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Impact of Ownership Restructuring to Financial Performance of Vietnamese Commercial Banks

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Abstract:

This paper examines the impact of ownership restructuring on the financial performance of 28 commercial banks in Vietnam from 2008 to 2018. The results of the study show that: increasing the variables: equity ownership, foreign ownership ratio, concentration of ownership, privatization of state banks, economic growth increases financial performance. However, mergers and acquisitions, increasing state ownership and inflation reduce financial performance.

Keywords: Financial performance, ownership restructuring

1. Introduction

The bank is one of the intermediary financial institutions, it transfers capital from depositors to borrowers and intermediaries pay goods and services (Rose, 2012). During more than 20 years of economic reforms, Vietnamese commercial banks now have a variety of ownership structures. Initially, the one-level banking system mainly serving the government's planned economic objectives has been a market-based operating system with many types of ownership structures such as: Commercial banks, State-owned commercial banks, joint-stock commercial banks, joint-venture banks, banks with 100% foreign capital ... The diversity of ownership structures contributes to a positive development in the Vietnamese banking system.

The operating of commercial banks in the economy always face with the risk of information asymmetry, adverse choices, ethical decline and transaction costs while financial market participants can monitor the activities of financial markets (Mishkin, 2013). In an increasingly competitive environment, the banking systems of many developing economies are ineffective. After the economic crisis in 2007-2009, Vietnam's banking system revealed weaknesses and threats to system breakdowns, resulting in an urgent need to conduct commercial bank restructuring. Project 254 restructure the system of credit institutions for the period of 2011-2015 issued together with the Decision No. 254 / QD-TTg dated March 1, 2012 of the Prime Minister. One of the restructuring activities that have been carried out in an effort to improve the performance of the bank is the ownership restructuring. This situation raises the need to clarify the role of ownership restructuring for financial performance in the Vietnamese banking system, and to assess the impact of ownership restructuring on financial performance in Vietnam.

2. Theoretical Basis and Research Model

2.1. Some Concepts

Iannotta et al. (2007) suggested that the ownership structure of enterprises can be defined in two aspects. First, the degree of ownership concentration: is centralized or scattered.

Centralized ownership is characterized by the shareholders who hold the most shares, have the highest control and voting rights; At the same time, it is most affected by risks and supervision costs (Pedersen & Thomsen, 1999).

Distributed ownership is characterized by a large number of shareholders who own a small number of shares and control over activities held by the Board of Directors. Small shareholders have little incentive to closely monitor operations and do not want to participate in running the company. Therefore they are called outsiders and the distributed structure is also known as the external system.

Secondly, Iannotta et al. (2007) suggested that with the same degree of concentration, the ownership structure of enterprises may differ because the characteristics of ownership may be governmental or private ownership; be domestic or foreign. In addition, Iannotta et al. (2007) addressed the issue of mixed ownership: foreign ownership, private ownership, and state ownership. In the banking sector, the ownership structure determines the functions, tasks, scope of operations, and regulatory compliance.

Ownership restructuring is one of the contents of the banking system restructuring plan. Teo et al. (1999) refer to forms of ownership restructuring of Asian commercial banks including Thailand, Malaysia, Indonesia, Philippines and South Korea such as: Merger or closure, capital financing, selling shares, calling for foreign investment in weak banks.

Thoraneenitiyan and Avkiran (2009) argue that restructuring of ownership in the banking sector includes activities: buying and selling, merging domestic banks, allowing the participation of foreign banks to own local banks.

Williams and Nguyen (2005) argue that ownership restructuring that Southeast Asian governments have implemented is nationalizing banks; close the weak banks; make purchases and transfer assets to healthier banks; create larger core banks and provide capital investments to refinance banks. Nationalized banks are returned to private ownership through the bank privatization process. Various ownership restructuring measures have been implemented including attracting more investors to the common ownership and allowing high foreign ownership; replace ineffective bank management. Other restructuring measures have also been implemented to apply international standards in banking supervision and regulation (for example, capital adequacy, loan classification and loan loss provision) and environmental institutional improvement (Lindgren et al., 2000).

The change of ownership structure will support capital for investment and business activities of the bank, facilitate the exchange of human resources, finance and technology among partners, helping banks. Increasing capital to meet the requirements of the Government, thereby contributing to improving competitiveness, promoting efficient and sustainable operation of the banking system.

