Determinants of Banks' Lending Growth in Vietnam

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Abstract

Vietnam experienced a rapid credit growth in the period of privatization of banks and the opening to the entry of foreign banks. This paper identifies and estimate the determinants of lending growth in Vietnam, considering both demand and supply side factors but putting more emphasis on bank diversification strategies. It is found that banks' geographical and income diversification strategies are beneficial in terms of their ability to maintain growth rate in credit supply. As for demand factors, economic growth has a positive impact on loan growth, while inflation poses a negative influence on loan growth. Surprisingly the impact of 2008-2009 global financial crisis does not show any significant impact on the lending growth. As expected, an increase in banks' deposit leads to higher credit growth. The study further confirms that strong banks' balance sheets, in terms of low non-performing loans and low solvency ratio has a positive effect on credit supply.

Keywords: Banks, Lending Growth, Vietnam.

Introduction

Corporate growth is highly regarded, and can be obtained via many means such as the expansion in terms of size, fields of operations, and asset and/or revenue growth (through mergers and acquisitions). In case of banks, growth is usually seen in terms of asset scale, outstanding loan, equity, and other indicators in the assets and liabilities of banks. Bank growth rates feature how banks choose to change annually and its ability to control its business operations and its ability to diversify its lines of operations. If the growth rate is stable, it will create an active role for the bank in planning the long-term development strategy as well as creating the credibility and prestige of the bank, increasing the attractiveness of investors.

According to World Bank Indicator statistics, in 2009 21.5% firms in Vietnam use banks to finance investment, while that in 2015 is 29.3%, a large increase. In 2000, domestic credit to private sector by banks (% GDP) was 35%, and increased dramatically to 83% and 103% in 2008 and 2009, respectively, so global financial crisis did not seem to slow down the lending growth in Vietnam. The credit growth continues to see its rates remain strong, reaching 126% of GDP in 2016, andaverage lending growth is at 18% for the year 2017. As stated by government,

the credit supply is targeted at promoting the economic growth, while aiming to keep the non-performing loan rate at a low and manageable level (2-3%). Nonetheless, the strong increase in credit supplyis not accompanied by a corresponding growth in bank capitalsince the bank capital to assets ratio has fallen significantly, reaching a low of 8.26% in 2015. Fortunately, banking industry has learned to perform better in terms of credit risk management, reducing the non-performing loan rates to 9.5% at the end of 2017 (National Financial Safety Committee, 2018). Bad debt reduces as a result of the restructuring of the potential bad debts and the decrease in the receivables that are hard to collect.

The structure of credit supply has shifted towards an enhancement in quality and soundness. The credit supply focuses mainly on businesses and manufacturing (80% of outstanding loans), and the average growth rate in the fields of agriculture and industry is above 22%, while that of trade and services and import and export is also strong at 14%. The credit supply towards SMEs increases 11.53% compared to 2016. On the other hand, credit to high-risk sectors such as real estate and stock market is under control. Another positive development is that firms are now able to issue long-term instruments, so less dependent on banks for medium to long-term credit. In the past (2013-2016), the medium to long-term credit kept increasing.The State Bank of Vietnam (SBV) are committed to managing credit supply in order to contribute to achieving target inflation objectives, supporting economic growth while enhancing credit quality and controlling credit supply to risk-prone sectors and domains. Besides SBV has facilitated the restructuring of credit institutions through dealing with bad debts, improving the legal framework for payment activities in the economy; development of banking technology and payment services.

The debate on the impact of bank competition and bank growth on bank performance has received much attention by academics and policymakers in recent years. The structural reform and liberalization process in Vietnamese banking system in the last two decades have impacted the competitive conditions.

