Vietnam dong), while the standard deviation is much higher, 311 trillion (in Vietnam dong). Hence, it is appropriate to take the natural log of total assets entering the regression function, and use median value, instead of mean, to divide the sample into large and small banks in subsequent analyses. The average value of capitalization is about 0.082, with the largest at 0.22 and the smallest at 0.04. For the remaining variables, the average values of DEPOSIT, ROE,

CIR, LLP, NPL are 0.75, 0.12.8, -0.53, 0.10, 0.02, respectively.

3.3 Data analysis

To estimate the research model, we employ panel data estimation technique using the balanced 144 bank-year observations data from 2012 to 2019 of 18 publicly traded commercial banks. Initially, the panel models such as fixed-effects (FEM) and random-effects (REM) are considered. The Hausman test will then be used to compare FEM and REM estimates and choose between the two approaches. Subsequently, tests of auto-correlation and heteroscedasticity are conducted to examine the possibilities of correlation of disturbance terms over time and between cross-sectional units, which may severely affect the statistical results (Gujarati & Porter, 2009; Ho, Bui, Nguyen, Dao, & Nguyen, 2020; Nguyen et al., 2020; Nguyen et al., 2016; Nguyen et al., 2014b, 2014a, 2017). In case these assumptions are violated, Driscoll-Kraay estimator which produces robust standard errors will be estimated using the xtsc command in STATA (Hoechle, 2007).

In addition, the study will further investigate whether the valuation effect of loan growth differs in three

dimensions: bank size (large banks vs small banks), ownership (state-owned vs non state-owned), and value (high value vs low value). The basic model is estimated separately for each sub-sample of banks according to these features, respectively. The classification of ownership is based on the ownership structure, with banks having state ownership ratio of 50% or more being classified as state-owned banks and vice versa, non-state-owned banks having state ownership ratio below 50%. Besides, foreign ownership is not under consideration in this study. In terms of size, large banks and small banks are distinguished according to the median value of total assets. Banks with total assets' value greater than the median point are classified as large banks and otherwise. The same goes for banks of high and low value based on the median point of bank's market value, Tobin's Q.

4. Results

4.1 Correlation matrix

Table 3 presents the pair-wise correlation matrix of all variables included in the research model.

Table 3: Correlation Coefficient

	TOBIN'S Q	LOANG	SIZE	CAP	DEPOSIT	ROE	CIR	LLP	NPL
TOBIN'S Q	1								
LOANG	0.05*	1							
SIZE	0.37*	-0.13	1						
CAP	-0.13*	-0.09	-0.36*	1					
DEPOSIT	-0.06*	-0.23*	0.00	0.043	1				
ROE	0.19*	0.08	0.52*	-0.03	-0.25*	1			
CIR	0.32*	-0.00	0.62*	0.03	-0.14	0.76*	1		
LLP	0.53*	-0.11	0.55*	-0.17*	0.08	0.09	0.31*	1	
NPL	-0.07*	-0.01	-0.04	0.13	0.05	-0.24*	-0.25*	0.16*	1

*** $p < 0.01$, ** $p < 0.05$, * $p < 0$.

The results show that Tobin's Q is positively correlated with loan growth, size, return on equity, cost-income ratio, and loan loss provision, as reflected by the positive and statistically significant correlation coefficients. Conversely, the negative and significant correlations are found between Tobin's Q and capitalization, deposit ratio, and non-performing loan. Specifically, loan loss provision shows the strongest correlation with Tobin's Q in terms of magnitude with the coefficient of 0.53, while loan growth exhibits the weakest correlation with the coefficient of 0.052. Moreover,

each of the correlation coefficients among the independent variables is less than 0.8, so it is less likely that the multicollinearity may occur and affect the estimation of research model. Nonetheless, the correlation analysis does not necessarily indicate the causal relationship or the effect of loan growth on Bank Valuation. Consequently, regression analysis is conducted in the next step in order to find the valuation effect of loan growth while controlling for other explanatory variables.