In Vietnam, the content of ownership restructuring stated in Decision No. 254 is: 'Continue to promote equitization of state-owned commercial banks, including Vietnam Bank for Agriculture and Rural Development. Be equitized at an appropriate time and ensure that the State holds dominant shares in state-owned commercial banks after equitization'; 'Increasing capital to ensure adequate equity capital according to capital adequacy standards of Basel II'.

Organizational efficiency is efficiency in using the organization's resources and its ability to achieve its goals (Worthington, 2009). The financial performance measurement methods can be non-accounting measurement methods, accounting measurement methods, and market-based measurement methods. Research using accounting methodology, Rose (2012) stated that the most common method of measuring financial performance of organizations is return on assets (ROA), return on equity (ROE), rate of interest income (NIM). ROA and ROE ratios are indicators of current business results and reflect the profitability that the bank has achieved in the past accounting periods. Therefore, this group is a way of looking at the past or assessing the short-term profitability of enterprises (Hu & Izumida 2008).

2.2. Theoretical Background

Product lifecycle theory (Vernon, 1966) shows that in the life cycle of a product, it is initially the stage when the product is invented. After the product is used domestically and exported, production gradually leaves the point of origin. In some cases, the product becomes an imported item by its original invention country. An enterprise establishes, grows, matures and regresses through the process of moving through different stages of the business life cycle (Miller & Friesen, 1984). Life cycle theory shows that the stages in the life cycle of an enterprise influence decisions made by businesses, especially in situations such as financial crisis and risk of bankruptcy. (Koh et al., 2012). According to Koh et al. (2012), the Life Cycle features offer limited options for restructuring for managers, especially when businesses face difficulties. The life cycle theory used for this study is as follows: commercial bank managers' decisions on ownership restructuring are expressed in increasing equity to meet the operational needs of the specific period. In the life cycle of commercial banks, increase capital mobilization from foreign investors. During the operation, for commercial banks with high state ownership, the gradual reduction of this ratio is also a decision to increase financial performance. During the recession period, commercial banks considered the merger and acquisition solution to continue to exist and develop.

Agency theory (Jensen and Meckling, 1976) suggests that capital owners and representatives or managers always have an inverse of interests. Capital owners are interested in the value of the company, the price of the stock (which is also their own benefit). Meanwhile, managers basically do not care much about shareholders' interests but usually only care about their main interests (salaries, bonuses, allowances and other revenues based on their positions). This raises a series of 'Agency Cost' costs. A number of other empirical studies explore the impact of institutional investors' ownership level on agency costs. For example, the studies of Brickley, Lease & Smith (1988) suggest that due to their unique characteristics compared to individual shareholders, institutional investors are fully capable and motivated to play a role. as corporate controllers, can therefore reduce agency costs. Mak & Li (2001) suggest that the Government tends to be less proactive in controlling its investments, and also because it is easier to raise capital, leading to the phenomenon of companies with capital investment. The country has less control over the company. In other words, state-invested companies will often increase representation costs. The ownership ratio of foreign investors also has a certain effect on the company's agency cost. Xu, Zhu and Lin (2005) point out that for companies in China, the higher the proportion of foreign investors, the better the company is in control, resulting in higher company performance and lower spending representative fee. The theory that the representative applies to this study shows that the basis for the impact of state ownership, foreign ownership, the degree of ownership concentration can bring performance to commercial banks.

2.3. Research Models

It is based on the researches of William and Nguyen (2005), Thoraneenitiyan and Avkiran (2009), Lin, X. and Zhang, Y. (2009), Kiruri and Olkalou (2013), Akhtar et al (2011), Berger & Bouwman (2013), Bokpin (2013), Tran Hoang Ngan et al (2014), Nguyen Hong Son (2014).

$$FP_t = f(\alpha, FP_{t-1}, LNEQ_{it}, FOR_{it}, STATE_{it}, CON_{it}, MVA_{it}, INT_{it}, PRV_{it}, GDP_t, INF_t, u)$$

2.3.1. Dependent Variables

FP_t : Financial performance

ROA_t = Profit after tax / Total assets

$ROE_t = \text{Profit after tax} / \text{Equity}$

2.3.2. Independent Variables

2.3.2.1. The Increase in Equity - $\text{Ln}(\text{EQT})_{it}$:

In ownership restructuring, which enhances the performance of medium and large banks mainly in banking crises, government intervention by refinancing weak banks also contributes to improving performance (Thoraneenitiyan & Avkiran (2009), Berger & Bouwman, CH (2013)

- Hypothesis H1: Commercial banks increase equity, the impact increases financial performance.

