International Journal of Business Marketing and Management (IJBMM)
Volume 4 Issue 8 August 2019, P.P. 01-11
ISSN: 2456-4559
www.ijbmm.com

Ownership Structure and Firm Growth: Evidence from Vietnam

Trung Trong Nguyen, Tuan Anh Trinh, Trang Thuy Do
National Economic University, Vietnam

Abstract: This study aims to investigate the relationship between ownership structure and firm growth in the context of an emerging economy by employing a sample of more than 2,000 firm-year observations of listed companies in the period 2013–2017. Using the random- and fixed-effects specifications for panel data, we find that the state ownership has a negative effect on the growth of firms, while there is no statistical significance between foreign ownership and firm growth. This paper contributes to the literature byproviding some novel insight into the influence of ownership structure on firm growth. The paper provides some policy recommendation to support the growth of Vietnamese enterprises.

Keywords: Vietnam, ownership structure,firm growth, state, foreign

I. Introduction

The ownership structure of a company derives from one of the main characteristics of the company's equity, which is owned by different shareholders through equitizing activity. The equitization of a company has become a popular phenomenon in the world after the downfall of Communism in 1980 to reallocate the resources and reconstruct a firm (Truong et al., 2006). As such, this change plays a huge role in firm performance.

Earlier studies have shown debates on the association between ownership structure and firm performance and the results were inconsistent. For example, Demset and Villalonga (2001) find no significant correlation between ownership structure and firm performance, while Perrini et al. (2008) find that ownership structure, represented by ownership concentration, has a positive significant effect on firm valuation. Also, it is likely that each type of ownership—such as state ownership, foreign ownership, ownership concentration, or managerial ownership—may have different impacts on the efficiency of company operations. For instance, state ownership is found to have a negative effect on firm performance (Zhang et al., 2002), while foreign ownership positively affects the operation outcomes of firms (Ongore,2011). Moreover, this relationship between ownership structure and firm performance varies by the institutional environment of the country. The relationship among managerial ownership and firm performance is significant and positive in Kenya (Ongore, 2011), but there is no significant relationship between those factors in the United States, as found by Demsetz and Villalonga (2001). In China, Zhang et al. (2002) indicate that state ownership negatively affects the profitability of firms; yet in Vietnam, it is found to have a convex relationship, in which the correlation among state ownership and firm performance is positive if the percentage of state ownership is less than or equal to 28.67 percent (Phung and Mishra, 2015).

After the *Doi Moi* reform launched in 1986, the Vietnamese government has turned the country from a highly centralized planned economy to a market-oriented economy. The main purpose of this reform has been to improve the performance of enterprises as well as develop the economy to integrate with the world. In the context of Vietnam, there were some studies by Nguyen et al. (2017), Phung and Mishra (2015), and Hoang et al. (2017) consider the effect of ownership structure on firm performance, but these studies show the inconsistent results.

There is limited evidence on how a firm's ownership structure affects its growth, especially in developing countries like Vietnam. Most of earlier studies in the world mainly examine the ownership structure and firm performance (see, for example,Arosa, 2010; Demsetz and Villalonga, 2001; Kang and Kim,2012; Phung and Mishra, 2015; Ongore, 2011;); thus, it is suspected that whether or not the growth of a firm is affected by ownership structure?This paper contributes to the literature byproviding, for the first time, to the best of our knowledge, some novel insight into the influence of ownership structure on firm growth, with data collected from 410 listed companies in the Vietnam stock markets during the period 2013–2017.This longitudinal dataset allows us to dig deep into the firm-related issues, including ownership structure and growth.

The remainder is structured as follows. Section 2 provides the study context in Vietnam. Section 3 presents the literature review on ownership structure with the basic concept, the determinants of ownership structure, and the effects of ownership structure on firm outputs. Section 4 highlights the data and research methods.Section 5 provides the empirical results, followed by conclusions and policy implications inSection 6.

II. Study Context

Vietnam has obtained remarkable achievements since the economic reforms launched in 1986. From one of the poorest countries in the world, Vietnam nowadays has reduced poverty rapidly, started to build an industrialized economy, achieved high economic growth rates, and raised the relative fairness in society. These achievements have contributed toturning Vietnam into a lower middle-income country, with a high and sustain a growth rate of GDPin the period2012–2018(Table 1). Per capita income reached US$683.60 in 2005, then increasing to US$1,310.37 and US$2,587 in 2010 and 2018, respectively. This might prove that the living standard of Vietnamese people has increased a lot since 2005. The inflation and unemployment rates were relatively stable over the past decades. As such, the inflation rate in Vietnam was controlled at a low level: as of September 2018, the inflation rate was 1.41 percent, relative to 1.83 percent in 2016 and 1.14 percent in 2017. In recent years, Vietnam has implemented a monetary and fiscal policy that aimed to stabilize the economy. On that basis, Vietnam was successful in stabilising the foreign debt budget, the balance of payments in exports, remittances and controlling inflation, as well as creating and consolidating the trust for foreign investors. In 2018, the total registered FDI capital in Vietnam reached US$35.460 million, with more than 18 sectors receiving foreign capital inflows investment.

Table 1:Vietnam's socio-economic indicators

Indicators	1995	2000	2005	2010	2015	2017
Average GDP per capital (USD)	275,75	388,27	683,60	1.310,37	2.065,17	2.343,12
GDP growth rate (percent)	9.50	6.80	8.40	6.78	6.68	6.81
Unemployment rate (percent)	-	6.40	5.30	2.88	2.33	2.28
Inflation rate (percent)	12.70	-0.60	8.40	11.75	0.60	1.14
Poverty rate (percent)	34.44	25.00	22.00	14.20	7.00	6.72
Total FDI (registered) Million USD	6,937.2	2,838.9	6,839.8	19,764	22,757	35,884

Source: General Statistics Office, the World Bank

The economic growth has contributed to facilitating Vietnamese enterprisesin their operations and growth. According to the Department of Business Registration, in 2017, the number of registered and participated business activities in the economy reached the record levels of more than 126,859 new registered enterprises with total capital of US$51.14 million.

