INSTITUTIONAL ENVIRONMENT, GOVERNMENT OWNERSHIP AND FIRM PROFITABILITY: EMPIRICAL EVIDENCE FROM VIETNAM

Nguyen Tran Thai Ha, Saigon University
Vo Thi Thuy Van, Saigon University
Phung Anh Thu, Nguyen Tat Thanh University
Le Thi Hong Anh, University of Economics Ho Chi Minh City

ABSTRACT

This study explores the correlation between government ownership and profitability of firms, as well as the impacts of the institutional environment on this relationship in Vietnam by using the sample of 503 non-financial firms over the period 2007 to 2015. Using a two-step system-GMM method, the study discovers the strong evidence that government ownership and regional institutional environment have a positive impact on the profitable ability of firms. Moreover, expanding results show that the combination between the transparent regional institutional environment and the low (high) government ownership facilitates more improvement in the firm's profitability. Besides that, the study also finds that the businesses' characteristics such as size, short-term debt ratio, tangible asset proportion, and the growth rate have a statistically significant relationship with profitability. Our study implies that the government should continuously improve the national institutional environment by strongly enhancing the provincial competitiveness of the national economy, thereby acting as a precursor to economic prosperity. Furthermore, privatising or centralizing the level of government ownership should be at the mercy of the market conditions in order to enhance the profitability of firms.

Keywords: Profitability, Government Ownership, Institutional Environment, GMM, Vietnam.

INTRODUCTION

Vietnam, a transitional economy with many reforms about the economic and social environment, is well-known for the development of a socialist-oriented market. Previously, Vietnam's economy used to be regarded as a centrally planned economy with a significant government intervention shown by government ownership in various corporations. Government ownership is often captured by the shares of the central governments, local governments or their various entities, named as government-owned enterprises (GOEs). GOEs have never failed to draw government attention shown by financial supports as well as business policies due to the fact that they are considered as an essential part of the socialist-oriented economy. However, the evaluated operating results of GOEs indicate that their performance is not effective, efficient despite huge financial support from the governments. Since the 1986 economic reform, the privatisation has been regarded as a remedy for this situation to enhance the performance of GOEs and stimulate economic growth. In recent years, the state control ratio of GOEs in Vietnam has decreased considerably thanks to the privatization, with the participation of foreign

or private investors. However, the government still plays a critical role in many firms and financial institutions, because government ownership is often regarded as a tactful tool to intervene and orient the market (Ben-Nasr et al., 2015; Kang & Kim, 2012; Najid & Rahman, 2011).

It is undeniable that the role of the government is essential, especially in controlling and implementing social-economic goals. However, studies related to government ownership and firm profitability are inconclusive. On the one hand, government ownership is considered to be able to enhance the firm's profitability by prior studies of Le & Chizema (2011). From the view of "too important to fail", many investors believe that state-related firms have more advantages in competitiveness. Moreover, state-owned enterprises are often strictly monitored to control state-capital using and thereby improve the profitability of enterprises. Therefore, GOEs often receive supports of the state through the government's subsidises. On the other hand, other studies have shown that government ownership has a negative impact on profitability (Abramov et al., 2017; Shleifer, 1998) and privatisation will improve profitability and market value (Kang & Kim, 2012). Because shareholders of GOEs are central or regional governmental agencies, their representatives are often appointed by politicians who often focus on political goals rather than the value maximization for stakeholders. (Abramov et al., 2017). Moreover, managers of GOEs believe that accounting losses will be offset by government supports. This will reduce the motivation of GOEs managers in ensuring that GOEs are well-managed. As a result, the performance of GOEs will decline with the increase in the ratio of government shares. Moreover, in the diversity of findings, many studies show that the link between government ownership and profitability is a non-linear relationship (Ben Rejeb Attia et al., 2018). It means that the performance of the GOEs will up (down) when the government owns a low or high rate to some extent.

Meanwhile, activities are affected by transparent and strong institutional environment. Institutional environment, known as specific rules, regulations or principles, has a significant impact on the economic-social activities (La Porta et al., 1998). Thus, the influence of institutional conditions for corporate operations, such as protection of property has an important role, especially in transitional economies (An et al., 2016; Ben-Nasr et al., 2015). On the one hand, Biddle & Hilary (2006) argued that institutional quality would reduce the cost of equity and improve the efficiency of investment decisions. Jiang, Y. & Yan (2012) investigated that the efficiency of enterprises was stronger in a better institutional environment. However, firms cannot depend on the legal system to secure the protection of their properties in transitional economies in which law is often non-effective or inadequate. Thus, one way to overcome institutional voids is to establish a connection with the government which strongly influences business operations through policy-making and resource allocation (Xu et al., 2014). Thus, the institutional environment and government ownership are important issues which need to investigate more deeply, especially in the transitional economy like Vietnam.