4.2 Result of regression

Table 4 presented the regression results for FEM, REM, and Driscoll-Kraay estimator for fixed-effects, respectively. The statistically significant Hausman test provided evidence against the random-effects assumption, and thus the fixed-effects estimates were consistent based on the data. Moreover, the test of auto-correlation was not significant while the test of heteroscedasticity was significant, suggesting that the standard errors of the coefficient estimates should be adjusted for possible dependence in the disturbances. Accordingly, Driscoll-Kraay covariance matrix estimator of the fixed-effects regression was used to ensure validity of the statistical results.

From the fixed-effects regression results for the whole sample as shown in column 1 and 3, it could be concluded that loan growth was positively associated with Bank Valuation ($\beta_{LOANG} = 0.02$, p-value < 0.05). This suggests that increase in lending activities of banks tend to raise their market value and vice versa, when annual growth rate of total loans decreases, bank's value also tends to decrease. These results are consistent with previous empirical studies highlighting the positive valuation effect of individual loan announcements (James, 1987), and bank-level loan growth (Niu, 2016; Zemel, 2018). As documented in prior literature, positive loan growth signals that banks are able to seek out more positive investment opportunities in the lending market, and at the same time the absence of perfect competition enables banks to overprice their loans for even higher interest income. Collectively, loan growth convey good news in terms of banks' expected earnings and growth prospects, which boosts their valuation (Zemel, 2018). This finding, however, need not lend support to the counter-cyclical effect of lending standards in which Vietnamese commercial banks may loosen lending policies to attract more borrowers, boost earnings and market value regardless of businesses' creditworthiness. Such behavior leads to deteriorated loan quality, higher loan loss provisions in subsequent years and the buildup of systemic risk (Dang, 2019; Soedarmono et al., 2017). This study's finding may suggest the opposite that higher Bank Valuation driven by increased loan growth is motivated by an improvement in quality and soundness of lending activities. Over the two decades, Vietnam's banking sector has witnessed such a strong and stable loan growth with domestic credit supply by banks increasing from 35% of GDP in 2000 to 126% in 2016 and the year-on-year credit growth recorded at 13.5% in 2019 and projected at 14% in the next year. The more stringent credit risk approach with a long-term focus may attribute to the significant results of the positive relationship between loan growth and Bank Valuation.

Table 4: Results of regression for all of banks

	(1)	(2)	(3)
Tobin's Q	FEM	REM	Driscoll-Kraay standard errors
LOANG	0.0242*	0.0278**	0.0242**
	(0.0138)	(0.0141)	(0.00965)
SIZE	-0.0189***	-0.0127*	-0.0189***
	(0.00706)	(0.00679)	(0.00349)
CAP	0.101	0.108	0.101
	(0.116)	(0.117)	(0.102)
DEPOSIT	-0.0430	-0.0405	-0.0430**
	(0.0293)	(0.0295)	(0.0160)
ROE	-0.0918*	-0.103**	-0.0918***
	(0.0504)	(0.0511)	(0.0164)
CIR	0.00671	0.0171	0.00671
	(0.0328)	(0.0331)	(0.0146)
LLP	0.0709	0.119	0.0709***
	(0.0854)	(0.0864)	(0.0220)
Constant	1.678***	1.472***	1.678***
	(0.242)	(0.233)	(0.131)
R-squared	0.319	0.306	0.319
Number of banks	18	18	18
Hausman test		0.0005	
Autocorrelation test	0.1035		-
Heteroskedasticity test	0.0000		-

Standard errors in parentheses

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

Regarding bank-specific control variables, the results showed that bank size was significantly and negatively associated with valuation ($\beta_{SIZE} = -0.018$ and p-value is less than 0.05), meaning that increasing bank's total assets tends to reduce its market value. This negative relationship between bank size and market value has been documented in previous studies (Avramidis et al., 2018; Bertay et al., 2013; Demirgüç-Kunt & Huizinga, 2013). At the country-level, (Bertay et al., 2013; Demirgüç-Kunt & Huizinga, 2013) found that when banks grew to a size that was relatively significant to national GDP, they were faced with lower returns, higher market discipline, and decreasing value as a result of losing bank shareholders' interest. Using a sample of US banks, (Avramidis et al., 2018) provided

evidence of an inverse U-shaped relationship between bank size and market-to-book ratio and suggested that larger banks incur higher monitoring and delegation costs which cancelled out the benefits from economies of scale.