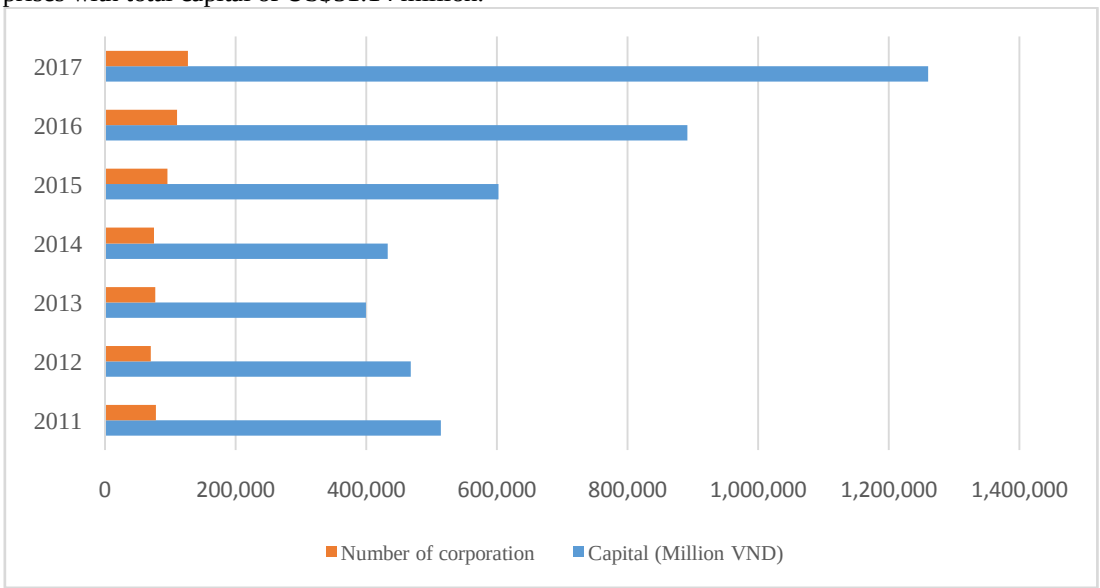

Figure 1:Newly established enterprises

Source: The Department of Business Registration

III. Literature Review

3.1. Basic concepts of ownership structure

The definition of ownership structure has been introduced in extant literature. For example, Gedajlovic and Shapiro (2002) and Perrini et al. (2008) define the ownership structure as the percentage of total stocks held by the top five largest shareholders of firms in Japan and Italy, respectively. Wei et al. (2005) classify the ownership structure of companies in Chinaas the ratio of shares held by three types: state, foreign, and organizational ownership. This definition is somewhat similar to that proposed by Kang and Kim (2012) who divide the ownership structure of Chinese firms into government shareholder, marketized corporate shareholders, and private shareholders.

In another aspect, in the United States, Anderson and Reeb (2003) describe the ownership structure through two groups of family and non-family firms based on the portion of equity held by the family and the inclusion of family members on the board of directors. Also, the authors propose another definition of ownership structure by ownership concentration that equals the ratio of the top five largest shareholders in both types of firm. Likewise, Arosa et al. (2010)state that in Spain,a firm is family-ownedif the equity of family ownership is at least 20 percent. A study by Fauzi and Locke (2012) in New Zealand separates ownership structure into managerial ownership and block holder ownership, in which the managerial ownership is measured by the shareholders who are managers, while block holder ownership is calculated by the percentage of sharesheld by top twenty owners.

According to Phung and Mishra (2015), the ownership structure in Vietnamese companies is defined as the percentage of shares owned by the state and foreign investors. This concept is partially similar tothat introduced by Hoang et al. (2017) regarding the three categories of ownership: block holder ownership, managerial ownership, and state ownership.

3.2. Determinants of ownership structure

Previous studies have identified the factors that might affect a firm's ownership structure. For example, Asjeet Lamba andGeof Stapledon (2001) examine the factors that affect the ownership structure in 240 firms in Australia. The results reveal that the ownership structure is influenced by the level of private benefit control. In Singapore, Mak and Li (2001) consider the determinants of the ownership structure of 147 listed companies. The authors conclude that board structure negatively affects ownership structure.Van der Elst (2004) investigates the elements that have impacts on ownership structure of 1,894 listed companies in six European countries (Belgium, Italy, Spain, France, Germany, and the United Kingdom) and shows the effects of three elements (country of incorporation, size, and industry activity) on ownership structure.

A study by Richter and Weiss (2013) examines the effect of firm, industry, and country level on ownership concentration in 900 companies from nine countries (Australia, Brazil, Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States). The authors emphasise that ownership concentration is mostly affected by firm and country level characteristics compared with industry factor. All in all, ownership structure is affected by both internal factors such as board structure, private benefit control, or firm level characteristics and external factors, such as the country-level characteristics and industry activity.

3.3. Impacts of ownership structure on firm outputs

The relationship between the ownership structure and firm performance has been investigated in earlier studies. For example, Li et al. (2009) investigate the impact of state ownership on the performance of 643 non-financial companies in China. The results indicate that government ownership has a negative effect on the enterprise's performance, especially among the more profitable enterprises.However, another study by Yu (2013) that investigates the effect of state ownership on all Chinese public listed enterprises reveals a positive relationship between firm performance and state ownership.