Foreign investors may contribute to the growth in credit supply. Hilbers et al. (2006) show that foreign financial institutions entering European countries in order to increase their market share. The consumers may benefit from the entry of foreign banks as these banks tend to bring about quality services and offer superior products and management and knowledge, increasing the efficiency level as a whole (Yildirim and Philippatos, 2007). On the other hand, Hellmann et al. (2000) point out the drawbacks associated with the presence of foreign banks. First of all, in a bid to increase their market share, foreign institutions tend to adopt high risk operations (Hellmann et al., 2000). For banks in Vietnam, since the country joined the WTO in 2007, the number of foreign banks operating in Vietnam has increased dramatically, and commercial banks have rapidly developed in terms of number, size and location. Competition in banking system has become more intense, leading banks to move from traditional activities to non-traditional activities to secure each bank's market share. Most researches in Vietnam on banking performance have been carried out, but these studies mostly focus on the effects of income diversification on the performance of the bank (Nguyen Thi Canh and Ho Thi Hong Minh, 2014; Vo Xuan Vinh and Tran Thi Phuong Mai, 2015; Pham Xuan Quynh and Le Long Hau, 2016) and tend to ignore that of the geographical diversification. Our statistics show that while the number of commercial banks has not changed significantly from 2006 to 2015 (39 and 35, respectively), the total number of branches has increased by 5000, a over 100% increase compared to 2006, indicating the more intense geographical competition. The evidence on the effect of such competition on bank performance in general and credit output in particular has remained silent in the case of Vietnam.

Related literature

Theoretical background

Previous studies of the relationship between competition and business performance are based on theories that explain the relationship between market structure and performance: the structure – conduct – performance, efficiency structure and mutual forbearance. The structure – conduct – performance asserts that the market share of the bank is a sign of bank power. Higher market share and high market concentration (fewer competitors) allow banks to price their products and services higher, while offering lower deposit rates. This hypothesis holds that there is a similar relationship between concentration and performance of banks. The efficiency - structure theory (Demsetz, 1973) suggests that there is a positive correlation between market concentration and profit. This theory assumes that the positive relationship between bank efficiency is due to the efficiency of a bank's structure. The efficiency of banks achieved through good management, production technology and economies of scale can lead to greater market concentration (Berger, 1995). Increased competition may reduce the value of bank capital and thus banks will increase the risk of default through increased risk of assets and capital losses (Keeley, 1990). Therefore, both theories argue that banks in the concentrated market will have better performance.

According to the oligopoly theory (or mutual forbearance), multi-market companies will not compete aggressively with their competitors in a given market if they are afraid of retaliation in all markets (Edwards, 1955). This is because if the number of markets in which firms compete more and more, the retaliatory actions that will take place in these markets are likely to occur, which will cause significant losses. In such situations, the overall level of competition will be reduced to avoid excessive losses on the whole market if every bank acts the same. According to this theory, banks that compete in multiple markets with competitors (have branches in a number of localities) tend to reduce the level of competition of banks as a strategy to reduce the ability of competitors to retaliate in many markets. Conversely, there is a view that multi-market contact with competitors has the role of increasing competition. Solomon (1972) argues that if banks are competing fiercely in certain markets in a particular region, the higher the number of multi-sectoral linkages in the same region may lead to increased competition, and reducing bank profits.

As for the impact of competition on the risk of commercial banks, one common hypothesis is that competition arising from the liberalization of the banking system will reduce the value of the bank's charter capital by reducing its monopoly position and encouraging banks to choose more risky policies to maintain prior levels of profitability (Keeley, 1990). These risk policies also increase the likelihood that banks face higher NPLs, leading to higher potential of bankruptcy. In contrast, low competition encourages banks to protect higher brand values by pursuing safer strategies that contribute to the stability of the entire banking system. This franchise value hypothesis has been widely supported theoretically and empirically (see Jimenez et al., 2010).