Therefore, inheriting previous studies, our study focused on three main aspects: (1) The impact of government ownership on profitability; and (2) The influence of institutional environment, represented by PCI (Provincial Competitiveness Index, USAID/VNCI-VCCI, 2017); (3) we compare the influences of the combination between government ownership and institutional environment on profitability by using the level of government ownership in low and high transparent institutional environment. Our study uses financial data of listed firms on the Vietnamese Stock Market, and we have excluded enterprises in the financial industry due to its peculiarity. Our motivation is to clarify the role of government ownership in the operation of

commercial enterprises because the number of these studies in Vietnam is still limited, for instance, Quang & Xin (2014) and Phung & Mishra (2015). However, these studies in Vietnam do not mention the role of the regional institutional environment. This study is expected to provide a more unobstructed view of the link between government ownership, institutional environment and firm profitability. Excluding the Introduction in Part 1, Part 2 review previous literature and empirical studies and give study's hypotheses. Part 3 illustrates models and experimental methods. Part 4 is data and descriptive statistics. Part 5 discusses the main findings and Part 6 will draw conclusions and implications.

LITERATURE REVIEW

The Relationship between Government Ownership and Firm Profitability

Previous studies on the relationship between government ownership and profitability have remained controversial. In a negative relationship, Le & Chizema (2011) confirmed that the performance of enterprises was adversely correlated with the government ownership of Chinese listed firms. The separation between government and businesses or non-motivated managers to maximise value for state shareholders is the main reason (Kang & Kim, 2012; Le & Chizema, 2011). Other reasons included the frequent intervention of the state, difficulties in management and supervision, the lack of information and management skills; inadequate consideration about state-owned enterprise restructuring; and the necessary independence of state representatives appointed by the government through political connection (Shleifer, 1998). Moreover, state representatives tried to achieve social goals and short-term political goals instead of maximising the value of the business (Abramov et al., 2017).

In contrast, there were empirical studies on the positive relationship between government ownership and firm performance (Najid & Rahman, 2011). When estimating for Chinese listed businesses, Tian & Estrin (2008) found that government ownership had a positive relationship with accounting performance, captured by ROA. The cited reasons were that the government had many tools to ensure the effectiveness of state-related enterprises (e.g., State Audit) and would severely punish the state's representatives who had rent-seeking or corruption behaviours. Moreover, the government, as well as a strategic shareholder, would support businesses by prioritising the financial and political allocations (Shleifer, 1998; Le & Chizema, 2011). Therefore, Huang & Boateng (2013) suggested that government ownership is considered a "strategic asset" that could result in favourable conditions (e.g., financial, political, social or competitive advantages). Last but not least, state control transmitted the signal that the authority would help GOEs out of collapse (Najid & Rahman, 2011).

In Vietnam, Quang & Xin (2014) found a positive relationship between government ownership and accounting performance, represented by return on assets (ROA) and return on equity (ROE); meanwhile, Phung & Mishra (2015) investigated the non-linear relationship between government ownership and the market value of firm. Thus, as China, the effect of government ownership is considerable in Vietnam where the market is defined as a socialist-oriented market with an important role of GOEs in the national economy. Therefore, we make our first hypothesis as follows:

Hypothesis H1: government ownership has a positive impact on profitability.

The Relationship between Government Ownership, Regional Institutional Environment and Firm Profitability

Empirical studies of government ownership and profitability or market value are complicated, and they almost entirely depend on agency theory (Jensen & Meckling, 1976). This hypothesis suggests that government ownership is separate from state intervention and market orientation as well as political interaction. However, the state is an authorised organisation to invest collected-taxes from the public into businesses and appoint the representatives. Because the government, as well as the person appointed by the state, are public representatives, agency problems have been raises (rent-seeking, avoiding risks, conflicting about goals or corruption) instead of maximising profits. Meanwhile, the real owner (public owners) can only do their function through monitoring mechanisms about the performance of an authorized state. Therefore, transparency and symmetric information; rules and regulations will drive the owner's monitoring effectiveness. Thus, agency theory is not enough to analyse the relationship between government ownership and performance, especially in markets like Vietnam or China.

