

# Impact of ownership structure on bank performance: Evidence from an emerging economy

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## **Abstract:**

This article analyses the impact of ownership structure on the performance of Vietnamese commercial banks. The research data comprises 27 commercial banks over the period from 2012 to 2021. Pooled Ordinary Least Squares (OLS), Fixed Effects Model (FEM), Random Effects Model (REM), and Feasible Generalised Least Squares (FGLS) panel data regression models were employed for the analysis. The variables representing the ownership structure of commercial banks in Vietnam include private ownership and foreign ownership. The private ownership variable is measured by the ratio of shares owned by private investors to total shares; the foreign ownership variable is measured by the ratio of shares owned by foreign investors to total shares. The dependent variables representing bank performance are return on assets (ROA) and return on equity (ROE). After employing the FGLS estimation method to address potential model deficiencies, the results indicate that both private and foreign ownership negatively impact bank performance. Control variables such as bank size, bank capital, inflation, and GDP growth also affect bank performance in Vietnam.

**Keywords:** bank performance, emerging economy, ownership structure, Vietnam.

**Classification numbers:** 2.1, 2.2

## **1. Introduction**

Commercial banks play a crucial role in financial markets and are regarded as the driving force behind economic development in many countries [1]. Developments or recessions in the banking industry significantly influence national economies and attract the attention of scholars and policymakers [2]. The banking sector is a key focus when studying any economic system, as it is often viewed as the lifeblood of the economy. To maintain a robust banking system, banks must achieve operational efficiency and safety. The performance of commercial banks is closely tied to their governance, as a bank's competitiveness largely depends on the managerial capabilities of its leadership [3]. Moreover, ownership structure is considered a critical factor influencing the performance of commercial banks, as different ownership groups may have varying objectives, which in turn affects how banks are operated [4, 5]. Shareholder groups - such as large shareholders, state shareholders,

private shareholders, and foreign shareholders - may pursue divergent goals. While each group may have distinct priorities, all shareholders generally seek to maximise benefits while minimising risks. Therefore, ownership structure can significantly impact a bank's performance, highlighting the need for further empirical research on this topic.

Various theoretical frameworks offer differing and sometimes conflicting views on the role of ownership structure within corporations. According to agency theory [6], fragmented ownership structures may exacerbate agency problems, increasing agency costs and the associated risks for firms. In contrast, more centralised ownership can mitigate these issues by reducing the separation between ownership and control, thereby lowering risk and enhancing operational efficiency. Major shareholders, with dominant power, are better positioned to regulate and manage the business, reducing agency problems and improving performance [6]. Moreover, major shareholders may

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benefit from state support through favourable policies. According to the “helping hand” theory, government involvement can foster business development or manage risks through policy interventions. However, the “grabbing hand” theory suggests that excessive dependence on government decisions may hinder business operations.

Empirical research on the relationship between ownership structure and firm performance has garnered considerable attention. A.A. Berle, et al. (1932) [7] are credited with pioneering this line of inquiry, suggesting that dispersed ownership negatively affects firm performance, as divergent shareholder interests can impair corporate governance. Research on the impact of ownership structure on bank performance can be categorised into three primary areas. The first area investigates the effect of concentrated ownership on bank performance [2, 8-10]. The second focuses on state ownership’s impact [4, 5, 11-15]. The third area examines the influence of foreign and family ownership [16-18]. Although these studies provide a broad overview of the relationship between ownership structure and bank performance, their findings are inconsistent and often controversial, raising further questions about this topic.

Several studies in Vietnam have addressed related issues, such as K.D. Duong, et al. (2023a) [19], who explored the impact of foreign ownership on credit growth in Vietnamese commercial banks between 2012 and 2020. Their findings indicate that foreign ownership negatively affects credit growth in these banks. K.D. Duong, et al. (2023b) [20] also investigated the effects of Employee Stock Ownership Plans (ESOPs) and ownership structure on bank performance, concluding that ESOPs improve ROA by 57% compared to banks without such plans, while state and domestic ownership negatively impact bank performance. T.T.K. Oanh, et al. (2023) [21] further observed that financial leverage and liquidity affect the performance of Vietnamese commercial banks.