However, Boyd and De Nicoló (2005) propose a new perspective. In the model of these authors, less competition among banks facilitates higher interest rates on business loans, leading to increased credit risk for borrowers due to ethical issues (Stiglitz and Weiss, 1981). Increasing the default risk of borrowers can lead to high NPLs and a greater likelihood of bank instability. In fact, Boyd, De Nicoló and Al Jalal (2006) provide empirical evidence of the positive relationship between concentration of banking and banking risk.

Empirical studies

There are abundant papers focusing on the influence of diversification on firm performance. Chiorazzo et al. (2008) use Italian bank data show that income diversification increases risk-adjusted returns and that the diversification gains are not a permanent function when banks are larger. Cogtugno and Stefanelli (2012) establish a desirable link between product diversification and geographical diversification and bank performance. Morgan and Stolyk (2003) show that diversification helps banks increase lending capacity, but not profitability of each bank, and does not help with risk reduction. Deng and Elyasiani (2008) show that further distance between a bank holding company and its branches has negative consequence and is associated with value reduction and risk increase. Bebczuk and Galindo (2008) examine the sectoral diversification of Argentine banks and find that larger banks receive more benefit from diversification than smaller ones, and that the merits of diversification are greater during the downturn of the business cycle.

Bernheim and Whinston (1990) have shown that when dealing with multiple markets, firms will have tacit agreements with one another and choose to maintain cooperation rather than competition. Coccorese and Pellecchia (2009) show that multi-market exposure increases the profitability of Italian banks. Therefore, this result supports the view that multi-market exposure reduces competition among banks. Using data of Italian banks in the period 1997-2009, Coccorese and Pellecchia (2013) show that companies operating in many markets will be more likely to collude together. Fuentelsaz and Gomez (2006) study the Spanish savings banking market, showing the inverse U-relationship of multi-market exposure to sector entry. These studies have shown that multi-market exposure has a positive effect on the profitability of banks, thus supporting the mutual forbearance hypothesis. However, there are some studies that do not support this theory.

Another strand of literature focuses more on the drivers of credit supply. Catão (1997) analyses both demand and supply factors of private credit in Argentina in the period of 1991 to 1996. Catao finds that demand factors such as changes in interest rates and level of indebtedness of private sector have contributed to undermining the private sector credit. As for supply factors, Catao argues that private credit was down due to adverse selection issue, especially in the context of financial crisis. Calza et al. (2001) study demand factors of credit supply in the euro area, using a Vector Error Correction model (VECM). The results show that credit has a positive relationship with real GDP growth and negative link with short and long-term real interest rates. Shijaku and Kalluci (2013) also rely on VECM in examining the determinants of credit supply in the long run in Albania. The findings from this research suggest that economic growth tends to have positive link with bank lending, and financial liberalization tends to

boost lending demand.

Mendoza and Terrones (2008) examine credit booms in industrial countries and emerging economies in the period from 1960-2006, and identify the key empirical determinants of credit booms. The authors show that the build-up phase of booms is associated with economic expansions, rising equity and housing prices, real currency appreciation, and worsening external deficits. Furthermore, Igan and Tamirisa (2009) study credit growth in the Baltics and Central and East European countries and show that bank profitability, measured by net interest margins, was a significant and positive determinant of private sector credit supply. Iossifov and Khamis (2009) conduct an empirical study on credit supply in the Sub-Sahara African countries in the period from 1997-2007, and find that private credit responded to the changes in GDP per capita, the money multiplier, the nominal interest rate as well as credit supply of foreign banks to local banks.

Barajas et al. (2010) analyze credit slowdown in Middle Eastern and North African (MENA), and document that bank-level fundamentals including capital and loan quality explain differences in credit growth in MENA countries. Guo and Stepanyan (2011) examine changes in credit supply in emerging market economies, and find that domestic deposits and non-resident liabilities contribute positively and symmetrically to credit growth both pre and after crisis periods. Furthermore, they stress that loose monetary policies help boost credit growth rates. Their findings add that stronger GDP growth leads to higher growth in credit supply while higher inflation destroys real credit growth. Finally, they highlight that healthier bank balance sheet and lower NPLs are main drivers for credit growth. Igan and Pinheiro (2011) investigate the relationship between credit growth and bank soundness from 1995 to 2005 and take into consideration of the two-way causality. Their findings show that credit growth tend to be less dependent on bank soundness during booms. Tan (2012) attribute the low credit growth in the Philippines to the weakness in bank balance sheets, economic growth and high net interest margins.