Demsetz and Villalonga (2001) conducta studyon the relationship between enterprise performance and ownership structure with 223 firms in the United States. The authors find no statistically significant relationship between ownership structure and firm performance. A study by Hamadi and Heine (2015) investigates the effect of ownership on firm performance in the dataset of 194 family firms and non-family firms in Belgium. The study shows evidence thatthe ownership structure influences positively the firm performance when the percentage of large shareholders is until about 75 percent or 80 percent then slightly concave. The results further emphasise thatthe firm performance increases if the family shareholders have less than 30 percent of ownership and the performance of the company will decrease if family ownership is from 40 percent toward.

Kang and Kim (2012), Phung and Mishra (2015), and Hoang et al. (2017) examine the relationship between ownership structure and firm performance. However, the results are mixed. The findings by Phung and Mishra (2015) with the dataset of 644 Vietnamese listed firmsshow a convex relationship between state ownership and firm performance. The relationship between foreign ownership and firm performance is a

concave relationship. Thus, the firm performance increases when the foreign ownership is under 43 percent and decreases if foreign ownership is above 43 percent.Hoang et al. (2017) find an inverted U-shaped relationship between firm performance and state ownership when investigating the effect of ownership structure in 76 listed firms in Vietnam. Meanwhile, in China, Kang and Kim (2012) use the dataset of 140 Chinese listed firmsto provide evidence that the marketized state-owned enterprises (MSOE) have better performance than state-controlled firms, suggesting that the shift of ownership structure from the government to MSOEs will boost the performance.

A study by Zhang et al. (2002) examines the effect of ownership structure on profitability and productivity of 1938 listed firms in China with five types of company,including State-owned enterprises (SOEs), Collective-owned enterprises (COEs), Private-owned enterprises (POEs), Foreign-owned enterprises (FOEs), and Hong Kong–Macau–Taiwan-owned enterprises (HMTs). The results indicate that SOEs have a low rate of profitability compared with other types due to the negative effect of soft loans on financial performance. Peck-Ling et al. (2016), when investigating the impact of ownership structure on firm's profitabilityof 348 Malaysian listed firms, find that the foreign ownership positively affects a firm's profitability.

Perdersen and Thomsen (2003) conduct a study about the relationship between ownership structure and firm value of 214 listed companies from 11 countries in Europe (Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain, and Sweden). The authors conclude that when the largest shareholders are the financial companies or other enterprises, it will lead to a positive relationship between ownership structure and firm value. However, the results indicate that the relationship between ownership concentration and firm value becomesnegative when the largest shareholder is a government agency. Similarly, another study by Wei et al. (2005) with 5,284 observationsconcludes that state ownership and organization ownership negatively affect the value of Chinese enterprises. Also, it points out that firm value will increase when the government privatizes companies owned by the state.

As reviewed, previous studies on ownership structure and its impacts on the firm's outputs, including profitability, firm value, or firm performance, have indicated the importance of this research topic in corporate governance. Yet, there is limited evidence on how a firm's ownership structure affects its growth, especially in developing countries like Vietnam;thus, research gaps remain and need to be filled in. First, most of the studies have highlighted the relationship between ownership structure and firm performance,while the nexus between ownership structure and firm growth has not been clear. Second, the reviewed studies have not been conducted in the context of developing countries, especially Vietnam. This paper is expected to bridge the gaps by investigating the ownership structure vis-à-vis firm growth relationship in Vietnam—an emerging country with a rapid economic growth in recent decades.

IV. Dataand Research Methods

4.1. Data

4.1.1. Data sources

This study uses data of 410 listed companies on the Vietnam stock exchanges, which consist of Hanoi Stock Exchange and Ho Chi Minh Stock Exchange. HNX (Hanoi Stock Exchange) was established in 2005 in Hanoi and has become a play zone for investors in Vietnam. Similar toHNX, HOSE (Ho Chi Minh Stock Exchange) is another play zone for investors and established in Ho Chi Minh. After a long time operating, these two stock markets have been successful in assisting firms to mobilise capital (capital market) so that they have positive effects on the growth of Vietnam's economy. Data arecollected from 410 firms listed on the two biggest stock exchange markets in Vietnam (HOSE and HNX). All the data was collected directly from a firm's financial statements and websites (www.cophieu68.vn, https://finance.vietstock.vn, and http://vnr500.com.vn/) over a 5-year period, from 2013 to 2017. Thus, a full sample of more than 2,000 observations is generated. Further information in terms of share of firms by sectoris illustrated in Figure 2.