2.3.2.2. Foreign Ownership Ratio - Forit:

Bokpin (2013) performed a regression of results showing that foreign banks are more cost-effective than domestic banks. However, foreign banks have the ability to generate higher profits than domestic banks and have better quality loans.

- Hypothesis H2: Commercial banks have increased foreign ownership ratio, the financial performance increases.

2.3.2.3. State Ownership Ratio - Stateit: (Total Ownership Ratio of the Government and State Enterprises and the State's Representative in the Bank)

Lin, X. and Zhang, Y. (2009) have demonstrated and shown that large state-owned commercial banks have lower margins, less performance, and worse asset quality than private and private banks. Foreign goods.

- Hypothesis H3: Commercial banks with high state ownership have low financial performance.

2.3.2.4. Ratio of Concentration of Ownership of Conit: (The Percentage of Ownership of the 5 Largest Shareholders)

Empirical studies show very different results on the impact of the concentration on the bank's financial performance. Antoniadis et al. (2010) and Wen et al. (2010) provide clearer evidence for the positive relationship between ownership concentration and bank performance in some finance markets in the world. Research by Rokwaro et al. (2013) shows that the degree of ownership focused on a group of interests has the opposite effect on ROE. Research results of Kapopoulos & Lazaretou (2007) show that banks with centralized or decentralized ownership structure also have no difference in financial performance.

- Hypothesis H4: The author expects in Vietnam, the higher the degree of ownership concentration, the more financial performance will increase.

2.3.2.5 Mergers and Acquisitions - Mvait: (1: Commercial Banks Conduct Mergers, Acquisitions, 0: Not Participating)

Studies in the US have shown that the performance of post-merger banks has not improved (Berger and Demsetz, 1999; Berger and DeYoung, 2000; Piloff, 1996). However, there are a number of studies analyzing the effect of mergers and acquisitions on actual financial performance which have found no significant impact in the US banking industry (Linder & Crane, 1993; Rhoades, 1994). Vander Venet (1996) found that domestic mergers among banks of similar size significantly increased the financial performance of the merged banks. Thoraneenitiyan & Avkiran (2009) point out that although domestic mergers create more efficient banks, restructuring generally does not lead to more efficient banking systems.

- Hypothesis H5: The author has the expectation that merger and acquisition will have a positive impact on the financial performance of commercial banks.

2.3.2.6 Privatization of State-Owned Commercial Banks - Prvit: 1: State-Owned Banks Are Equitized, 0: State-Owned Banks Are Not Equitized

Several studies show a positive relationship between the privatization of state banks and financial performance (Eckel et al., 1997; William and Nguyen, 2005). Some articles claim that privatization does not seem to have an immediate effect on improved performance (Clarke et al. 2005; Kraft et al 2006; Williams & Nguyen 2005). In addition, Boubakri et al. (2005) have demonstrated that in the long run, privatization increases bank performance.

Hypothesis H6: Privatization of state-owned commercial banks increases financial performance.

2.3.2.7. Financial Effect Lag Variable - Lag (Fpt-1)

Ayaydin and Karakaya, 2014; Lee and Hsieh, 2013 have demonstrated that the financial performance lag has a positive effect on the current financial performance.

- Hypothesis H7: Variations of financial performance have a positive impact on the financial performance of commercial banks.

2.3.2.8. Economic Growth - GDPt: ($\text{Ln}[(\text{GDPt} - \text{GDP } t-1) / \text{GDP } t-1]$)

The nation's macro-economic situation has an impact on commercial banking activities. During a period of economic growth, the bank's business activity is vibrant, the bank can increase financial performance (Akhar et al., 2011), however Anbar and Alper (2011) find out that GDP is not have an impact on bank performance. The economic growth variable is calculated by logarithm of the change of economic growth rate from the previous year to the previous year. The author put macro variables into the model as control variables with expectation:

Hypothesis H8: Economic growth has a positive correlation with financial performance

2.3.2.9. Inflation - Inft (Ln [(Inft - Inft-1) / Inft-1])

The inflation variable is measured in logarithms of the change in inflation rate from the previous year to the previous year. During inflation, the price of inputs for commercial activities of commercial banks increased, interest rates increased resulting in an increase in costs and profits (Ali et al., 2011). As for Anbar and Alper (2011), the authors found no relationship between inflation rates and bank performance.