This study aims to assess the impact of ownership structure on bank performance in Vietnam, given the relative novelty of this research area and the limited existing literature. Vietnam’s commercial banking system exhibits certain distinct characteristics compared to other countries. For instance, some Vietnamese banks have political objectives alongside

their economic goals. Additionally, individual investors in Vietnam tend to act more on emotion than discipline, which contrasts with institutional investors. As such, individual ownership plays a significant role in the operations of Vietnamese commercial banks. The ownership structure in Vietnam also differs from that of more developed markets due to the immaturity of its stock market, where private investors hold substantial influence. Currently, no research in Vietnam has specifically evaluated the impact of private ownership on bank performance. Therefore, this study introduces private ownership as a variable in the research model, offering a novel contribution to the literature on ownership structure and bank performance.

## **2. Literature review and hypothesis development**

### **2.1. Agency theory**

Agency theory [6] posits that when ownership and control rights are separated in a company, conflicts may arise between the owner and the agent regarding their respective interests. The agent is authorised to act on the owner’s behalf to undertake activities that benefit the company, primarily through increasing the share price and thus enhancing the company’s value for the owner. However, in practice, agents may seek personal gains in the form of salary, bonuses, and allowances, which may conflict with the owner’s interests. Additionally, agency costs may increase, thereby reducing the owner’s profit. In other words, fragmented ownership structures tend to increase agency costs, which can adversely impact corporate performance. M.C. Jensen, et al. (1976) [6] suggest that large shareholders can mitigate agency costs due to their greater incentive to safeguard their assets through effective control mechanisms. E.F. Fama, et al. (1983) [22] further argue that conflicts stem not only from differing asset values but also from information asymmetry, as agents may exploit their entrusted position to seek additional personal benefits.

### **2.2. Private ownership**

According to agency theory [6], dispersed ownership elevates agency costs and, consequently, reduces firm performance. In developing economies, private investors constitute a significant shareholder group in joint-stock companies [4, 23]. In Vietnam, private investors are the dominant shareholders in banks and joint-stock companies, as individual investors often

invest independently rather than through investment funds. Additionally, Vietnam's stock market remains relatively nascent, and the investment behaviour of individual investors tends to be spontaneous rather than professional. Lacking the experience and in-depth knowledge of institutional and foreign investors, private investors in Vietnam frequently pursue high-risk banks for short-term gains. Consequently, private investors often focus on underperforming banks with limited long-term prospects. They are likely to exert less pressure on bank management compared to institutional investors, resulting in potentially lower operational efficiency. Furthermore, private investors may be passive in monitoring corporate activities [24]. Accordingly, the following hypothesis is proposed:

*Hypothesis H1: Private ownership has a negative impact on bank performance.*

Empirical studies reveal varying impacts of foreign ownership on bank performance. The first perspective suggests that foreign ownership negatively affects bank performance [4]. The second perspective indicates that foreign ownership positively influences bank performance [5, 17]. Foreign shareholders generally face less political pressure and are better positioned to supervise banking operations. Moreover, foreign shareholders can enhance commercial banks' operations due to their extensive experience, abundant capital, and advanced technologies. Consequently, they can support banks with expertise in experience, capital, and technology. As foreign investors often engage in similar ventures across different countries, they can implement standards that effectively improve business performance. Foreign investors may also join the Board of Directors of commercial banks to safeguard their interests, thereby contributing diverse perspectives and specialised knowledge to strategic meetings. This can enhance the overall efficiency of banks. Thus, the following hypothesis is proposed:

*Hypothesis H2: Foreign ownership has a positive impact on bank performance.*

### 3. Research models and methods

#### 3.1. Research data

The data set for this study consists of audited consolidated financial statements and annual reports from 27 Vietnamese commercial banks over the

period from 2012 to 2021. Banks lacking sufficient data were excluded. Macro variables were sourced from the World Bank and the General Statistics Office of Vietnam.

#### 3.2. Research models and methods

Building on the studies by E. Mamatzakis, et al. (2017) [4], N. Gupta, et al. (2022) [2], and N.P. Kirimi, et al. (2022) [5], the following research model is proposed:

$$ROA_{i,t} = \alpha_0 + \alpha_1 POWN_{i,t} + \alpha_2 FOWN_{i,t} + \alpha_3 SIZE_{i,t} + \alpha_4 LOAN_{i,t} + \alpha_5 CAP_{i,t} + \alpha_6 INF_t + \alpha_7 GGDP_t + \varepsilon_{i,t}$$

$$ROE_{i,t} = \beta_0 + \beta_1 POWN_{i,t} + \beta_2 FOWN_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LOAN_{i,t} + \beta_5 CAP_{i,t} + \beta_6 INF_t + \beta_7 GGDP_t + u_{i,t}$$

where, the dependent variables are the ROA and ROE, the independent variables are private ownership (POWN) and foreign ownership (FOWN), the control variables are bank size (SIZE), bank loans (LOAN), bank capital (CAP), inflation (INF), and economic growth rate (GGDP). Here,  $i, t$  represent the bank and the survey year, respectively,  $\alpha_0$  and  $\beta_0$  are constants, and  $\varepsilon, u$  are the residuals of the model.