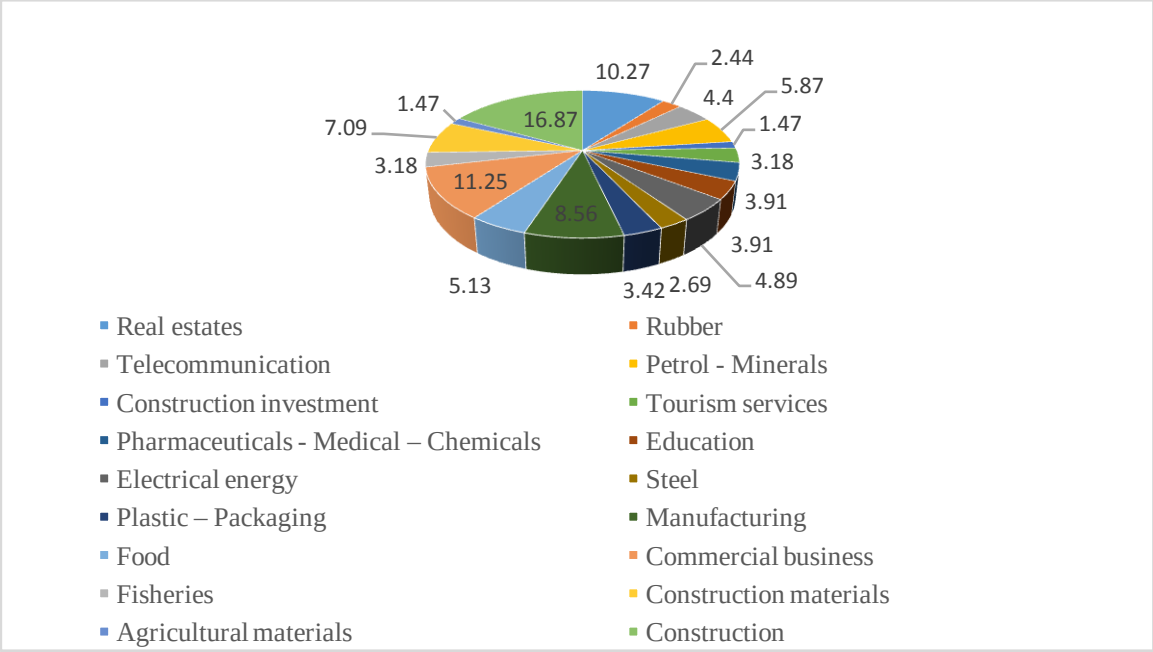

Figure 2: Share of firms by sector

4.1.2. Variable description

Variables are divided into two groups: dependent variables and independent variables. The key dependent variable is ROA growth. The key independent variables include STATE and FOREIGN – in the regression of assessing the impacts of ownership on firm growth. We also include other control variables: ROA, STATE, FOREIGN, Assets, FATA, Leverage ratio, Interest, Initial Capital, Firm age, Market, Age of CEO, Board size, Experience, and a dummy variable Big city. Further information about the variable description is shown in Table 2.

Table 2: Variable description

Variable	Acronym	Description
ROA growth	GROA	Firm growth, measured by the difference of return on assets (ROA) of a firm in two consecutive years
ROA	ROA	Return on assets, measured by the ratio of earnings after tax to total assets at the end of year
State	STATE	The ownership structure of a firm, measured by the ratio of shares held by state shareholders to total shares
Foreign	FOREIGN	The ownership structure of a firm, measured by the ratio of shares held by foreign shareholders to total shares
Assets (log.)	ASSET	Firm size, measured by the natural logarithm of total assets at the end of year
FATA	FATA	The ratio of fixed assets to total assets of a firm at the end of the year
Leverage ratio	LEV	The ratio of total liabilities to total assets of a firm at the end of the year
Interest payment (log.)	INT	The natural logarithm of interests paid for liabilities of a firm at the end of year
Initial capital (log.)	ICAP	The natural logarithm of interests paid for liabilities of a firm at the end of year
Firm age	F_AGE	Age of firm, measured by the difference between the year of research and year of establishment
Market	MAR	Dummy variable, coding 1 if a firm is listed in Ho Chi Minh Stock Exchange, 0 if a firm listed in Hanoi Stock Exchange
Age of CEO	C_AGE	Age of CEO, measured by the difference between the year of research and year of birth
Board size	BSIZE	The number of managers in the managerial board of a firm
Experience	EXP	Working experience of managers, measured by years
Big city (Yes = 1)		Dummy variable, coding 1 if a firm is located in a municipality (including Hanoi, Ho Chi Minh City, Da Nang, Hai Phong, and Can Tho), 0 otherwise

4.1.3. Descriptive statistics

Table 3 shows the descriptive statistic about variables in the analysis. The results from the ROA growth ratio indicates that state ownership is around, on average, 20 percent of the firm's ownership structure.Compared to STATE, FOREIGN has a mean of 0.142, which implies the investment from foreigners, thus suggesting that foreign capital may play an important role in Vietnam's economy. Coming up with a low FATA rate, a high leverage ratio (the average debt ratio is 0.502) shows that Vietnam's firms might prefer using debt to leverage their financial situations. They are likely to finance their business by rising more debt.

The Interest payment (log.) variableindicates that firms have to pay a high amount of interest due to the high Leverage rate as mentioned above. Initial capital (log) variable on average accounts for 10.549 and standard deviation of 1.505. In the aspects of firm age, companies in Vietnam have an average of approximately 25 years of operation since their establishment. On average, 61.4% of firms are listed on HOSE. Age of CEO shows that CEOs have an average age of 53, which might be the ideal age to run a business independently. In addition, the Board size shows that most companies have 11 members on the board of directors on average. The variable of Experience reveals that the average years of working of managers in Vietnam is 13.568. Finally, the dummy variable Big city provides a clearer view about firm distribution, in which nearly two-third of listed companies are locatedin municipal cities (Ha Noi, Hai Phong, Da Nang, Can Tho, and Ho Chi Minh City).

Table 3: Descriptive statistics

Variable	Obs.	Mean	S.D.	Min.	Max.
ROA growth	2,041	-0.002	0.081	-1.761	1.023
ROA	2,450	0.054	0.093	-1.779	0.827
STATE	2,030	0.206	0.261	0.000	0.967
FOREIGN	2,040	0.142	0.170	0.000	0.930
Assets (log.)	2,454	13.563	1.458	9.515	19.181
FATA	2,034	0.238	0.211	0.000	1.049
Leverage ratio	2,454	0.502	0.225	0.002	1.676
Interest payment (log.)	1,856	8.995	2.264	0.000	15.667
Initial capital (log.)	2,042	10.549	1.505	6.551	15.151
Firm age	2,256	24.944	14.072	4.000	109.000
Market	2,454	0.614	0.487	0.000	1.000
Age of CEO	2,039	52.953	7.677	23.000	80.000
Board size	2,035	11.090	2.311	2.000	23.000
Experience	1,806	13.568	9.711	0.000	42.000
Big city (Yes = 1)	2,454	0.628	0.483	0.000	1.000

4.2. Research methods

This study adopts random-effects and fixed-effects models to identify determinants of ownership structure as well as the impacts of ownership structure on firm growth. Generally, fixed-effects (FE) is adopted the analysis of the impact of variables that vary over time. This specification explores the association between the predictor and the outcome variable (firm growth, in this paper) within a firm. An assumption of using FE is that time-invariant characteristics of firms are unique to the individual (for example, locations, initial capital, or stock market where firm's stocks are listed), thus the firm's error term and the constant should be uncorrelated with the others. Unless otherwise, if there exists any correlation between the error term and constant, FE becomes inappropriate and RE is more preferred. This is also the foundation of the Hausman test that checks the correlation between the error term and the constant.