- Hypothesis H9: The inflation rate is negatively correlated with the financial performance of commercial banks α (blocking coefficient), i (bank), t (year), u (remainder of the model).

3. Research Method

The paper assesses the impact of ownership restructuring on the financial performance of Vietnamese commercial banks from 2008 to 2018. The sample used in the study is Unbalanced Panel Data. Secondary data is gathered from financial statements of Vietnamese commercial banks. Macro data is taken from the General Statistics Office.

The research method used is a stepwise regression method. First, the author uses the least squares regression model (POLS) for testing. However, the POLS method has a number of assumptions to be met unstable or non-existent. In addition, the POLS method requires a fixed time and subject, but the current practice for studies on table data is not satisfactory.

To overcome the disadvantages of the POLS method, the FEM model test method (random impact model) allows consideration of differences in the object in the model so the model will not have autocorrelation phenomenon. However, the FEM model results in reduced degrees of freedom.

To select a suitable POLS or FEM model, the author uses Fisher test: with the assumptions set as follows:

H0: $\alpha_i = 0$ for all α_i . (choose POLS model)

H1: exists $\alpha_i \neq 0$ ($j = 1, n$) (select FEM model)

Results expressed through p-value statistical coefficient from the test.

If $p \geq \alpha$, accept H0, choose the Pooled Regression model If $p < \alpha$, reject H0, choose FEM model.

The fixed impact model (REM) considers the differences of the objects over time so the estimation results are not changed but there is a potential for autocorrelation. After estimation, conduct a Hausman test to determine whether the independent variable is correlated with α_i or not to choose between a fixed effect model and a random effect model. The assumption is as follows:

H0: Independent variable without errors (choose REM model)

H1: Cov (X_{jit}, α_i) other than 0 (select FEM model)

If p-value < 0.05 , reject H0. At that time, REM was unreasonable, so FEM was used

However, the estimation models using within regression yield a biased estimate for dynamic table data, so the DPD model using the differential equation is proposed to use: it is the Difference GMM (GMM difference) method because Arellano and Bond (1995) propose to increase the effectiveness of the estimation results.

4. Research Results and Discussion

4.1. Descriptive Statistics

Data of the research sample is summarized through the descriptive statistics table as follows:

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. summarize ROA ROE LNEQT FOR STATE CON MVA PRV GDP INF, separator(0)
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Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	307	.0091928	.0086132	-.0599291	.0595185
ROE	307	.0963828	.080798	-.5632631	.3152641
LNEQT	307	15.80893	.9861635	13.83603	18.02698
FOR	286	.0881905	.1108189	0	.3
STATE	286	.2036088	.2951556	0	1
CON	286	.4393093	.2495097	0	1
MVA	307	.1302932	.3371753	0	1
PRV	307	.0977199	.2974203	0	1
GDP	307	-1.324834	.6110813	-3.066022	-.7213565
INF	308	-.7288299	.9808761	-2.764356	.4300802

Table1: Statistics Describing Variables Used in the Model
Source: Results from Strata Software

4.2. Correlation Coefficient Analysis

	ROA	ROE	LNEQT	FOR	STATE	CON	MVA	INT
ROA	1							
ROE	0.7587	1						
LNEQT	0.1604	0.3708	1					
FOR	0.0156	0.1574	0.2799	1				
STATE	0.1396	0.2318	0.4357	-0.126	1			
CON	0.0862	0.2245	0.4415	0.1223	0.8182	1		
MVA	-0.2235	-0.1314	0.078	0.2325	0.0729	0.1498	1	
INT	-0.1857	-0.0426	-0.0351	0.2448	-0.0879	-0.0205	0.3955	1
PRV	0.0147	0.2519	0.5416	0.1039	0.7031	0.7186	0.191	0.1091
GDP	-0.1145	-0.0493	-0.0738	0.0312	-0.0348	0.008	0.0776	0.1895
INF	0.0568	-0.0705	0.3792	-0.1575	0.0569	-0.041	-0.1575	-0.1864
	PRV	GDP	INF					
PRV	1							
GDP	0.0248	1						
INF	-0.0173	0.0211	1					

Table 2: Correlation Coefficient Matrix Independent Variables in the Model
Source: Results from Strata Software

The correlation coefficients of the majority of variables are low, but there is also a high correlation of the pairs of variables STATE-CON, STATE-PRV. The independent variables in the model with a high correlation coefficient can lead to the model being multicollinear and the result of the independent variable on the dependent variable is wrong. Next, the thesis tested the multicollinearity of the model through the VIF magnification coefficient, this coefficient of the ROA model has not a high average value: 2.21 ranges from 1.16 to 4.11, the ROE model is 2.26 whose value ranges from 1.16 to 4.06 shows that the model is not collinear.