Allen et al. (2014) show that deposit growth and profitability ratios and other characteristics are important determinants of credit growth during both normal economic periods and crises. This is in line with Ivashina and Scharfstein (2010) who document that banks with better access to depositor's financing suffer a lower lending decrease during the recent financial crisis. Kapan and Minoiu (2013) show that banks with strong balance sheet positions were better able to sustain lending during the crisis.

Mirzaei and Kutan (2016) examines whether the fact that banks diversify activities before the recent global financial crisis alleviates the adverse impact of the crisis using data for 66 countries.This study shows that bank diversification has boosted bank resilience to the crisis, as their industry outputs suffer less in the crisis period. More specifically, these authors find that asset diversification is more important than funding and income diversification in mitigating the impact of crises on output. However, while both bank-based and market-based economies have been exposed to negative impactof the crisis, bank diversification only manifest its role in alleviating the detrimental impact of the crisis in bank-based economies. Goetz (2012)conducts a research on the influence of a bank's diversification on its own risk taking behavior. The results suggest that a bank's diversification strategy influences the risk appetite of its competitors.

Önder and Özyıldırım (2014) show that a reduction in a bank's riskiness tends to raisedemand for loan growth. Ghosh (2015) argues that more diversification in a bank's business model improves its loan quality and reduces credit risk. Over a course of two decades, banks have switched from traditional lending activities towards non-traditional services. In many countries the main objective of the reform is to promote a well diversified and efficient banking system which can prove resilient to financial shocks.

Deklea and Leeb (2015) find that foreign banks headquartered in the US and Europe tend to reduce their international lending more than banks from other regions, and they attribute this to the deteriorating home-market balance sheets of foreign banks. The authors suggest that diversified banks with relatively adequate bank capital dampened the adverse impact of the global financial crisis on the real economy.

In Vietnam there have been a number of researches on bank performance such as Trinh Quoc Trung (2010), Nguyen Thi Hong Vinh (2015), Vo Xuan Vinh and Duong Thi Anh Tien (2017). Although Vietnamese commercial banks are trying to expand their services, the services are not yet adequate compared to peers in more advanced markets: non-credit services such as payment, investment, foreign exchange trading, financial consultancy are not developed; modern banking products are only in the pilot phase. In addition, the State Bank of Vietnam (SBV) implemented a tightening monetary policy and commercial banks limited their lending. Credit supply plays very important role in economic growth in Vietnam, but its determinants are not studied adequately. This study aims to examine the drivers of credit supply provided by banks in Vietnam, especially considering the role of foreign ownership of banks and the

geographical and income diversification. The last two determinants have not been examined, at least in the context of Vietnamese banking.

Methodology and data

Several theoretical and empirical studies have been conducted to analyse the determinants of credit growth, considering both demand and credit supply effects. This study considers the most common explanatory variables across studies are GDP, inflation. Besides macroeconomic variables, bank-specific determinants, which influence bank lending channel and financial position of the borrowers, are often used in models that assess credit supply. There are studies which include both indicators in one model estimation, while other studies try to consider them in two separate models.