Similarly, the ratio of deposit to total liabilities was shown to be negatively correlated with Tobin's Q ($\beta_{DEPOSIT} = -0.04$, p-value is less than 0.05). This result indicates that raising more deposit does not help increase a bank's market value but even introduces a downward valuation of the bank, which is consistent with (Avramidis et al., 2018)'s results. It is widely agreed that increasing deposits leads to an increase in interest expenses. Without a significantly large loan-to-deposit ratio, the inflated cost will cause an imbalance in bank's fund channeling activities. Meanwhile, in Vietnam the deposit interest rate is uniquely adjusted by the State Bank of Vietnam, so the commercial banks cannot single-handedly reduce the interest expenses. Consequently, the imbalance between loan and deposit may cause investors not to highly value the bank's prospects compared

with other competitors in the lending market.

The results, however, showed an unexpected finding that ROE's coefficient entered negatively and significantly in the regression on Tobin's Q ($\beta_{ROE} = -0.092$, p-value < 0.05), which contradicts to the results of (Niu, 2016). This can be partly explained in several ways. Firstly, when a bank aims to gain profits through issuing more shares to the stock market, which increases its return on equity, this may elicit adverse response from investors consistent with the asymmetric information and signal theory (Brigham & Houston, 2012; Myers & Majluf, 1984). Accordingly, the stock price is expected to fall because the market assumes that issuing more shares means the bank is in shortage of capital to do business due to worse performance than competitors. Secondly, this finding may also indicate that the dividend payment policy of the bank is being aligned with a long-term development strategy, leading to expected higher retained earnings while dividends payment being strictly limited and thus lower valuation.

Table 5: Loan growth and Bank Valuation of different sub-sample of banks

	(1)	(2)	(3)	(4)	(5)	(6)
TOBIN'S Q	State-Ownership	Non State-Ownership	Large	Small	High value	Low value
LOANG	0.0351 (0.0133)	0.0278** (0.0116)	-0.0191 (0.0130)	0.0276** (0.0116)	0.0119*** (0.00355)	0.0180** (0.00589)
SIZE	-0.123** (0.0203)	0.00128 (0.00717)	-0.0312*** (0.00448)	-0.0445*** (0.0128)	-0.0462*** (0.00498)	0.00852** (0.00326)
CAP	-1.553* (0.480)	0.177* (0.0866)	0.401*** (0.0971)	-0.446*** (0.0708)	0.689*** (0.0771)	-0.0366 (0.0538)
DEPOSIT	0.194 (0.141)	0.0119 (0.0238)	-0.145** (0.0595)	-0.0475** (0.0202)	-0.103*** (0.0285)	0.0571*** (0.0127)
ROE	-0.318** (0.0671)	-0.115*** (0.0208)	-0.126*** (0.0168)	0.0203 (0.0496)	-0.107** (0.0341)	-0.0161 (0.00980)
CIR	0.0287 (0.0981)	-0.0125 (0.00779)	-0.0132 (0.0163)	0.0169** (0.00762)	0.0294 (0.0181)	-0.0301*** (0.00310)
LLP	-0.262 (0.217)	-0.0793 (0.0736)	0.216*** (0.0616)	-0.0369 (0.101)	0.203 (0.129)	-0.0898*** (0.0240)
Constant	5.395** (0.659)	0.959*** (0.250)	2.161*** (0.185)	2.524*** (0.415)	2.627*** (0.165)	0.666*** (0.117)