4.3. Research Results

The study used 8 regression models, of which 4 models: POLS, FEM, REM, DGMM to evaluate the impact of ownership restructuring factors on the rate of return on total assets - ROA and 4 model to evaluate the impact of ownership restructuring factors on the rate of return on equity - ROE. The results show that all models are statistically significant in terms of $p < 5\%$ so estimates can be used to study the impact of ownership restructuring on the financial performance of Vietnamese commercial banks. (Table 3)

POLS model 1 shows the impact of ownership restructuring on ROA explained 33.2%. The remaining are other factors not mentioned in the model. Research results show that independent variables affect ROA with 1% significance level such as late ROA, LNEQT, MVA; with a 5% significance level like STATE; with 10% significance level as FOR and variables CON, PRV, GDP, INF are not statistically significant.

POLS model 2 shows that the impact of ownership restructuring on ROE explained 41.6%. The remaining are other factors not mentioned in the model. Research results show that independent variables affect ROE with 1% significance level such as late ROE, LMEQT, INF; with 5% significance level like MVA, with 1% significance level like FOR, STATE; The variables CON, PRV, GDP are not statistically significant.

Through the White test, the results show that the p-value of POLS1 and POLS2 models are 0.0000 $< 5\%$, so the model of variance change occurs.

POLS assumes that there is no difference in financial performance between different banks, as well as financial performance is not changed over time; while the fixed effects model (FEM) eliminates unobserved, measurable and constant changes over time that have an impact on the variable of financial performance. The FEM1 model considers the impact of ownership restructuring factors on ROA for the results of L.ROA, LNEQT, FOR, STATE, MVA variables with statistical significance such as POLS1 model, CON, INF variables. is statistically significant in POLS1 model but statistically significant with FEM1 model. The FEM2 model considers the impact of ownership restructuring factors on ROE for the results of the variables L.ROE, LNEQT, FOR, STATE, MVA, INF with statistical significance as POLS2 model but FEM2 model has significance level: 51.9% - higher than POLS2.

Next is the REM model, which looks at unobserved factors, changes over time and has an impact on financial performance; they are random variables, not correlated with other explanatory variables in the REM model. REM1 model results have the variables L.ROA, LNEQT, FOR, STATE, MVA are statistically significant, the CON variable has no statistical significance as FEM1. REM2 model results have the variables L.ROA, LNEQT, FOR, STATE, CON, MVA are statistically significant as POLS2, FEM2.

To select a POLS or FEM model, through the results of the FEM1 model, FEM2 shows that the F-test of FEM1 model has p value = 0.006 $< 5\%$ so the hypothesis H_0 is rejected, select FEM1, F models -test of FEM2 model has p value = 0.000 $< 5\%$ so the hypothesis H_0 is rejected, choose FEM2 model.

To select the model of FEM1 or REM1, FEM2 or REM2, the author performed Hausman test, the results showed that p values are 0.006 and 0.007 < 5% so FEM1 and FEM2 models were selected.

However, most of the data presented for financial variables are in the form of dynamic tables, so the FEM model is endogenous, in order to overcome this problem, the most effective estimation method is the wrong GMM method. feces (Different GMM - DGMM). The DGMM method will eliminate the problems of variance change, autocorrelation or endogenous so the estimation results will be effective and stable. The final analysis results based on regression results according to DGMM method, the variables in the DGMM1 model are statistically significant: at the 1% significance level are the variables L.ROA, LNEQT, FOR, STATE, CON, MVA, GDP, INF; at the 10% significance level is the PRV variable. Variables in the DGMM2 model are also statistically significant, at 1% are the variables: L.ROE, FOR, MVA, GDP, INF; at the 5% significance level are the variables: LNEQT, at the 10% significance level are the variables: STATE, CON, PRV. The results show that the DGMM model overcomes the defects of the previous models.