This paper focuses on the period from 2005 to 2015, using yearly data and a panel data set of 35 commerical banks operating in Vietnam. The study period encompasses the global financial crisis and various growth rates of Vietnamese economy, thus contrasting phases of the business cycle can be represented in the observed time period.We employ a fixed effects linear model. Fixed effects estimation allows for arbitrary correlation between the unobserved bank specifics and the observed explanatory variables (Wooldridge, 2002). Furthermore, under the assumption of strict exogeneity, it also takes into account bank-specific differences. The fixed effect linear static model is presented in the equation below.

$$loangr_{it} = \beta_0 + \beta_1 gdpgr_t + \beta_2 inf_t + \beta_3 spread_{it} + \beta_4 depositgr_{it} + \beta_5 npl_{it} + \beta_6 solvency_{it} + \beta_7 branchgr_{it} + \beta_8 div_{it} + \beta_9 roe_{it} + \beta_9 gfc_t + u_i + e_{it}$$

We further establish a dynamic model that takes into account the possible correlation between the previous and current loan growth rates. The dependent variable is growth rate of total loans. The explanatory variables are:

Gdpgr -GDP growth rate, featuring the overall state of the economy. Economic conditions are found to determine consumption and investment demand, thus affecting the demand for credit. Higher GDP growth should result in higher credit growth. However, in a reverse order high credit growth can lead to higher GDP growth (Guo and Stepanyan's (2011) and Tan's (2012)) we employ System GMM that is designed to address the potential endogeneity arised not only from the dynamic modelling, but also from the two-way relationship between dependent and explanatory variables.

Inf -Inflation rate, measured by the consumer price index (CPI), and it is expected to decrease real bank loans.

GFC-Global financial crisis: dummy variable that takes value of 1 if the observation is in the years 2008 and/or 2009, and 0 otherwise.

Spread-represents and measured by the difference between the interest rate on loans and the interest rate on deposits. Higher bank spread may thwart credit demand, and hence negatively influence banks' lending. On the other hand, higher spread, on the supply side factor, thanks to the high interest rates on loans, positively affects banks' profitability and encourages banks to lend more, suggesting that spread might take a positive sign.

Depositgr-Deposit growth represents a funding alternative. Higher deposit growth leads to higher credit growth as banks have more available funds. Thus, on the supply side, deposit growth should be a significant driver of credit growth. Barajas et al. (2010) note that banks which have more funding availability are able to perform their financial intermediation function better and should have stronger lending growth.

NPL ratio-represents a proxy for the loan quality. An increase in NPLs encourages banks to reconsider their long-term strategies concerning their assets. Thus, it is expected that loan quality is negatively related to credit growth (Barajas et al., 2010; Guo and Stepanyan, 2011)

Solvency ratio - measures the capital strength of a bank, indicating whether the bank has enough capital to meet the potential losses which can occur. Better capitalized banks have higher capacity to extend lending than weakly capitalized banks. The solvency ratio can be linked with the "moral hazard" behaviour. The link is to be found in the moral hazard incentives on the part of bank managers who increase lending and the riskiness of their loan portfolio when their banks are thinly capitalized (Berger and DeYoung, 1997).

ROE - measure of banks` profitability. Banks are more capable to perform their lending activities with better profitability. Albertazzi and Gambacorta (2006) explain that after a drop in bank profitability, if equity is sufficiently low and it is too costly to issue new shares, then a bank will usually reduce lending, otherwise they fail to meet regulatory capital requirements.

DIV-measures the income diversification of banks. Diversification in income can help stabilize banks and create funding sources for lending. Therefore, income diversification is expected to help increase the credit supply.

FB- measures the foreign ownership of banks.Foreign banks may be more concerned about the increase of their market share; therefore tend to engage in riskier projects

and lend more than banks without foreign ownership. However, foreign banks could take advantage of their edges in technology and know-how to increase businesses in non-traditional services; as a result, banks with higher foreign ownership can be reluctant to extend lending.

Branchgr – measures the growth in the number of branches of each bank in a year (%). According to mutual forbearance hypothesis, this variable is expected to have positive coefficient since banks operating in multiple markets can collude with other banks to prevent the potential losses that could arise from the retaliation if a bank chooses to compete strongly. Besides that, banks could decide to open branches to have more local insights that could boost the loan growth rates at the local markets.