This study utilises unbalanced panel data. For panel data analysis, three widely used regression methods are employed: Pooled OLS, FEM, and REM. An F-test is conducted to determine whether Pooled OLS or FEM is more appropriate. Similarly, a Hausman test is used to decide between FEM and REM. Upon selecting the appropriate model, tests for autocorrelation and heteroscedasticity are performed. If these issues are present, the study applies the FGLS method to address them.

Pooled OLS is a basic regression approach that minimises the sum of squared errors to estimate the coefficients of a linear model; however, it can be inefficient in the presence of heteroscedasticity or autocorrelation. FEM and REM are designed for panel data, with FEM controlling for unobserved fixed factors using dummy variables, while REM assumes that unobserved factors are random and unrelated to the explanatory variables. FGLS is preferable to Pooled OLS, FEM, and REM, as it can address model deficiencies such as autocorrelation and heteroscedasticity (Tables 1, 2).

**Table 1. Description of variables.**

Var.		Symbol	Previous studies	Expected results	Description
Dependent Var.	Bank performance	ROA	[2, 4, 5]		Net profit / Total assets
		ROE			Net profit / Equity
Independent Var.	Ownership structure	POWN	[4, 24]	-	The percentage of shares held by private investors
		FOWN	[4, 5, 17]	+	The percentage of shares held by foreign investors

**Table 2. Control variables.**

SIZE	The logarithm of total assets
LOAN	Total loans to total assets
CAP	Bank capital to total assets
GGDP	Annual GDP growth rate

## 4. Data analysis

### 4.1. Descriptive statistics

Table 3 indicates that, over the period from 2012 to 2021, the average ROA and ROE for the 27 Vietnamese banks analysed were 0.74 and 8.71%, respectively. The standard deviation for ROA is 0.61%, and for ROE, it is 6.68%. The minimum and maximum values observed for ROA are 0.1 and 3.23%, respectively, while for ROE, they are 1.31 and 26.4%.

**Table 3. Descriptive statistics.**

Var.	N	Mean	S.D.	Min.	Max.
Performance variables					
ROA	287	0.0074	0.0061	0.0001	0.0323
ROE	286	0.0871	0.0668	0.0131	0.2640
Ownership variables					
POWN	280	0.6786	0.3163	0	1.0000
FOWN	280	0.1287	0.1152	0	0.3000
Control variables					
SIZE	260	32.2824	3.2090	19.1315	35.8595
LOAN	284	0.5693	0.1136	0.0216	0.7880
CAP	285	0.0934	0.0618	0.0262	0.6140
INF	287	0.0376	0.0226	0.0060	0.0910
GGDP	287	0.0584	0.0168	0.0260	0.0750

In terms of ownership structure, the average private ownership is 67.86%, and foreign ownership is 12.87%, suggesting that most Vietnamese commercial banks have a predominantly private ownership structure.

The control variables show mean values as follows: SIZE is 32.28, LOAN is 56.93%, CAP is 9.34%, INF is 3.76%, and GGDP is 5.84%.

### 4.2. Correlation analysis

The correlation coefficient matrix is used to measure the strength of the correlation between various pairs of variables. According to D.R. Cooper, et al. (2013) [25], absolute correlation values exceeding 0.8 between variable pairs indicate potential multicollinearity, which should be addressed to maintain model integrity. The results of the correlation matrix for this study, shown in Table 4, reveal that all absolute values between variable pairs are below 0.8. Thus, it can be concluded that the model does not exhibit serious multicollinearity.