Standard errors in parentheses

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

Loan loss provision was found positively associated with Bank Valuation ($\beta_{LLP} = 0.07$, p-value < 0.05). This suggests that an increase in the allowance for loan loss conveys good news to investors in the sense that the bank has been prepared to absorb short-term shocks in earnings when defaults occur, which is consistent with (Elliott,

Hanna, & Shaw, 1991)'s hypothesis about the bank's willingness to mitigate risks. Empirically, (Beaver, Eger, Ryan, & Wolfson, 1989) has provided evidence for the positive relationship between loan loss accounting figures and market-to-book ratio, arguing that increased reserves for loan default help banks provide information of better

credit risk management, which elicits a positive stock price response. The finding, however, does not support the view that more provisions for loan loss may reveal to the market that expected loan default exceeds previously anticipated, and in the presence of information asymmetry this should lead to downward valuation of the bank.

For the remaining control variables, the regression results found non-significant effects of cost-income ratio and capitalization on Tobin's Q ($\beta_{CAP} = 0.101$, $\beta_{CIR} = 0.00671$, all p-value > 0.05). Though the magnitude of coefficient for capitalization was quite large, yet the standard error was even larger (0.102) disapproving the statistical significance of the effect of capital ratio on Bank Valuation. Similarly, CIR was not found significantly correlated with bank's market value since the coefficient was practically zero. These results suggest that cost-income and capital ratios are not the causes of change in valuation for the banks in our sample.

To further investigate the possibilities of the differential valuation effect of loan growth depending on bank's features, Table 5 presents the separate estimation results for each sub-sample of banks according to ownership, bank size, and value, respectively. Columns (1) to (6) indicate that increased loan growth is associated with higher bank's market value in non-state-owned, small, high- and low-valued banks, and that the relation is not significant in large and state-owned banks. This finding is consistent with the results of (Niu, 2016; Zemel, 2018), where loan growth, in conjunction with expected earnings, has value implications for small banks only. In Vietnam's banking sector, it should be noted that state-owned banks are simultaneously the largest banks, and these banks are different from the others in several ways. First, they have a better access to the capital market and are able to take out loans from their portfolio through securitization. As such, investors may find loan growth in the large or state-owned banks tends not to correlate with valuation. Second, large and state-owned banks tend to have a higher ratio of nonperforming loan to total loans (Clair, 1992), and the situation holds in Vietnam (Hang, Trinh, & Vy, 2019; Nguyen Thi Minh, 2015). The higher rate of loan defaults of these banks may possibly offset the positive stock price response. Third, large and state-owned banks are more likely to engage in diversification of earning assets beside lending activities, which should reduce the significance of loan growth effect on valuation.

5. Conclusion

This study examines the relationship between loan growth and Bank Valuation using on a sample of 18 Vietnamese publicly traded commercial banks from 2012 to

2019. To estimate the research model, the fixed-effects regression is employed along with Driscoll-Kraay estimator, which produces robust standard errors accounting for possible dependence in the disturbance terms. Hence, the empirical results provide substantive evidence that loan growth has a positive effect on Bank Valuation. Further investigation also finds that the positive value implications are significant in small and non-state-owned banks only. Besides, bank size, deposit, and return on equity are found negatively associated with Tobin's Q, while loan loss provisions exhibit a positive relation with this measure of Bank Valuation.

Eventually, this paper provides several implications. First, by providing confirmed evidence for the positive valuation effect of loan growth, the study raises concern around the traditional view that all loan growth causes inferior bank performance. Stable and strong loan growth may be an indicator of bank's growth prospects, especially in small and non-state-owned banks. Second, the findings are of interest to policy considerations as loan growth in these banks are critical to small and medium-sized enterprises, and at the same time stringent credit standards should still be applied for sustainable long-term development. Future research should be aimed at investigating the presence of counter-cyclical effect of credit standards in Vietnam context and whether it affects the valuation effect of loan growth in short and long-term.