As we use balanced panel data collected from 2013 to 2017, using random- and fixed-effects models is more relevant than using Ordinary Least Squares (OLS). This paper also checks whether random- or fixed-effects specification is more preferred by using the Hausman test. All in all, we demonstrate empirical results yielded from both methods for comparison. In this study, the ownership structure is measured by STATE and

FOREIGN, which capture the percentage of state ownership and foreign ownership of firms. To determine the factors that affect ownership structure, we propose Equations (1) and (2) as follows:

$$STATE_{it} = \alpha_{10} + \alpha_{11}ASSETS_{it} + \alpha_{12}FATA_{it} + \alpha_{13}LEV_{it} + \alpha_{14}INT_{it} + \alpha_{15}ICAP_{it} + \alpha_{16}F\_AGE_{it} + \alpha_{17}MAR_{it} + \alpha_{18}C\_AGE_{it} + \alpha_{19}BSIZE_{it} + \alpha_{110}EXP_{it} + \alpha_{111}CV_{it} + \varepsilon_{1it} \quad (1)$$

$$FOREIGN_{it} = \alpha_{20} + \alpha_{21}ASSETS_{it} + \alpha_{22}FATA_{it} + \alpha_{23}LEV_{it} + \alpha_{24}INT_{it} + \alpha_{25}ICAP_{it} + \alpha_{26}F\_AGE_{it} + \alpha_{27}MAR_{it} + \alpha_{28}C\_AGE_{it} + \alpha_{29}BSIZE_{it} + \alpha_{210}EXP_{it} + \alpha_{211}CV_{it} + \varepsilon_{2it} \quad (2)$$

In this paper, the key variable $GROA_{it}$ is measured as the difference between ROA_{it} and $ROA_{i,t-1}$ as given below:

$$GROA_{it} = ROA_{it} - ROA_{i,t-1} \quad (3)$$

To evaluate the impacts of ownership structure on firm growth, we propose Equations (4) and (5) as follows:

$$GROA_{it} = \beta_{10} + \boldsymbol{\beta_{11}STATE_{it}} + \beta_{12}ASSETS_{it} + \beta_{13}FATA_{it} + \beta_{14}LEV_{it} + \beta_{15}INT_{it} + \beta_{16}ICAP_{it} + \beta_{17}F\_AGE_{it} + \beta_{18}MAR_{it} + \beta_{19}C\_AGE_{it} + \beta_{110}BSIZE_{it} + \beta_{111}EXP_{it} + \beta_{112}CV_{it} + \varepsilon_{3it} \quad (4)$$

$$GROA_{it} = \beta_{20} + \boldsymbol{\beta_{21}FOREIGN_{it}} + \beta_{22}ASSETS_{it} + \beta_{23}FATA_{it} + \beta_{24}LEV_{it} + \beta_{25}INT_{it} + \beta_{26}ICAP_{it} + \beta_{27}F\_AGE_{it} + \beta_{28}MAR_{it} + \beta_{29}C\_AGE_{it} + \beta_{210}BSIZE_{it} + \beta_{211}EXP_{it} + \beta_{212}CV_{it} + \varepsilon_{4it} \quad (5)$$

where ROA_{it} is the return on assets if firm *i* at time *t* (in the period 2013–2017); $ROA_{i,t-1}$ is the return on assets if firm *i* at time *t-1;* $GROA_{it}$ is firm growth, measured by the difference in ROA of firm *i* between time *t* and *t – 1*; CV_{it} controls year effects, industry effects, and location effects; the remaining variables ($ASSET_{it}$, $FATA_{it}$, LEV_{it}, INT_{it}, $ICAP_{it}$, F_AGE_{it}, C_AGE_{it}, $BSIZE_{it}$, and EXP_{it}) is control variables, as defined in Table 2; ε_{kit} ($k = 1,2,3,4$) denotes the error terms; α_{k0} and β_{k0} (k = 1, 2) are intercepts or constants; β_{11} and β_{21} capture the impacts of *STATE* and *FOREIGN* on firm growth, respectively.

V. Empirical Results

5.1. Correlation matrix

Table 4 shows the correlation matrix of the variables used in this study. The results show that the only STATE has a significant correlation with ROA growth, with the coefficient of -0.044 at 10 percent significance level. In addition, STATE and FOREIGN are correlated with a coefficient of 0.104.The matrix reveals the correlation of STATE with a group of other variables, including FOREIGN, Assets, FATA, Leverage ratio, Interest (log.), Initial capital(log.), Firm age. In another aspect,FOREIGN is correlated with most of the variables, except FATA, Interest(log), and a dummy variable Big city. These outcomes provide some basic overview of how the ownership structure of firms in Vietnam is affected by internal and external factors.