Ben-Nasr et al. (2015) considered this link also depended on the characteristics of the economy and the institutional environment, especially in the transitional economies. Organisations responded to changes in the business environment, such as laws and regulations; and it was a way to respond to external pressures (Aguilera & Jackson, 2003). Biddle & Hilary (2006) argued that the high quality of the institutional environment would help to reduce issues of information asymmetry, transaction costs and related-risks, thereby improving market efficiency, resource allocation and right's protection. For example, Jiang, H. et al. (2018) found that firm performance was positive in countries with a high institutional environment by using financial data from the Wharton Compustat Global database in the period 2001-2015. This view was supported by Kang & Kim (2012), who argued that a weak institutional environment and legal framework could lead to a significant reduction in output by depriving insiders' assets, creating privilege and delaying future reforms. Borisova et al. (2012) claimed that government ownership was related to lower governance quality in European privatized firms, in countries with less protective legal systems. Concerning previous studies, we suggest that profitability will increase in a good regional institutional environment, where transparency and accountability are highlighted. Therefore, we make our second hypothesis as follows:

Hypothesis H2: The quality of regional institutional environment will create a positive impact on the profitability of enterprises.

As mentioned above, the state had acted as a representative, management and a law-maker. Thus, the state had taken actions to subsidise government-owned firms in both finance and policy. However, state-owned enterprises tended to achieve social goals and short-term political goals rather than maximising business value (Abramov et al., 2017). Le & Chizema (2011) found that government ownership played a moderating role in the link between firm performance and investors expectations. At low levels of government ownership, these expectations were negative, but it became positive at high levels of government ownership. In this view, if government ownership is too low, state enterprises are similar to non-state enterprises, in terms of the influence of the government's representative. Conversely, if the level of government ownership is high, the state connection will be stronger. Therefore, state-owned enterprises will have more opportunities to access resources and information and enhance their performance.

However, external environmental factors have a significant impact on the performance of the business. It can be explained by the equilibrium between the cost and benefits of government-relation. This means that the profitability of enterprises with the support of the state will decrease operating costs and increase benefits from the access to cheap state funds. However, as the regional institutional environment improves, these advantages become unclear. On the one hand, strategic government ownership has certain advantages. On the other hand, a good regional institutional environment creates equality in access to capital and information. Thus, the effect of government ownership on the performance of enterprises depends on the level of government ownership and quality of the institutional environment. Our third hypothesis is:

Hypothesis H3: The effect of government ownership on profitability is mixed, depending on the quality of the regional institutional environment and the level of government ownership.

MODELS AND METHODOLOGY

To test our hypothesis, we use the following dynamic model:

$$\text{Profitability}_{i,t} = \alpha_0 + \alpha_1 * \text{Profitability}_{i,t-1} + \alpha_2 * Gov_{i,t} + \delta * Controls_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$\text{Profitability}_{i,t} = \beta_0 + \beta_1 * \text{Profitability}_{i,t-1} + \beta_2 * Gov_{i,t} + \beta_2 * Pci_{i,t} + \delta * Controls_{i,t} + \varepsilon_{i,t} \quad (2)$$

Dependent variable

In both equations, the profitability of firms is measured by (i) Return on Total assets - ROA and (ii) Return on Total equity - ROE of firm i in t year (Ben Rejeb Attia et al., 2018; Abramov et al., 2017).

Independent variables

Government ownership (GOV) is the number of shares of state, including shares of state's institutions as proposed by previous studies (Abramov et al., 2017; Yu, 2013). The level of government ownership is published in the annual financial statements of listed companies on the Vietnamese Stock Market.

In Vietnam, the Provincial Competitiveness Index (PCI) is a variable to measure regional institutional environmental quality. PCI has been implemented by the Vietnam Chamber of Commerce and Industry (VCCI) and the United States Agency for International Development (USAID). We use PCI to estimate the impact of the quality of the regional institutional environment on profitability, as proposed by Huong & Cuong, 2018. The overall PCI score is calculated by summing the sub-indices:

1. Legal costs of businesses involved in business.
2. Costs of the company to access land.
3. Transparency and information access.
4. Regulatory compliance time.
5. Informal spending.
6. Proactive leadership of the province.
7. Policy bias for state-owned enterprises.
8. Labor training.
9. Legal institutions.

The overall PCI score is calculated by the total number of sub-indices, where the weights are determined by the importance of each sub-index in assessing different aspects of public governance and the social-economic environment in each province.