Sargan Test to test the exogeneity of DGMM model tool variables. The results show that p-value coefficients of both DGMM1 and DGMM2 models are 0.99 > 5%, concluding that the tool variable used in the DGMM model is exogenous. In addition, the quadratic autocorrelation test of Abond test gave p-value results of DGMM1 and DGMM2 models, respectively, 0.8702 and 0.5675 are greater than 5%, concluding the residuals of DGMM1 and DGMM2 models. no quadratic autocorrelation exists. The instrument variables used in the model both satisfy the two tests set forth. Thus, using the DGMM model with the lag variable of dependencies as a tool variable has solved the endogeneity phenomenon in the model. The results found in the model are robust and fully measurable (Table 3).

Models	POLS1	FEM1	REM1	DGMM1	POLS2	FEM2	REM2	DGMM2
Variables	ROA	ROA	ROA	ROA	ROE	ROE	ROE	ROE
L.ROA	0.47400***	0.39200***	0.47400***	0.12500***				
	[9.00]	[6.63]	[9.00]	[16.97]				
L.ROE					0.5060***	0.3830***	0.5060***	0.1060***
					[8.86]	[6.05]	[8.86]	[2.98]
LNEQT	0.00073***	0.00108***	0.00073***	0.00575***	0.0184***	0.0012**	0.0184***	0.0170**
	[1.01]	[0.65]	[1.01]	[6.41]	[2.64]	[-0.08]	[2.64]	[2.07]
FOR	0.00318*	0.01010***	0.00318*	0.00598***	0.0151*	0.0584**	0.0151**	0.2530***
	[0.66]	[0.99]	[0.66]	[-1.26]	[0.34]	[-0.64]	[0.34]	[-3.21]
STATE	-0.00299**	-0.01295*	-0.00299*	-0.02400***	-0.0087*	-0.0406***	-0.0087*	-0.0213*
	[0.99]	[1.66]	[0.99]	[3.61]	[0.31]	[0.58]	[0.31]	[0.38]
CON	0.00134	0.00008***	0.00134	0.02070***	0.0032	-0.0281	-0.0032	0.0142*
	[0.39]	[0.01]	[0.39]	[5.75]	[-0.10]	[-0.33]	[-0.10]	[0.43]
MVA	-0.00345***	-0.00290***	-0.00345***	-0.00578***	-0.0306**	-0.0372**	-0.0306**	-0.0352***
	[-2.65]	[-1.43]	[-2.65]	[-4.12]	[-2.55]	[-2.00]	[-2.55]	[-3.25]
PRV	0.00303	0.00007	0.00303	0.00772*	0.0017	0.0036	0.0017	0.1080*
	[-1.25]	[0.01]	[-1.25]	[-1.51]	[0.08]	[-0.07]	[0.08]	[-1.38]
GDP	0.00008	0.00030	0.00008	0.00167***	0.0047	0.0040	0.0047	0.0113***
	[0.05]	[-0.18]	[0.05]	[-3.66]	[-0.31]	[-0.26]	[-0.31]	[-2.90]
INF	-0.000864	-0.00081**	-0.00086*	-0.00196***	-0.0163***	-0.0113*	-0.0163***	-0.0179***
	[-1.58]	[-1.19]	[-1.58]	[-9.90]	[-3.24]	[-1.84]	[-3.24]	[-8.33]
_cons	-0.008*	-0.01560***	-0.00800*	-0.09870***	-0.2550**	0.0817**	-0.2550**	-0.1720**
	[-0.70]	[-0.57]	[-0.70]	[-7.12]	[-2.31]	[0.33]	[-2.31]	[-1.24]
N	260	260	260	234	260	260	260	234
R-sq	0.332	0.332	0.325		0.416	0.519	0.488	
Mean VIF	2.24				2.26			
White test	White's test for Ho: homoskedasticity against Ha: unrestricted heteroskedasticity chi2(49) = 97.78 Prob > chi2 = 0.0000				White's test for Ho: homoskedasticity against Ha: unrestricted heteroskedasticity chi2(49) = 105.78 Prob > chi2 = 0.0000			
Fisher test	F test that all u _i =0: F(27, 242) = 1.71 Prob > F = 0.006				F test that all u _i =0: F(27, 242) = 1.01 Prob > F = 0.0000			
Sargan test	H0: overidentifying restrictions are valid chi2(44) = 19.60755 Prob > chi2 = 0.9995				H0: overidentifying restrictions are valid chi2(44) = 18.43966 Prob > chi2 = 0.9998			
Arellano Bond test	H0: no autocorrelation Prob > z = 0.8702				H0: no autocorrelation Prob > z = 0.5675			

Table 3: Regression Results and Testing of Models

Source: Results from Strata Software

The results of the analysis of the impact of ownership restructuring on the financial performance of the DGMM estimate are similar to the author's initial expectations, specifically as follows:

Delay variable financial performance of commercial banks: regression coefficient 0.474 (model DGMM1-dependent variable ROA), regression coefficient 0.506 (model DGMM2 - dependent variable ROE) with significance level of 1% shows positive relationship with financial performance. Research results are in line with initial expectations and research of Ayaydin and Karakaya, 2014; Lee and Hsieh, 2013.