Table 4: Correlation matrix

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
1. ROA growth	1.000													
2. STATE	-0.044*	1.000												
3. FOREIGN	0.004	0.104*	1.000											
4. Assets (log.)	-0.019	-0.071*	0.151*	1.000										
5. FATA	-0.022	0.118*	0.024	0.026	1.000									
6. Leverage ratio	0.006	0.040*	-0.179*	0.326*	-0.035	1.000								
7. Interest pmt. (log.)	0.004	-0.049*	0.035	0.727*	0.167*	0.518*	1.000							
8. Initial capital (log.)	0.003	0.146*	0.078*	0.507*	0.201*	0.024	0.341*	1.000						
9. Firm age	0.000	0.117*	-0.083*	-0.039*	0.054*	0.076*	-0.040*	0.053*	1.000					
10. Market	-0.012	-0.121	0.099*	0.441*	-0.024	-0.121*	0.219*	0.357*	-0.083*	1.000				
11. Age of CEO	0.002	-0.027	0.121*	0.064*	0.048*	-0.020	0.042*	0.082*	0.095*	-0.007	1.000			
12. Board size	0.000	0.017	0.178*	0.533*	0.065*	0.118*	0.373*	0.280*	-0.019	0.207*	0.019	1.000		
13. Experience	0.023	0.009	0.079*	0.126*	-0.028	0.053*	0.049*	0.101*	0.163*	0.051*	0.331*	0.078*	1.000	
14. Big city (Yes = 1)	0.007	0.027	0.032	0.042*	-0.203*	-0.035*	-0.020	-0.082*	0.045*	0.065*	0.014	0.063*	-0.033	1.000

5.2. Determinants of ownership structure

Table 5 reports the empirical results of the determinants of ownership structure. The results show that firm size (measured by the logarithm of assets) has a negative impact on state ownership structure. Both random-effects and fixed-effects models reveal a positive and significant effect between FATA and foreign ownership which equal 0.0587 and 0.0724 respectively with the significance level of 5 percent. Foreign ownership and leverage ratio have a negative and significant correlation, with the coefficients of leverage ratios are -0.1138 by using the fixed effects and -0.1425 by using the random effects.

The empirical results suggest that initial capital impact significantly and positively the proportion of state ownership in ownership structure with the coefficient of 0.0378 at 1 percent significance level. Firm age is found to negatively affect the percentage of state ownership with the coefficient is -0.0093 at 5 percent significance level in the fixed-effects model. The results reveal that there is a positive and significant effect of age of CEO on foreign ownership when the coefficients in random- and fixed-effects models are 0.0013 and 0.0012, respectively. The model indicates that experience of the CEO positively and significantly influences the foreign ownership by 0.009 at 5 percent significance level in the sense that foreign investors are likely to invest in a company which has an experienced CEO.

Table 5:Determinants of ownership structure

Variable	State ownership (Panel A)		Foreign ownership (Panel B)	
	R.E.	F.E.	R.E.	F.E.
	[1]	[2]	[3]	[4]
Assets (log.)	-0.0215**	-0.0171	0.0245***	0.0167
	(0.0101)	(0.0140)	(0.0070)	(0.0104)
FATA	0.0503	0.0454	0.0587**	0.0724**
	(0.0355)	(0.0404)	(0.0253)	(0.0297)
Leverage ratio	0.0824**	0.0486	-0.1425***	-0.1138**
	(0.0378)	(0.0444)	(0.0269)	(0.0327)
Interest payment (log.)	-0.0020	0.0009	-0.0001	0.0022
	(0.0037)	(0.0040)	(0.0027)	(0.0029)
Initial capital (log.)	0.0378***	328.8570	-0.0035	318.8403
	(0.0096)	(1288.5420)	(0.0063)	(951.3849)
Firm age	0.0012	-0.0093**	-0.0012**	-0.0015
	(0.0009)	(0.0027)	(0.0006)	(0.0020)
Market	-0.0323	-	-0.0001	-
	(0.0301)		(0.0197)	
Age of CEO	-0.0003	0.0000	0.0013**	0.0012*
	(0.0008)	(0.0009)	(0.0006)	(0.0007)
Board size	0.0027	0.0026	0.0026	0.0015
	(0.0026)	(0.0028)	(0.0019)	(0.0021)
Experience	0.0008	0.0007	0.0009**	0.0007
	(0.0006)	(0.0007)	(0.0005)	(0.0005)
Location effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes
Observations	1,626	1,626	1,629	1,629

Note: Dependent variable is ownership structure. Standard deviations are in parentheses. *, **, and *** denote the significance levels at 10 percent, 5 percent, and 1percent, respectively. R.E. and F.E. stand for random-effects and fixed-effects models, respectively.

5.3. Impacts of ownership structure on firm growth

Table 6 indicates the impacts of ownership structure on firm growth. In the aspect of the random-effects model, state ownership is found to have a negative effect on the firm growth which is measured by the ROA growth at 5 percent significance level over the period 2013–2017, implying that the purpose of state owners is not really to maximize the performance of the company but is to control and orient the economy or another reason.Our result is consistent with Li et al. (2009), Kang and Kim (2012), and Wei et al. (2005). The result also indicates that foreign ownership is positively related to the ROA growth of a company, suggesting that foreign investors mighthave an important role in boosting companies' performance because of their monitoring

about the managers and better control about overinvestment issues of a company. However, there is no statistical significance between foreign ownership and firm growth.

Firm size, which is measured by a logarithm of total assets, has a negative impact on firm growth with the significance level of 5 percent. This result is in line with studies byWei et al. (2005) and Phung and Mishra (2015) who show that bigger firms have more agency problems that might reduce firm performance and growth. Otherwise, some other studies have demonstrated the opposite results with the positive relationship between assets(log) and firm performance, as emphasised by Mei Yu (2013) and Nguyen et al. (2017).

The leverage ratio is found to have a negative effect on firm growth with the coefficients of -0.1285 and -0.1273 at 1 percent significance level. Both the random- and fixed-effects models provide an outcome that the interest payment is significantly correlated with company growth. With the coefficient equals 0.0034, the relationship between initial capital and firm growth is positive at the significance level of 5 percent.

