

**DETERMINANTS OF VIETNAMESE BANK PROFITABILITY: A NOTE**

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**ABSTRACT**

This study aims to identify determinants of the bank profitability of the commercial banks in Vietnam between 2010 and 2018. The empirical results show that concentration ratio variable was negatively related to capital-based returns and before-tax returns; government ownership variable also effect on before-tax returns and staff expense on assets, as well as before-tax returns, staff expense, and provision for loan losses on assets negatively, whereas capital ratio variable is positively related to assets-based returns. In addition, no support is found for both the expense preference theory and the Edwards – Heggstad – Mingo risk aversion effect.

**Keyword:** Assets-based returns, capital-based returns, bank profitability, Vietnam.

**1. INTRODUCTION**

The banking sector has long been identified as the backbone of the economy, affecting on all economic life of the countries, which plays a crucial role in meeting customers' demands continuously from depositors to lenders, as well as an important tool in stabilizing financial markets and managing the economy.

Similar to other non-bank financial institutions, the ultimate goal of commercial banks is for profit, as it is a prerequisite for any business units to survive. Moreover, when a bank operates effectively and generates a lot of profits, in addition to that bank has strong financial soundness, it also contributes to the stability of the economy which withstand the negative shocks as well as the crisis of the financial system. In contrast, due to the sensitivity of the banking industry, whenever the unpredictable risks occur, leading to bank failures, even bankruptcy, not only does it affect the banking system, it can even paralyse the economy. Therefore, the consideration of how much profit margins of commercial banks is reasonable, which factors can affect the bank profitability are the questions set for the researchers.

Based on the empirical results which are analysed in previous studies, the author apply to the commercial banks in Vietnam in the period 2010 – 2018, thereby, propose some implications for improving bank profitability of the commercial banks in Vietnam in the near future.

The rest of this study is organized as follow. Section 2 describes the data and the econometric methodology, respectively. Section 3 presents the empirical results. Section 4 proposes some implications. Finally, section 5 offers some conclusions.

**2. DATA AND METHODOLOGY**

**Data sampling**

To estimate the determinants of bank profitability of the commercial banks in Vietnam, the author employ a panel data of 21 commercial banks with 189 observations covering the period 2010 – 2018. List of commercial banks included in the sample is shown in the Table 1. The data are obtained mainly from consolidated financial statements and annual report of particular commercial banks from the sample, and macroeconomics data are collected from World Bank and Ieconomics websites.

**Table 1. List of commercial banks included in the sample**

No	Banks name	Bank type
1	An Binh Commercial Joint Stock Bank	P
2	Asia Commercial Joint Stock Bank	P
3	Housing Development Commercial Joint Stock Bank	P
4	Joint Stock Commercial Bank for Foreign Trade of Vietnam	G
5	Joint Stock Commercial Bank for Investment and Development of Vietnam	G
6	Kien Long Commercial Joint Stock Bank	P
7	Lien Viet Post Joint Stock Commercial Bank	P
8	Military Commercial Joint Stock Bank	P
9	Nam A Commercial Joint Stock Bank	P
10	National Citizen Commercial Joint Stock Bank	P
11	Petrolimex Group Commercial Joint Stock Bank	P
12	Sai Gon Joint Stock Commercial Bank	P
13	Sai Gon Thuong Tin Commercial Joint Stock Bank	P
14	Saigon Bank for Industry and Trade	P
15	Saigon Hanoi Commercial Joint Stock Bank	P
16	Vietnam Export Import Commercial Joint Stock Bank	P
17	Vietnam Technological and Commercial Joint Stock Bank	P
18	Vietnam Bank for Agriculture and Rural Development	G
19	Vietnam Joint Stock Commercial Bank for Industry and Trade	G
20	Vietnam International Commercial Joint Stock Bank	P
21	Vietnam Prosperity Joint Stock Commercial Bank	P

Note: G is represented for government-owned banks and P is represented for private banks

**Methodology**

Similar to previous studies, the author also employed a simple linear regression to estimate determinants of the bank profitability in Vietnam. The equation is structured as follows:

$$Y_{it} = \alpha + \sum_{k=1}^8 \beta_k X_{kit} + \varepsilon_{it}$$

Where,  $Y_{it}$  is dependent variable reflecting the bank profitability of bank  $i$  at year  $t$ . Since there

are many financial ratios measured the bank profitability, the author utilized six indicators to assign dependent variable, are shown in the Table 2:

$\alpha$  is a constant.