Limitations of the study: Although the study has achieved its research objectives, but there are some limitations. Firstly, the study has not considered possible endogenous issues. Secondly, the study only uses a Bank Valuation evaluation index (Tobin's Q). Therefore, the authors also give some direction for further studies: Further studies may consider the endogenous issues between research variables. At the same time, future studies may find more Bank Valuation measurement variables.

References

- Avramidis, P., Cabolis, C., & Serfes, K. (2018). Bank size and market value: The role of direct monitoring and delegation costs. *Journal of Banking & Finance*, 93, 127–138. <https://doi.org/10.1016/j.jbankfin.2018.05.016>
- Beaver, W., Eger, C., Ryan, S., & Wolfson, M. (1989). Financial Reporting, Supplemental Disclosures, and Bank Share Prices. *Journal of Accounting Research*, 27(2), 157–178. JSTOR. <https://doi.org/10.2307/2491230>
- Berger, A. N., & Udell, G. F. (2004). The institutional memory hypothesis and the procyclicality of bank lending behavior. *Journal of Financial Intermediation*, 13(4), 458–495. <https://doi.org/10.1016/j.jfi.2004.06.006>
- Bertay, A. C., Demirgüç-Kunt, A., & Huizinga, H. (2013). Do we need big banks? Evidence on performance, strategy and market discipline. *Journal of Financial Intermediation*, 22(4),