Both the random- and fixed-effects models provide an outcome that the interest(log) of a firm is significantly correlated with company growth. Accordingly, the more interest company pay for the debt, the higher the growth rate of the company. With the coefficient equals 0.0034, the relationship between initial capital and firm growth is positive at the significance level of 5 percent. A large amount of initial capital will help the company gain its competitive advantages to cover the costs of buying machines, equipment, and hiring employees. Therefore, a high level of investment supports the firm to be more competitive, thus paving the way for growth in the future.

In the analysis, we also include other factors including firm age, market, the age of CEO, the board size, experience to provide a more detailed result. Nevertheless, those elements reveal no statistical significance in our models.

Table 6: Impacts of ownership structure on firm growth

Variable	Ownership structure and firm growth			
	R.E.	F.E.	R.E.	F.E.
	[1]	[2]	[3]	[4]
STATE	-0.0171**	-0.0172		
	(0.0081)	(0.0205)		
FOREIGN			0.0005	0.0111
			(0.0122)	(0.0278)
Assets (log.)	-0.0070**	0.0019	-0.0068**	0.0018
	(0.0027)	(0.0102)	(0.0027)	(0.0102)
FATA	-0.0102	-0.0433	-0.0109	-0.0439
	(0.0114)	(0.0292)	(0.0114)	(0.0291)
Leverage ratio	-0.0077	-0.1285***	-0.0109	-0.1273***
	(0.0123)	(0.0321)	(0.0125)	(0.0321)
Interest (log.)	0.0027*	0.0059**	0.0030**	0.0058**
	(0.0015)	(0.0029)	(0.0015)	(0.0029)
Initial capital (log.)	0.0034**	501.4422	0.0026	491.4964
	(0.0017)	(930.4778)	(0.0016)	(929.8434)
Firm age	0.0001	-0.0032	0.0001	-0.0030
	(0.0002)	(0.0020)	(0.0002)	(0.0020)
Market	0.0015	-	0.0020	-
	(0.0051)		(0.0051)	
Age of CEO	0.0001	0.0003	0.0001	0.0004
	(0.0003)	(0.0006)	(0.0003)	(0.0006)
Board size	-0.0003	-0.0012	-0.0003	-0.0012
	(0.0010)	(0.0020)	(0.0010)	(0.0020)
Experience	0.0002	0.0005	0.0002	0.0005
	(0.0002)	(0.0005)	(0.0002)	(0.0005)
Location effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes
Observations	1,622	1,622	1,625	1,625

Note: Dependent variable is firm growth. Standard deviations are in parentheses. *, **, and *** denote the significance levels at 10 percent, 5 percent, and 1 percent, respectively. R.E. and F.E. stand for random-effects and fixed-effects models, respectively.

5.4. Hausman specification test

This studyconducts a Hausman specification test to provide further evidence of using random- and fixed-effects models to identify factors affecting ownership structure as well as the impacts of ownership structure on firm growth. In panel data analysis, the Hausman test helps to choose between a random- or a fixed-effects model. Basically, the Hausman specification test compares the consistent fixed-effects model with the efficient random-effects model. Technically, the test looks to see if there is a correlation between the unique errors and the regressors in the model. The null hypothesis is that there is no correlation between the two, thus a random-effects model is preferred.Hausman test is developed as follows:

H_0 (null): Random-effects model is appropriate

H_1 (alternative): Fixed-effects model is appropriate

Table 7 shows that random-effects models are appropriate in all specifications including determinants of state ownership, determinants of foreign ownership, the impact of state ownership on firm growth, and the impact of foreign ownership on firm growth. In general, the empirical results are presented by both random- and fixed-effects models as shown in Tables 5 and 6 for comparisons.

Table 7: Hausman specification test

	Determinants of ownership structure		Ownership structure and firm growth	
	State ownership (SO)	Foreign ownership (FO)	SO and firm growth	FO and firm growth
Chi^2	0.07	0.11	0.29	0.28
P-value	0.799	0.735	0.590	0.597
Model preferred	RE	RE	RE	RE

VI. Conclusion and Policy Implications

Vietnam's economy has been expanding and developing in recent decades. The expansion of the market, as well as globalization worldwide, has created many opportunities and challenges for Vietnam corporations through agreements on free trade. In that context, science and modern technology have been playing an important role in the growth of Vietnam's economy recently by improving the quality of goods and manufacturing cost of enterprises in order to compete with foreign firms. Science and technology are also major challenges that Vietnam's companies are facing: if Vietnam's companies are not ableto follow the trend of the technology world, they will be overwhelmed or pushed down to the lower segmentation market with less profit.

This study uses a panel dataset of 410 listed companies in the Vietnam stock markets in the period 2013–2017 to examine the nexus between ownership structure and firm growth. By using the random- and fixed-effect models, this study finds a negative relationship between state ownership and the firm growth in the sense that firms which have a higher share of state ownership usually have lower working efficiency. For this reason, the government might consider a plan to divest from these firms. In contrast, the paper indicates that foreign ownership has a positive impact on firm performancealthough it is not statistically significant between foreign ownership and firm growth. Therefore, in order to attract more foreign investors and boost the growth, firms need to build a good reputation with the transparency in financial statements as well as allocate capital structure with low long-term liabilitiesbecause the risk of default of companies with high leverage rate is unattractive to foreign investors. Otherwise, a conflict between owners and managers is harmful to the growth so that a company should allow managers to buy stocks with discount price or awarding bonus shares to encourage them to contribute more to the company.