The fixed efects ui capture the efect of time invariant, unobserved bank-specific, variables that are otherwise omitted from the model; λ t represents a set of time dummies; and ε i,t is the idiosyncratic error term (since we do not know where it comes from) which represents the unexplained part of dependent variable for each observation.

Results and discussion

Table 1 provides descriptive statistics of variables in the model. In Vietnam commercial banks tend to have very high growth rates (mean at 51% per year) and deposit growth rate is even at stronger rate (mean at 61% per year). Non-performing loan ratio is quite high, at 9%, which indicates the loan quality is not high and can drive bankruptcy risk higher. Non-traditional income only accounts for about 10%, which shows high potential for development in non-traditional services. The average economic growth of Vietnam is quite high at 6.9% per year throughout the period, but inflation rate is not favourable, at 9.19% per year.

Correlation coefficients from Table 2 suggest positive relationship between deposit growth and branch growth and the growth in credit supply. The positive coefficient of ETA (solvency ratio) suggests that bank with higher solvency ratio tend to have higher loan growth rate, and the positive coefficient of DEPOSITGR (deposit growth) implies that banks that receive high growth in deposits have more resources to lend out and secure high rates in loan growth.

Table 1 – Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
loangr	339	0.51	1.09	-0.31	11.42
depositgr	339	0.61	1.29	-0.80	12.74
npl	269	0.09	0.20	0.00	0.94
branchgr	230	0.28	0.55	-0.86	4.70
eta	384	0.12	0.09	0.00	0.71
div	363	0.10	0.08	-0.19	0.47
gdpg	387	6.29	0.76	5.25	7.55
inf	387	9.19	5.92	0.88	23.12
gfc	387	0.18	0.38	0.00	1.00
fb	310	0.06	0.08	0.00	0.30

Source: Author's calculation

Table 2 – Correlation matrix of variables in the model

	loangr	depositgr	npl	branchgr	eta	div	fb
loangr	1						
depositgr	0.6883*	1					
npl	-0.061	-0.0649	1				
branchgr	0.6308*	0.5777*	0.043	1			
eta	0.1006*	0.1847*	-0.1036*	0.1871*	1		
div	0.2354*	0.1871*	-0.0371	0.1275*	-0.0155	1	
fb	-0.0143	-0.0746	0.0614	-0.1327*	-0.2103*	0.1236*	1

denote significance at 10%. Source: Author's calculation

Tables 3 and 4 show strong consistency between the two estimation methods. Table 3 provides estimates using fixed effects model, with robust standard errors reported. In a static model, deposit growth, non-performing loan ratio and branch growth do not seem to influence loan growth. GDP growth (economic cycle) does not have significant impact, though this variable has positive sign as expected. Inflation has destructive impact on loan growth, consistent with mainstream findings. Foreign ownership in a bank has negative impact on loan growth, implying that foreign investors tend to focus more on bringing efficiency to improve bank performance, rather than just to grab market share by increasing loan growth at any cost. We can see that the results from using fixed effects method are not so consistent with literature, especially in Vietnam. This can be due to the fact that this method fails to address the potential endogeneity from the mutual relationship between dependent and explanatory variables, as well as there could be model misspecification where a dynamic rather than a static model should be used. Previous loan growth rate could have correlation with the current loan growth rate since, for example, the authorities could order banks to reduce credit supply if previous rates are too high, which could fuel the instability and non-performing loan ratios in the banking system.