Xkit is a vector of independent variables, explained detail in the Table 3:

**Table 2. Dependent variable and interpretation in the regression model**

<b>Dependent variables</b>	<b>Interpretation</b>
(1) BTCR	Net profit before tax/Capital and reserves
(2) BTCRTB	Net profit before tax/Capital, reserves and total borrowings
(3) ATCR	Net profit after tax/Capital and reserves
(4) BTTA	Net profit before tax/Total assets
(5) BTSETA	Net profit before tax and staff expense/Total assets
(6) BTSEPLTA	Net profit before tax, staff expense, and provision for loan losses/Total assets

**Table 3. Independent variables and interpretation in the regression model**

<b>Independent variables</b>	<b>Interpretation</b>
GOVT	Dummy variable, equal 1 if a bank is owned by a government, national or provincial, equal 0 if otherwise
CONC	Ten bank asset concentration ratio
INT	The long-term bond rate
MON	Money supply growth rate
CRTA	Capital and reserves/Total assets
CBINVTA	Cash, bank deposits, and investment securities/Total assets
CPI	Inflation rate
SE	Staff expenses/Total assets

### 3. EMPIRICAL RESULTS

To determine which factors effect on the bank profitability, the author conduct run regression models which comprise dependent variable are capital-based returns and asset-based returns, respectively. The results are reported in the following tables:

**Table 4. The relationship between bank profitability of the commercial banks in Vietnam (measured by returns on capital) and selected independent variables for 2010 – 2018**

Variables	BTCR		ATCR		BTCRTB	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.1413 *** (7.95)	0.1032 *** (4.35)	-0.0343 (-1.11)	-0.0173 (-0.72)	0.0197 *** (4.20)	-0.0127 ** (-2.33)
GOVT	0.0161 (1.23)	0.0161 (1.25)	0.0161 (1.42)	0.0106 (1.15)	-0.0028 (-1.09)	-0.0028 (-1.35)
CONC	-0.0841 *** (-2.98)	-0.0797 *** (-2.87)	-0.0491 * (-1.97)	-0.0348 * (-1.72)	-0.0168 *** (-3.04)	-0.0094 ** (-2.07)
MON	-	0.1823 ** (2.37)	0.0711 (1.01)	-	0.0325 ** (2.13)	-
INT	-	-	1.5007 *** (6.07)	1.1400 *** (5.91)	-	0.3662 *** (8.40)
R <sup>2</sup> (%)	7.8	11.8	32.4	27.2	11.5	41.9
F	5.18	5.45	14.51	15.17	5.31	29.28

Note: \*\*\*, \*\*, and \* is statistical significance at the 1%, 5%, and 10% level, respectively; t-statistics in parentheses  
 Source: The author’s calculation based on the financial statements of 21 commercial banks in Vietnam in the period 2010 - 2018

Based on the Table 4, we can see that CONC variable are statistically significant in 6 employed models at the 1%, 5%, and even 10% level. Unlike Short’s, Bourke’s, and Molyneux, and Thornton’s results, the author found that concentration was negatively related to profitability, suggesting that the five largest banks have a large share of assets may take greater risks due to profit maximization. In addition, this study also find an evidence show that there is a significant positive relationship between the long-term bond rate (INT) and bank profitability, similar to those of Molyneux, and Thornton (1992).

For government ownership variable (GOVT), the author found that there is a positive relationship between return on capital and government ownership, similar to those of Molyneux, and Thornton (1992), and oppose to those of Short (1979), Bourke (1989), and Marriott and Molyneux (1991). However, this relationship is insignificant, suggesting there is no evidence show that government-owned banks generate higher returns on capital than their private sector competitors and vice versa.