According prior studies, we also added a set of other control variables, such as the natural logarithm of the total assets of the business (SIZE), the growth rate of the enterprise, measured by the difference in revenue between t and t-1 year (GROWTH), the ratio of fixed assets on total assets, reflecting the level of use of tangible assets in firm operations (FIXED) and the level of risk of financial leverage in operations, measured by short-term debt ratio (FINRISK), based on prior studies. All descriptions and statistics of variables are presented in Table 1.

This study approaches the dynamic models of panel data. Panel data is preferred because it combines both time series and cross-section. Our model in equations (1) and (2) illustrates dynamic models with lagged dependent variables, and it can cause endogenous problems. Endogenous problems, a problem that creates severe bias due to the correlation between residuals and dependent variables. Fixed effect model (FEM) and the random effect model (REM) are known to be unable to handle with endogenous problems in panel data. Therefore, we apply the two-step sys-GMM (Generalized Method of Moments) which can solve endogeneity, heterogeneity and serial correlation (Arellano & Bond, 1991). In two-step sys-GMM estimation, the Sargan and Hansen tests hypothesise the H_0 "exogenous instruments". Thus, the higher p-value in Sargan and Hansen statistics, the more likely the H_0 hypothesis is accepted. The important AR (2) test of autocorrelation gives the hypothesis H_0 "no autocorrelation" at all levels (Roodman, 2009).

DATA AND FINDINGS

We use panel data of businesses listed on Vietnamese exchanges (Ho Chi Minh Stock Exchange and Hanoi Stock Exchange) for 9 years from 2007 to 2015. We note that our samples do not include financial, non-profit firms. After exclusion, our sample was a financial data set of 503 firms with 4,186 observations. We note that our panel data is not balanced, with some firms have more observations than others. This is caused by the lack of financial data, listing time and our attempt to maximise the number of observations.

Table 1
DEFINITION AND DESCRIPTION OF VARIABLES

Code	Definition	Obs	Mean	Std. Dev.	Min	Max
ROA	Net income/Total assets	4,186	0.069	0.085	-0.646	0.784
ROE	Net income/Equity	4,186	0.132	0.213	-7.836	0.982
GOV	Percentage of shares owned by the government	4,186	0.136	0.446	-4.643	7.070
PCI	Regional institutional environment	4,186	59.767	4.399	39.780	77.200
SIZE	Logarithm of Total assets	4,186	0.273	0.239	0.000	0.967
FIXED	Fixed assets/Total assets	4,186	26.677	1.409	21.370	31.906
FINRISK	Short-term debt/Total debt	4,186	0.282	0.212	0.000	0.978
GROWTH	$Revenue_t/Revenue_{t-1}$	4,186	0.622	0.390	0.000	1.000

(Source: authors' calculation)

Tables 2-4 show the main findings of the two-step sys-GMM regressions. The p-value of the AR test (2) and the p-value of the Hansen test are not statistically significant. Thus, the two-step sys-GMM method is used appropriately, and the estimated results are reliable and unbiased. Due to the lagged variable, the number of observations decreased from 4,186 to 3,683.

The Effect of Government Ownership and Regional Institutional Environment on Profitability

In model (1), we estimate the link between GOV on profitability, expressed by ROA and ROE. In model (2), we estimate the role of PCI on profitability. All results are presented in Table 3.

Table 2
THE LINK OF GOVERNMENT OWNERSHIP, REGIONAL INSTITUTIONAL ENVIRONMENT AND PROFITABILITY

Dependent variable	**ROA** **(1)**	**ROE** **(2)**	**ROA** **(1)**	**ROE** **(2)**
L.ROA	0.321*** (7.80)		0.334*** (8.21)	
L.ROE		0.270*** (8.23)		0.287*** (8.83)
GOV	0.098*** (2.60)	0.199** (2.08)	0.115*** (3.06)	0.217** (2.32)
PCI			0.001** (2.23)	0.004*** (2.89)
SIZE	-0.034*** (-4.85)	-0.091*** (-5.63)	-0.033*** (-4.85)	-0.088*** (-5.53)
FIXED	-0.104*** (-3.89)	-0.200*** (-3.27)	-0.098*** (-3.78)	-0.178*** (-2.95)
FINRISK	-0.045*** (-2.89)	-0.124*** (-3.58)	-0.039*** (-2.54)	-0.109*** (-3.15)
GROWTH	0.055*** (8.29)	0.130*** (8.05)	0.051*** (7.36)	0.116*** (7.09)
CONSTANT	0.972*** (5.15)	2.599*** (5.95)	0.861*** (4.55)	2.262*** (5.11)
AR (2) test	0.479	0.280	0.594	0.282
Hansen test	0.601	0.678	0.553	0.755
Wald chi2	307.65	334.91	320.73	358.09
Obs	3683	3683	3683	3683