Table 3. Estimates of coefficients using fixed effects – Static model

loangr	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
depositgr	0.54	0.33	1.64	0.11	-0.13	1.21
npl	0.11	0.19	0.57	0.58	-0.29	0.51
branchgr	0.40	0.44	0.91	0.37	-0.50	1.31
eta	3.49	1.40	2.49	0.02	0.62	6.36
div	1.28	0.67	1.91	0.07	-0.09	2.65
gdpg	0.05	0.08	0.54	0.60	-0.13	0.22
inf	-0.01	0.00	-3.56	0.00	-0.02	-0.01
gfc	-0.08	0.11	-0.76	0.45	-0.30	0.14
fb	-4.34	2.31	-1.88	0.07	-9.07	0.38
cons	-0.34	0.60	-0.56	0.58	-1.57	0.89

Source: Author's calculation

Table 4 provides estimates of the coefficients using System GMM approach for a dynamic model. Prior loan growth rate does not have significant effect on the current growth rate, but the results for the remaining variables show strong consistency with literature. Deposit growth rate is positively associated with loan growth rate, suggesting that deposits act as an importantfunding source, consistent with Ivanovic (2016). Non-performing loan ratio indicates the loan quality, and this variable has significantly negative coefficient, showing that an increase in non-performing loans force banks to reexamine their strategies concerning asset quality. This result is consistent with Ivanovic (2016), Guo and Stepanyan (2011) and Barajas et al. (2010). ETA (solvency ratio) indicates whether banks face with inadequate capital to handle potential losses. Ivanovic (2016) argues that banks with higher capital or higher solvency ratio tend to be able to extend lending, especially in harsh periods, than their weakly capitalized peers. This result shows why the authorities urge banks to refill their capital to ensure that the interruption or abrupt halt to lending is avoid.

Branch growth is positively associated with loan growth, showing bank strategies to cope with the increased competition in the banking system. Geographical diversification increases the possibility to encounter opponents in many markets, which could facilitate tacit collusion among competitors to avoid mutual retaliation (mutual forbearance hypothesis). Furthermore, banks could establish more branches to increase exposure to local markets and gain more insights into locals' loan preferences, increasing loan growth in future periods.DIV (income diversification) is another strategy of banks to face the tough competition in the traditional markets (credit granting and deposit taking). The fact that income

diversification has a significantly positive coefficient shows consistency with Mirzaei and Kutan (2016) which suggests that bank diversification enhances bank resilience to the crisis and maintain the stability of output (loan) growth. Ghosh (2015) argues that more diversification in a bank's business model improves its loan quality and reduces credit risk; therefore, banks with income diversification could maintain growth in credit supply. In many countries the main objective of the reform is to promote a well diversified and efficient banking system which can prove resilient to financial shocks. Finally GDP growth rate exerts an expected positive coefficient while inflation has a negative sign on loan growth, confirming the demand factors.

Table 4. Estimates of coefficients using System GMM – Dynamic model

loangr	Coef.	Std. Err.	t	P>t
loangr(t-1)	-0.025	0.016	-1.560	0.129
depositgr	0.376	0.057	6.540	0.000
npl	-0.151	0.078	-1.930	0.064
branchgr	0.619	0.070	8.790	0.000
eta	0.957	0.374	2.560	0.016
div	0.560	0.226	2.480	0.019
gdpg	0.088	0.018	4.790	0.000
inf	-0.015	0.001	-12.050	0.000
gfc	-0.067	0.055	-1.220	0.233
fb	-1.197	0.786	-1.520	0.139
_cons	-0.374	0.198	-1.890	0.069
AR(1)	0.014			
AR(2)	0.819			
Hansen test	0.909			

Source: Author's calculation

Conclusion

This study aims to examine the effects of diversification strategies as well as other conventional factors on banks' lending growth in Vietnam. The research findings show that bank diversification strategies are beneficial in terms of their capability to promote loan growth. Banks are currently in tough competition, thus diversifying into unconventional fields and establishing branches in new markets can be an efficient move to maintain profitable and relationship with lenders through offering them with state-of-the-art services. Foreign ownership is not a significant determinant for loan growth, suggesting that foreign investors do not aim to increase market share in lending activities. Demand factors such as GDP growth and inflation again confirm their important role in determining the growth rate in credit supply.

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