**Table 5. The relationship between bank profitability of the commercial banks in Vietnam (measured by returns on assets) and selected independent variables for 2010 – 2018**

Variables	BTTA				BTSETA				BTSEPLTA				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Constant	-0.0151 *** (-3.59)	-0.0035 (-0.97)	-0.0016 (-0.41)	-0.0113 *** (-2.75)	0.0029 * (1.68)	0.0444 *** (4.69)	0.0489 *** (3.95)	0.0462 *** (3.67)	0.0410 *** (3.03)	0.0580 *** (4.93)	0.0612 *** (4.72)	0.0594 *** (4.49)	0.0540 *** (3.79)
CRTA	0.0721 *** (5.99)	0.0742 *** (5.91)	0.0829 *** (6.21)	0.0755 *** (5.26)	0.0666 *** (5.07)	0.9282 *** (24.29)	0.9284 *** (24.14)	0.9216 *** (23.70)	0.9223 *** (23.79)	0.9404 *** (23.41)	0.9402 *** (23.34)	0.9357 *** (22.90)	0.9372 *** (22.97)
CBINVTA	0.0123 ** (2.25)	0.0137 ** (2.40)	0.0201 *** (3.37)	0.0251 *** (3.83)	-	-0.0700 *** (-4.12)	-0.0708 *** (-4.12)	-0.0759 *** (-4.27)	-0.0752 *** (-4.26)	-0.0827 *** (-4.61)	-0.0822 *** (-4.57)	-0.0856 *** (-4.58)	-0.0850 *** (-4.58)
GOVT	0.0023 (1.48)	0.0025 (1.54)	0.0033 * (1.95)	0.0029 * (1.66)	-	-0.0322 *** (-6.57)	-0.0322 *** (-6.54)	-0.0329 *** (-6.64)	-0.0329 *** (-6.64)	-0.0286 *** (-5.56)	-0.0286 *** (-5.53)	-0.0290 *** (-5.56)	-0.0289 *** (-5.56)
CONC	-0.0058 * (-1.96)	-0.0064 ** (-2.08)	-0.0092 *** (-2.85)	-	-	-	-0.0066 (-0.70)	-0.0042 (-0.44)	-0.0046 (-0.48)	-0.0078 (-0.80)	-0.0082 (-0.83)	-0.0066 (-0.65)	-0.0068 (-0.67)
INT	0.1678 *** (5.73)	-	-	-	-	-	-	-	0.0949 (1.01)	-	-	-	0.0499 (0.50)
MON	-	-	-	-	-	-	-0.0015 (-0.06)	0.0046 (0.17)	-	-	-0.0162 (-0.59)	-0.0122 (-0.44)	-
CPI	-	0.0473 *** (4.48)	-	-	-	-	-	0.0370 (1.11)	-	-	-	0.0246 (0.70)	-
SE	-	-	-	0.3958 (1.61)	-	-	-	-	-	-	-	-	-
R <sup>2</sup> (%)	44.7	39.7	29.6	26.4	17.2	88.1	88.2	88.3	88.3	87.3	87.3	87.4	87.3
F	19.39	15.78	12.70	10.86	25.73	302.30	179.23	149.85	180.94	207.37	165.08	137.06	164.92

Note: \*\*\*, \*\*, and \* is statistical significance at the 1%, 5%, and 10% level, respectively; t-statistics in parentheses

Source: The author's calculation based on the financial statements of 21 commercial banks in Vietnam in the period 2010 – 2018

In Table 5, the empirical results show that capital ratio variable is positively related to assets-based returns in the commercial banks in Vietnam in 13 models at 1% level of significance. This finding are confirmed in the previous studies (Bourke, 1989; Molyneux, and Thornton, 1992).

In addition, the author also found an evidence that concentration ratio (CONC), the long-term bond rate (INT), and inflation rate (CPI) variables have a statistically significant correlation with pre-tax returns on assets. However, CONC and pre-tax returns on assets have an inverse relationship, which is opposed to the studies of Bourke, 1989 and Molyneux, and Thornton, 1992, and inconsistent with the traditional structure-conduct-performance (SCP) paradigm as well, whereas the long-term bond rate (INT), and inflation rate (CPI) variables have a positive impact the bank profitability, consistent with Molyneux, and Thornton (1992).