Note: (*), (**), and (***) are 10%, 5%, and 1%, respectively z-statistic in ()

The result is robustness in all equations. Profitability, captured by ROA and ROE, is affected by their lag at the 1% of statistical significance. The results imply that the expanding (or narrowing) of the prior profitability of firms is positively correlated with the firm performance in the current year. Moreover, government ownership (GOV) positively affected ROA and ROE in 4 models at 1% significance, similarly to Najid & Rahman (2011). It can be explained that an organisation with a concentration of ownership (e.g., government) often provides better supervision and support the business activities to enhance the firm profitability. Moreover, ensuring the effectiveness state's capital has always been a top priority in government tasks. Besides, other explanations may be investors' confidence in government management (Najid & Rahman, 2011) or the hypothesis of "help hand" (Le & Chizema, 2011). Findings support the first hypothesis H_1: the profitability of a firm can be improved by government ownership.

Table 2 also provides empirical evidence about the relevance of the regional institutional environment and profitability. The impact of PCI on ROA as well as ROE is positive at 1% of statistical significance in all models. Therefore, it can be acknowledged that improving the regional institutional environment will lead to increased profitable ability due to reducing informal costs and asymmetric information (Biddle & Hilary, 2006). Our results confirm that a

good regional institutional environment will create the foundation for the development and profitability of firms as the H_2 hypothesis of this study.

The Link between the Level of Government Ownership, the Quality of the Regional Institutional Environment and the Profitability

In this section, we check our third hypothesis by examining the link of the quality of the regional institutional environment and the degree of government ownership of firm profitability. We use the average value of PCI (50) and divide our sample into two levels: (i) the province with PCI ≥ 50 is called a high institutional environment and (ii) the province with PCI <50 is called low institutional environment. To observe the effect of level of government ownership on enterprise profitability, we quantitate the ratio of government ownership into three levels: low level (GOV < 25%), medium level (25% ≤ GOV < 75%), and high level (GOV ≥ 75%). Our results are illustrated in Tables 3 and 4.

Table 3
THE LINK BETWEEN GOVERNMENT OWNERSHIP AND PROFITABILITY UNDER THE IMPACT OF A HIGH REGIONAL INSTITUTIONAL ENVIRONMENT

Regional institutional environment	**High PCI (PCI ≥ 50)**		**High PCI (PCI ≥ 50)**		**High PCI (PCI ≥ 50)**	
Government ownership	**Low GOV (GOV < 25%)**		**Medium GOV (25% ≤ GOV < 75%)**		**High GOV (75% ≤ GOV)**	
Profitability	**ROA**	**ROE**	**ROA**	**ROE**	**ROA**	**ROE**
L.ROA	0.342*** (8.95)		0.368*** (10.09)		0.359*** (9.35)	
L.ROE		0.252*** (7.45)		0.277*** (8.39)		0.274*** (8.23)
GOV*PCI	0.125*** (3.34)	0.292*** (3.36)	-0.137** (-1.82)	-0.401** (-1.99)	0.158** (3.28)	0.305** (3.11)
SIZE	-0.035*** (-4.78)	-0.098*** (-5.87)	-0.032*** (-4.68)	-0.095*** (-5.98)	-0.027*** (-3.91)	-0.081*** (-5.34)
FIXED	-0.103*** (-3.85)	-0.213*** (-3.47)	-0.072*** (-3.03)	-0.128*** (-2.23)	-0.090*** (-3.15)	-0.192*** (-3.11)
FINRISK	-0.038** (-2.38)	-0.130*** (-3.55)	-0.031** (-2.16)	-0.120*** (-3.55)	-0.046** (-2.61)	-0.134*** (-3.74)
GROWTH	0.059*** (8.72)	0.136*** (8.30)	0.055*** (9.09)	0.125*** (8.09)	0.061*** (8.25)	0.138*** (8.02)
CONSTANT	1.005*** (5.02)	2.778*** (6.19)	0.936*** (5.04)	2.753*** (6.41)	0.768*** (4.16)	2.297*** (5.68)
AR (2) test	0.423	0.300	0.409	0.260	0.446	0.271
Hansen test	0.803	0.867	0.249	0.633	0.832	0.700
Wald chi2	359.48	308.54	469.81	322.65	328.77	312.55
Obs	3683	3683	3683	3683	3683	3683