The LNEQT variable showed a positive impact on ROA and ROE with regression coefficients of 0.00575 (DGMM1 with 1% significance) and 0.0170 (DGMM2 with 5% significance), showing that ownership restructuring with require increasing capital to ensure the minimum charter capital from time to time by the State Bank to make the operation of Vietnamese commercial banks safer and more efficient. This result is consistent with the research of Thoraneenitiyan, N., & Avkiran, N. K. (2009) Berger, A. N., & Bouwman, C. H. (2013)

Increasing foreign ownership ratio (FOR) has regression coefficients of 0.00598 (DGMM1) and 0.2530 (DGMM2) with 1% significance level, indicating the impact of improving financial performance. Like Bokpin (2013), Kiruri and Olkalou (2013) have studied, the appearance and the increase in foreign ownership helped commercial banks acquire more good management and management technologies, which increased profits.

Restructured commercial banks through reducing the state ownership ratio increase the financial performance, reflected in the negative regression coefficient: -0,024 (DGMM1) with significance level of 1% and -0.0213 (DGMM2) with a 10% significance level. This shows that the strategy of restructuring state ownership in commercial banks is right. These results reinforce the evidence for Lin, X. and Zhang, Y. (2009), Bokpin (2013), Kiruri and Olkalou (2013).

With the ownership concentration variable, the DGMM1 model has a regression coefficient of 0.0207 and the DGMM2 model has a regression coefficient of 0.0142 with a significance level of 10% showing the impact. positively to the financial performance of commercial banks. This is consistent with the research results of Kiruri and Olkalou (2013).

Mergers and acquisitions with regression coefficients of both models were negative with significance level of 1%: -0,00578 (DGMM1) and -0,0352 (DGMM2), similar to Thoraneenitiyan, N., & Avkiran, NK (2009), show that mergers and acquisitions are reducing the bank's financial performance. This shows that when the new merger of commercial banks has not increased immediately, it takes time to promote the scale advantage, handle outstanding issues and increase performance.

Privatization of SOCBs (equitization of SOCBs) has a regression coefficient of 0.00772 (DGMM1) and 0.1080 (DGMM2) with a 10% significance level that has a positive impact on the financial performance of commercial banks. The roadmap for ownership restructuring through equitization of state-owned commercial banks is appropriate, contributing to improving the bank's financial performance (William and Nguyen, 2005).

Under Vietnam conditions, ownership restructuring is placed in the context of economic growth which increases the financial performance of commercial banks, expressed by the coefficient of 0.00167 (DGMM1) and -0.0113 (DGMM2) with the best opinion. means 1%. On the contrary, the increase in inflation has a negative impact on financial performance with a 1% significance level and the regression coefficient is -0,00196 (DGMM1), -0,0179 (DGMM2). Research by Akhtar et al (2011) has shown similar results.

5. Conclusions and Recommendations

5.1. Conclusion

Quantitative research method to measure the impact of variables representing ownership restructuring activities on the financial performance of Vietnamese commercial banks. The estimation methods used are: least squares (POLS), fixed effects (FEM) and random effects (REM) and GMM (DGMM). The research question is raised as to the impact of ownership restructuring on the financial performance of Vietnamese commercial banks. The research results show that: increasing the equity variables, foreign ownership rate, concentration of ownership, privatization of SOCBs, economic growth increases financial performance. However, mergers and acquisitions, increasing state ownership and inflation reduce financial performance.

5.2. Recommendations

Firstly, it is necessary to increase the percentage of foreign ownership in commercial banks. The permission for foreign investors to participate in the ownership structure and gradually increase the percentage of foreign ownership shows that the government has correctly assessed the status of commercial banks' operations and the benefits of receiving foreign investment capital, contribute to increasing financial performance of commercial banks. The increase in foreign ownership will boost the internal strength of banks in the long-term through increasing capital, which is also an investment channel to help the state divest from existing state-owned banks and transfer advanced technology, sharing management experience, information transparency and enhancing competitiveness and developing financial markets. Besides, the expansion of foreign ownership in Vietnamese commercial banks has a positive impact on the liquidity of the stock market; creating a driving force for the equitization process of the banking system. Currently, the maximum rate of foreign ownership in the government is controlled at 30%. Experts are discussing whether to loosen this ratio to 40 or 49% (49% is currently the limit of foreign investment in non-bank businesses).