**Table 4. Correlation matrix.**

	ROA	ROE	POWN	FOWN	SIZE	LOAN	CAP	INF	GGDP
ROA	1.0000								
ROE	0.8213*	1.0000							
POWN	-0.0438	-0.1351	1.0000						
FOWN	0.3756*	0.3248*	-0.0167	1.0000					
SIZE	0.4080**	0.1451	0.1793	-0.1860	1.0000				
LOAN	0.1935*	0.2134*	-0.2534*	0.0649	-0.6149	1.0000			
CAP	0.2489*	-0.1307*	-0.1408	0.0102	0.6028*	-0.0849	1.0000		
INF	-0.0093	-0.1136*	0.0980	-0.0294	0.0303	-0.2972*	0.2405*	1.0000	
GGDP	-0.2243*	-0.2058*	0.1093	-0.0265	0.0365	0.5191	0.2654	-0.0223	1.0000

\*Significance of the 10% level. Source: Results from Stata software.

### 4.3. Discussion of results

Tables 5 and 6 present the regression results using Pooled OLS, FEM, and REM methods. The F-test results show that Prob>F=0.000<5% across all regression models, indicating that FEM is more suitable than Pooled OLS. Next, the Hausman test is conducted to choose between FEM and REM. The Hausman test results show Prob>Chi2>10% in all models, suggesting that REM is more appropriate than FEM.

Table 5. Results using the pooled OLS regression.

	ROA	ROE
POWN	0.0241** (0.0109)	-0.2128** (0.0812)
FOWN	-0.0173* (0.0043)	-0.1809** (0.0689)
SIZE	0.0098*** (0.0025)	0.0740*** (0.0189)
LOAN	0.0071 (0.0068)	0.0435 (0.0509)
CAP	0.2297*** (0.0506)	1.4947*** (0.4104)
INF	0.0414* (0.0243)	0.2403 (0.1797)
GGDP	-0.0315 (0.0293)	-0.0315 (0.0293)
_cons	-0.3435*** (0.0875)	-2.3341*** (0.5943)

Standard error in parentheses; \*significant at the 10% level; \*\*significant at the 5% level, \*\*\*significant at the 1% level.

Table 6. Results from using FEM and REM regression.

	FEM regression		REM regression	
	ROA	ROE	ROA	ROE
POWN	-0.0068 (0.0043)	-0.3194** (0.0319)	-0.2418** (0.0109)	-0.2128*** (0.0811)
FOWN	-0.0173* (0.0020)	-0.0223* (0.0051)	-0.0173** (0.0093)	-0.1809*** (0.0689)
SIZE	0.0098*** (0.0025)	0.0740*** (0.0189)	0.0098*** (0.0025)	0.0740*** (0.0416)
LOAN	0.0071 (0.0068)	0.0463 (0.0509)	0.0071 (0.0668)	0.0435 (0.0653)
CAP	0.2297*** (0.0506)	1.4947*** (0.4104)	0.2297*** (0.0556)	1.2540*** (0.2234)
INF	0.0414 (0.0243)	0.0141* (0.0176)	0.0414* (0.0243)	0.4647 (0.1985)
GGDP	-0.0315 (0.0293)	-0.0315 (0.0293)	-0.0315** (0.0293)	-0.4154** (0.2168)
_cons	-0.3333*** (0.0849)	-0.0144*** (0.0041)	-0.3194*** (0.0805)	-2.3341*** (0.5943)

Standard error in parentheses; \*significant at the 10% level; \*\*significant at the 5% level, \*\*\*significant at the 1% level.

Further tests are conducted to check for model issues, such as autocorrelation and heteroscedasticity. The Wooldridge test results across all models indicate that  $\text{Prob}>F=0.000<5\%$ , confirming the presence of autocorrelation. The Breusch and Pagan LM test results, with  $\text{Prob}>\chi^2=0.0000<0.05$ , indicate heteroscedasticity in the models. To address these issues, the FGLS method is applied to improve model robustness.

Table 7 presents the regression results using the FGLS method. The results show that the independent variables impacting bank performance are POWN and FOWN.

Table 7. Results from using FGLS regression.

	ROA	ROE
POWN	-0.0241*** (0.0081)	-0.2128*** (0.0604)
FOWN	-0.0173** (0.0069)	-0.1809*** (0.0514)
SIZE	0.0098*** (0.0019)	0.0740*** (0.0141)
LOAN	0.0071 (0.0051)	0.0435 (0.0379)
CAP	0.2297*** (0.0414)	1.4947*** (0.3058)
INF	0.0414** (0.0181)	0.2403* (0.1340)
GGDP	-0.0315 (0.0218)	-0.4754*** (0.1615)
_cons	-0.3194*** (0.0060)	-2.3441*** (0.4430)

Standard error in parentheses; \*significant at the 10% level; \*\*significant at the 5% level; \*\*\*significant at the 1% level.  
Source: Results from Stata software.