Unlike Molyneux, and Thornton's result, who show that staff expenses (SE) has a strong positive relation with before-tax returns on assets, the author found an insignificant relationship between two variables in this study.

For government ownership (GOVT) variable, the author found out two conflicting results, GOVT has a significantly positive relation with before-tax returns on assets, whereas it has effected on before-tax returns and staff expense on assets, as well as before-tax returns, staff expense, and provision for loan losses on assets negatively, suggesting that private banks generate higher before-tax returns, staff expense, and provision for loan losses than government-owned banks, oppose to the results of Bourke, 1989; Molyneux, and Thornton, 1992.

The author also added two variables, namely BTSETA and BTSEPLTA, to test for the expense preference theory and the Edwards – Heggstad – Mingo risk aversion effect, respectively. The results show that there is insignificant relationship between the concentration (COCN) variable and BTSETA as well as BTSEPLTA, suggesting that no evidence of the expense preference theory and the risk aversion effect in the commercial banks in Vietnam in the period 2010 – 2018.

#### **4. IMPLICATIONS**

Based on the empirical results about determinants of the bank profitability of the commercial banks in Vietnam, the author propose some implications for improving profitability of Vietnamese banking system:

Accelerate the process of equitization of state-owned banks: the results show that government ownership variable has a negative relation with before-tax returns and staff expense on assets, as well as before-tax returns, staff expense, and provision for loan losses on assets, suggesting that state-owned banks generate lower before-tax returns, staff expense, and provision for loan losses than private banks. It means that state-owned banks operate ineffectively. Therefore, the Vietnamese banking system may accelerate the process of equitization of state-owned banks. Realistically, the four state-owned commercial banks (Agribank, Vietcombank, BIDV, and Vietinbank) are now multi-function commercial banks with similar functions, objectives and development strategies. As a result, the existence of all four state-owned banks has led to competing against each other, wasting resources and failed to establish a large-scale bank in the region. Therefore, with the limited state resources, it is necessary to shift the role from banks' owner to the regulator, supporting the development of the market economy. At this time, the intervention of the State Bank of Vietnam will overcome the failure of the market.

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Accelerate mergers and acquisitions: based on the empirical results, we can see that concentration ratio (CONC) have a statistically significant negative correlation with pre-tax returns on assets, suggesting that the higher the competition in the banking system, the higher the profitability these banks obtain. Mergers and acquisitions is, therefore, considered a practical solution for banks to improve their competitiveness in the banking system. In addition, the trend of mergers and acquisitions in the coming time is also inevitably due to meeting Basel II standards, as well as liquidity requirements and capital adequacy. At this time, the consolidation of small banks, or the merger of small banks into large banks, not only help large banks expand their scale, improve their competitiveness, but also strengthen the financial markets effectively.

Accelerate the disposal of non-performing loans: one of the solutions to increase bank profitability is to cut down on costs incurred, especially the cost of provisioning for loan losses. To solve this problem, these banks need to accelerate the disposal of non-performing loans. To accomplish this, it requires these banks to strictly adhere to the lending process, regularly maintaining the examination, analysis, assessment and monitoring of loans. In addition, banks need to improve the internal credit rating system and apply to the whole system.

## **5. CONCLUSION**

To estimate which factors effect on the bank profitability of the commercial banks in Vietnam, the author employ a panel date collected from banks' financial statement between 2010 and 2018. The empirical results show that concentration ratio variable was negatively related to capital-based returns and before-tax returns; government ownership variable also effect on before-tax returns and staff expense on assets, as well as before-tax returns, staff expense, and provision for loan losses on assets negatively, whereas capital ratio variable is positively related to assets-based returns. In addition, no support is found for both the expense preference theory and the Edwards – Heggstad – Mingo risk aversion effect. With such research results, it requires the State Bank of Vietnam to accelerate the process of equitization of state-owned banks and mergers and acquisitions the banking system. Furthermore, the commercial banks also need to accelerate the disposal of non-performing loans.

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