Secondly, promoting equitization of state-owned banks and reducing state ownership in commercial banks. From now to 2025, Vietcombank, BIDV and Vietinbank can gradually reduce the State ownership to the levels approved by the Government's equitization plan. According to Resolution 15 / NQ-CP of March 6, 2014, Bao Viet Group, joint-stock commercial banks maintain the percentage of State shares held at not less than 65% of charter capital, except for Joint Stock Commercial Bank for Industry and Trade of Vietnam - Vietinbank. The Investment and Development Bank plans to issue shares to the public to reduce the state ownership to 65% in 2020. This is in line with the open-door commitment of Vietnam's economy in general and enterprises, State-owned commercial banks in particular. When the economy has a larger openness, joining international organizations and communities ... the reduction of the State ownership ratio at a reasonable level creates both a driving force for development of the economy and a gradual improvement. High management role of the State through indirect tools instead of directly owning dominant equity in the system.

For a group of commercial banks where the State holds non-dominant shares, the State may plan to change the ownership ratio by various options such as (i) requiring banks to increase their charter capital by issuing additional shares to the market or (ii) selling state capital to other entities. Depending on the specific subjects and circumstances, the State decides to use the method of reducing the percentage of ownership in banks where the State holds non-dominant shares.

Third, increase the level of concentration of ownership. The high level of concentration of ownership of the 05 members of the Board of Directors will be associated with the domination of the operational policies of commercial banks, increasing financial performance, so commercial banks should consider the level of concentration of ownership.

Fourthly, continue to perform the acquisition, merger of commercial banks. In both recent restructuring periods, ownership restructuring carried out through mergers, acquisitions and mergers of commercial banks is a solution that experts have considered feasible, and the results of the research on this topic have also been evaluated. prove the financial performance of commercial banks is improved. In the coming time, to continue merging and buying commercial banks in the direction of: creating favorable conditions for foreign investors to buy commercial banks, merging weak banks, the State Bank encourages large commercial banks to merge into groups. Financial scale is bigger, better governance ability to increase performance, towards global operations. Weak commercial banks that cannot restructure can consider bankruptcy. The Government also needs to consider creating a supportive legal corridor, creating favorable conditions for commercial banks to buy and sell, merger voluntarily, not currently imposed.

6. References

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Appendix

Number	Bank name
1	An Binh Joint Stock Commercial Bank
2	Asia Commercial Bank
3	Joint Stock Commercial Bank for Investment and Development of Vietnam
4	Vietnam Joint Stock Commercial Bank for Industry and Trade - Vietinbank
5	Eximbank
6	City Development Commercial Joint Stock Bank. HCM
7	Kien Long Commercial Joint Stock Bank
8	Lien Viet Post Joint Stock Commercial Bank - Lienvietpost Bank
9	Military Commercial Joint Stock Bank
10	Maritime Commercial Joint Stock Bank - Maritime bank
11	South Asia Commercial Joint Stock Bank
12	National Citizen Commercial Joint Stock Bank
13	Orient Commercial Joint Stock Bank
14	Petroleum Commercial Joint Stock Bank
15	Saigon Commercial Bank
16	Southeast Asia Joint Stock Commercial Bank
17	Saigon Commercial Bank - Saigonbank
18	Saigon-Hanoi Joint Stock Commercial Bank
19	Sacombank - Saigon Thuong Tin Commercial Joint Stock Bank
20	Vietnam Technological and Commercial Joint Stock Bank - Techcombank
21	Tien Phong Commercial Joint Stock Bank
22	Viet A Joint Stock Commercial Bank
23	Joint Stock Commercial Bank for Foreign Trade of Vietnam-Vietcombank
24	International Commercial Joint Stock Bank
25	Ban Viet Joint Stock Commercial Bank
26	Vietnam Prosperity Joint Stock Commercial Bank
27	Bao Viet Commercial Joint Stock Bank
28	Bank for Agriculture and Rural Development

Table 4: List of Commercial Banks Used in This Study