Private ownership (POWN) negatively affects bank performance in Vietnam. A 1% increase in private ownership corresponds to decreases in ROA and ROE of Vietnamese commercial banks by 0.0241 and 0.2128%, respectively. In Vietnam, private investors often have limited financial resources compared to large financial institutions or corporate investors, potentially constraining banks' capital mobilisation and investment expansion, thereby hindering business development. Additionally, private investors may struggle to provide continuous long-term capital, affecting banks' ability to raise funds and maintain financial stability. Private investors typically have a short-term profit focus, which can pressure Vietnamese banks to prioritise immediate gains over sustainable, long-term strategies, potentially undermining stable growth. A bank with high levels of private ownership may also face transparency and control challenges, heightening risks of corruption or interest misalignment and thereby reducing performance. These findings align with agency theory, the research hypothesis, and T.T.T. Tram, et al. (2020) [24] but contrast with E. Mamatzakis, et al. (2017) [4].

Foreign ownership (FOWN) also has a negative impact on bank performance in Vietnam. A 1% increase in foreign ownership results in reductions in ROA and ROE of Vietnamese commercial banks by 0.0173 and 0.1809%, respectively. Foreign investors' capital

participation in Vietnamese banks has not significantly enhanced business performance. Rapid capital expansion without a corresponding rise in profitability and increased operational costs may contribute to declining efficiency. Additionally, foreign ownership may introduce international governance processes and standards, which can be challenging for banks to adapt to, potentially reducing short-term operational efficiency. The growing presence of foreign investors can also heighten competition among banks, which may reduce profit margins and lending interest rates. These findings contradict the research hypothesis and studies by L. Jarbou, et al. (2018) [17] and N.P. Kirimi, et al. (2022) [5].

Bank size (SIZE) positively influences bank performance in Vietnam. As banks grow, their capacity to reach customers, provide services, and extend credit increases, thus positively affecting performance.

Bank capital (CAP) also has a positive impact on bank performance in Vietnamese banks. Greater capital allows banks to invest in technology, reduce operational costs, and increase profits. Higher capital levels also enhance banks' lending capacity and risk tolerance, thereby supporting improved performance.

Regarding macroeconomic variables, INF positively influences bank performance. Rising inflation typically drives an increase in loan demand, boosting banks' profits. Conversely, GGDP negatively affects bank performance, as higher economic growth can lead banks to ease lending standards, increasing the likelihood of non-performing loans and thereby reducing profits.

## 5. Conclusions and policy suggestions

This study examines the relationship between ownership structure and the performance of commercial banks in Vietnam, using data from 27 banks from 2012 to 2021. Employing Pooled OLS, FEM, REM, and FGLS regression methods, the findings indicate that private and foreign ownership negatively impact bank performance. Based on these results, the following policy suggestions are proposed:

**Private ownership:** Private ownership negatively impacts bank performance in Vietnam. Therefore, Vietnamese banks with substantial private ownership should consider increasing the involvement of large institutional and foreign investors to attract greater capital, management expertise, and modern technology, which could enhance efficiency and stability in banking operations.

**Foreign ownership:** Foreign ownership also negatively impacts bank performance in Vietnam. The Vietnamese government should carefully manage foreign integration in the banking sector, balancing the benefits to domestic banks and implementing policies that effectively leverage foreign investment. Foreign ownership may present risks, such as reduced control over certain bank operations or potential conflicts with Vietnamese government policy decisions. Thus, the government should carefully weigh these factors to ensure that the advantages of expanding the banking sector to foreign investors outweigh the potential drawbacks.

This study's limitation is its focus solely on private and foreign ownership's effects on bank performance in Vietnam. Ownership in Vietnamese banks is diverse, including management and employee ownership. Additionally, net interest margin (NIM) is another indicator of bank performance. Future research should consider additional variables representing ownership structure and bank performance in Vietnamese commercial banks.

## CRediT author statement

Pham Hai Nam: Literature review, Methodology, Data collection and analysis, Writing, Revision; Pham Thi Hong Nhung: Data collection, Data analysis; Nguyen Minh Nhat: Literature review.

## COMPETING INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this article.

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