- 532–558. <https://doi.org/10.1016/j.jffi.2013.02.002>
- Caprio, G., Laeven, L., & Levine, R. (2007). Governance and Bank Valuation. *Journal of Financial Intermediation*, 16(4), 584–617. <https://doi.org/10.1016/j.jffi.2006.10.003>
- Dang, V. D. (2019). The effects of loan growth on bank performance: Evidence from Vietnam. *Management Science Letters*, 9, 899–910. <https://doi.org/10.5267/j.msl.2019.2.012>
- Dell'ariccia, G., Igan, D., & Laeven, L. (2012). Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market. *Journal of Money, Credit and Banking*, 44(2–3), 367–384. <https://doi.org/10.1111/j.1538-4616.2011.00491.x>
- Demirgüç-Kunt, A., & Huizinga, H. (2013). Are banks too big to fail or too big to save? International evidence from equity prices and CDS spreads. *Journal of Banking & Finance*, 37(3), 875–894. <https://doi.org/10.1016/j.jbankfin.2012.10.010>
- Elliott, J. A., Hanna, J. D., & Shaw, W. H. (1991). The Evaluation by the Financial Markets of Changes in Bank Loan Loss Reserve Levels. *The Accounting Review*, 66(4), 847–861. JSTOR.
- Fahlenbrach, R., Prilmeier, R., & Stulz, R. M. (2018). Why Does Fast Loan Growth Predict Poor Performance for Banks? *The Review of Financial Studies*, 31(3), 1014–1063.
- Foos, D., Norden, L., & Weber, M. (2010). Loan growth and riskiness of banks. *Journal of Banking & Finance*, 34(12), 2929–2940. <https://doi.org/10.1016/j.jbankfin.2010.06.007>
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed). New York, NY: McGraw Hill.
- Hang, H. T. T., Trinh, V. K., & Vy, H. N. T. (2019). Analysis of the Factors Affecting Credit Risk of Commercial Banks in Vietnam. In V. Kreinovich, N. N. Thach, N. D. Trung, & D. Van Thanh (Eds.), *Beyond Traditional Probabilistic Methods in Economics* (pp. 522–532). Cham, Switzerland: Springer International Publishing. https://doi.org/10.1007/978-3-030-04200-4_38
- Ho, T. N., Bui, A. T., Nguyen, V. D., Dao, T. K., & Nguyen, N. D. (2020). Analyzing the impact of FDI and urbanization on CO2 emission in Vietnam. *International Journal of Business and Globalisation*, 12, 1–19.
- Hoechle, D. (2007). Robust Standard Errors for Panel Regressions with Cross-Sectional Dependence. *The Stata Journal*, 7(3), 281–312. <https://doi.org/10.1177/1536867X0700700301>
- James, C. (1987). Some evidence on the uniqueness of bank loans. *Journal of Financial Economics*, 19(2), 217–235. [https://doi.org/10.1016/0304-405X\(87\)90003-1](https://doi.org/10.1016/0304-405X(87)90003-1)
- Lee, C.-C., & Hsieh, M.-F. (2013). The impact of bank capital on profitability and risk in Asian banking. *Journal of International Money and Finance*, 32(C), 251–281.
- Meggison, W. L., Poulsen, A. B., & Sinkey, J. F. (1995). Syndicated Loan Announcements and the Market Value of the Banking Firm. *Journal of Money, Credit and Banking*, 27(2), 457–475. JSTOR. <https://doi.org/10.2307/2077878>
- Nguyen, D. V., Dang, D. Q., Pham, G. H., & Do, D. K. (2020). Influence of Overconfidence and Cash Flow on Investment in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(2), 99–106. <https://doi.org/10.13106/jafeb.2020.vol7.no2.99>
- Nguyen, T. T., Do, T. L., & Nguyen, V. D. (2016). Impacts of Monetary Policy and Information Shock on Stock Market: Case Study in Vietnam. *International Journal of Economics and Finance*, 8(7), p132. <https://doi.org/10.5539/ijef.v8n7p132>
- Nguyen Thi Minh, H. (2015). Non-Performing Loans: Affecting Factor for the Sustainability of Vietnam Commercial Banks. *Journal of Economics and Development*, 17(1) 93–106. <https://doi.org/10.33301/2015.17.01.06>
- Nguyen, V. D., Dao, T. K., & Bui, Q. T. (2014b). Impact of foreign direct investment on Vietnam economic growth during the period 1990- 2013 by ARDL model. *The Journal of Science and Education*, 1, 59–67.
- Nguyen, V. D., Dao, T. K., Nguyen, T. H., & Thi Huong. (2014a). Impact of Capital Structures, Firm size and Revenue Growth on the Performance of Fishery Companies Listed on the Vietnamese Stock Market. *Proceeding of International Conference on Emerging Challenges Innovation Management for SMEs*, 623–628.
- Nguyen, V. D., Nguyen, N. D., Nguyen, T. H. A., & Vu, H. P. (2017). Impact of fdi and co2 emission on economic growth: Evidence of some asian countries. *External Economics*, 91, 59–66.
- Niu, J. (2016). Loan growth and Bank Valuations. *The Quarterly Review of Economics and Finance*, 61, 185–191. <https://doi.org/10.1016/j.qref.2016.02.001>
- Rime, B. (2001). Capital requirements and bank behaviour: Empirical evidence for Switzerland. *Journal of Banking & Finance*, 25(4), 789–805. [https://doi.org/10.1016/S0378-4266\(00\)00105-9](https://doi.org/10.1016/S0378-4266(00)00105-9)
- Ruckes, M. (2004). Bank Competition and Credit Standards. *The Review of Financial Studies*, 17(4), 1073–1102. <https://doi.org/10.1093/rfs/hhh011>
- Soedarmono, W., Sitorus, D., & Tarazi, A. (2017). Abnormal loan growth, credit information sharing and systemic risk in Asian banks. *Research in International Business and Finance*, 42, 1208–1218. <https://doi.org/10.1016/j.ribaf.2017.07.058>
- Vo, X. V. (2018). Bank lending behavior in emerging markets. *Finance Research Letters*, 27(C), 129–134.
- Zemel, M. (2018). The Information Content of Loan Growth in Banks. *Quarterly Journal of Finance*, 08(02), 1850004. <https://doi.org/10.1142/S2010139218500040>