Financial leverage and capital initially are found to have a positive relationship with state ownership.The finding also shows that the larger the total assets of enterprises, the smaller the ratio of state ownership. The fixed effects model shows a negative impact of firm age on state ownership. However, the results of the factors affecting foreign ownership are varied. Accordingly, six factors are found to affect foreign ownership, including total assets, FATA, financial leverage, number of years of operation (firm age), CEO's age, and CEO's work experiences. Enterprises with large total assets, high FATA, older and experienced CEOs have a positive impact on attracting foreign shareholders, but the financial leverage factor and the number of years of operation of the company have negative effects on foreign ownership.

The random-effects model shows a negative correlation between state ownership and firm growth, which might cause by the purpose of state ownership that is not to maximize profit. Additionally, we find no statistically significant correlation between foreign ownership and firm growth even though the result shows a positive impact of foreign ownership. Last but not least, the factors of leverage and total assets have negative impacts on the development of the company, due to the increase in the size and cost of debt that constrains the growth of businesses. Otherwise, factors such as interest expenses and initial capital have positive relationships

with the company's growth. Other factors, including firmage, market, CEO age, the board size, and experience are not statistically significant in this study.

Acknowledgement

The authors are grateful to Lan Thanh Nguyen (Griffith University, Australia) for her academic supervision and guidance during our research.

References

[1]. Aik Nai-Chiek, Tee Peck-Ling, and Lim Chee-Seong (2016), 'Foreign ownership, foreign directors and the profitability of Malaysian listed companies', *Procedia - Social and Behavioural Sciences, 219,* 580 -588.

[2]. Amaia Maseda, Blanca Arosa, and Txomin Iturralde (2010), 'Ownership structure and firm performance in non-listed firms: Evidence from Spain', *Journal of Family Business Strategy, 1,* 88-96.

[3]. Andreas Heinen and Malika Hamadi (2015), 'Firm performance when ownership is very concentrated: Evidence from a semiparametric panel', *Journal of Empirical Finance, 34,* 172-194.

[4]. Anming Zhang, Yimin Zhang, and Ronald Zhao (2002), 'Profitability and productivity of Chinese industrial firms Measurement and ownership implications', *China Economic Review, 13,* 65-88.

[5]. Ansgar Richter and Christian Weiss (2013), 'Determinants of ownership concentration in public firms: The importance of firm- industry- country-level factors', *International Review of Law and Economics, 33,* 1-14.

[6]. Asjeet Lamba and Geof Stapledon (2001), 'The Determinants of Corporate Ownership Structure: Australian Evidence', *Working Paper, 20,* 2-43.

[7]. Belen Villalonga and Harold Demsetz (2001), 'Ownership structure and corporate performance', *Journal of Corporate Finance, 7,* 209-233.

[8]. Byung-Yeon Kim and Young-Sam Kang (2012), 'Ownership structure and firm performance: Evidence from the Chinese corporate reform', *China Economic Review, 23,* 471-481.

[9]. Christoph Van der Elst (2004), 'Industry-specificities and size of corporations: determinants of ownership structures', *International Review of Law and Economics, 24,* 425-446.

[10]. David M.Reeb and Ronald C. Anderson (2003), 'Founding-Family Ownership and Firm Performance: Evidence from the S&P 500', *The Journal of Finance, 3.*

[11]. Duc Nam Phung and Anil V.Mishra (2015), 'Ownership structure and firm performance: Evidence from Vietnamese listed firms', *Australian Economic Papers, 55,* 63-98.

[12]. Eric Gedajlovic and Daniel M. Shapiro (2002), 'Ownership structure and firm profitability in Japan', *The Academy of Management Journal, 45,* 565-575.

[13]. Fitriya Fauzi1 and Stuart Locke (2012), 'Broad structure, ownership structure and firm performance: A study of New Zealand listed- firms', *AAMJAF, 8,* 43-67.

[14]. Francesco Perrini, Ginevra Rossi and Barbara Rovetta (2008), 'Does Ownership Structure Affect Performance? Evidence from the Italian Market', *Corporate Governance, 16,* 313-327.

[15]. Lai Trung Hoang, Cuong Cao Nguyen and Baiding Hu (2017), 'Ownership Structure and Firm Performance Improvement: Does it Matter in the Vietnamese Stock Market?', *Economic Papers, 36,* 416-428.

[16]. Laixiang Sun, Liang Zou, and Tao Li (2009), 'State ownership and corporate performance: A quantile regression analysis of Chinese listed companies', *China Economic Review, 20,* 703-716.

[17]. Mak Y.T. and Yuan Li (2001), 'Determinants of corporate ownership and board structure: Evidence from Singapore', *Journal of Corporate Finance,7,* 235–256.

[18]. Mei Yu (2013), 'State ownership and firm performance: Empirical evidence from Chinese listed companies', China Journal of Accounting Research, 6, 75-87.

[19]. Tien Hoang Nguyen, Xuan Minh Nguyen, Thi Thu Ha Nguyen, and Tran Quoc Trung (2017), 'Ownership structure and performance of professional service firms in a declining industry: Evidence from Vietnamese securities firms', *BHE- Business and Economic Horizons,13,* 142-151.

[20]. Torben Perdersen and Steen Thomsen (2003), 'Ownership Structure and Value of the Largest European Firms: The Importance of Owner Identity', *Journal of Management and Governance,7,*27-55.

[21]. Truong Dong Loc, Ger Lanjouw and Robert Lensink (2006), 'The impact of privatization on firm performance in a transition economy', *Economics of Transition,14,* 349-389.

[22]. Vincent Okoth Ongore (2011), 'The relationship between ownership structure and firm performance: An empirical analysis of listed companies in Kenya', *African Journal of Business Management, 5,* 2120-2128.

[23]. Zuobao Wei, Feixue Xie, and Shaorong Zhang (2005), 'Ownership Structure and Firm Value in China's Privatized Firms: 1991–2001', *Journal of Financial and Quantitative Analysis,40,* 87-107.