Note: (*), (**), and (***) are 10%, 5%, and 1%, respectively z-statistic in ()

Similar to the results in Table 2, firm profitability is closely related to its lag at 1% significance. However, the impacts of different degrees of GOV are inconclusive under the low and high PCI (Tables 3 and 4). With the low and high government ownership, our results in Table 4 continue to support the H_3 hypothesis: the combination between low (high) government ownership and the high institutional environment has a positive impact on the firm's profitability. It implies that a good institutional environment has a positive impact on market efficiency and resource allocation (Duncan, 2014); meanwhile the privatization would boost efficiency and

value of firms, and also bring some benefits and reduce the risks of self-interest problems (Kang & Kim, 2012) or concentrate ownership will reduce agency costs and leads to superior firm value (Singal & Singal, 2011). Besides that, we also find statistical evidence that government ownership (25% ≤ GOV < 75%) gives an adverse result. It could be that the diversification strategy also increases expenditures due to difficulties associated with coordination, information asymmetry and misalignment between stakeholders. These findings imply that the government should hold the ratio of share below 25% or more than 75% of the total capital to minimise the problems caused by the agency theory. This result illustrates that in a good regional institutional environment: (1) corporate performance can be enhanced when GOEs are privatized, as found in previous studies (Yu, 2013; Kang & Kim, 2012; Le & Chizema, 2011) or (2) the government should focus on controlling strategic businesses to ensure improved business efficiency as proposed by Lehmann & Weigand (2000). It also implies that the relationship between government ownership and firm performance may be a nonlinear correlation (Ben Rejeb Attia et al., 2018; Phung & Mishra, 2015).

Table 4
THE LINK BETWEEN GOVERNMENT OWNERSHIP AND PROFITABILITY UNDER THE IMPACT OF A LOW REGIONAL INSTITUTIONAL ENVIRONMENT

Regional institutional environment	**Low PCI (PCI < 50)**		**Low PCI (PCI < 50)**		**Low PCI (PCI < 50)**	
Government ownership	**Low GOV (GOV < 25%)**		**Medium GOV (25% ≤ GOV < 75%)**		**High GOV (75% ≤ GOV)**	
Profitability	**ROA**	**ROE**	**ROA**	**ROE**	**ROA**	**ROE**
L.ROA	0.345*** (9.29)		0.380*** (13.57)		0.381*** (10.63)	
L.ROE		0.283*** (8.41)		0.212*** (6.16)		0.309*** (9.42)
GOV*PCI	-0.006 (-0.01)	-0.578 (-0.49)	-7.002 (-0.89)	-28.210 (-1.38)	-0.087 (-0.17)	-0.896 (-0.69)
SIZE	-0.036*** (-5.36)	-0.093*** (-5.98)	-0.030*** (-5.52)	-0.109*** (-6.97)	-0.027*** (-4.54)	-0.082*** (-5.67)
FIXED	-0.083*** (-3.59)	-0.148*** (-2.71)	-0.074*** (-3.36)	-0.190*** (-3.39)	-0.063*** (-2.91)	-0.135*** (-2.56)
FINRISK	-0.026** (-1.81)	-0.120*** (-3.60)	-0.030** (-2.12)	-0.122*** (-3.72)	-0.028** (-1.94)	-0.122*** (-3.77)
GROWTH	0.052*** (8.80)	0.118*** (8.05)	0.051*** (9.16)	0.122*** (8.43)	0.054*** (8.88)	0.119*** (8.00)
CONSTANT	1.052*** (5.71)	2.690*** (6.44)	0.870*** (5.98)	3.147*** (7.48)	0.801*** (4.92)	2.374*** (6.15)
AR (2) test	0.486	0.273	0.393	0.339	0.449	0.246
Hansen test	0.263	0.531	0.233	0.507	0.153	0.436
Wald chi2	401.38	349.39	497.94	376.99	402.14	365.36
Obs	3683	3683	3683	3683	3683	3683

Note: (*), (**), and (***) are 10%, 5%, and 1%, respectively z-statistic in ()

Meanwhile, the results in Table 4 show that government ownership is not effective in a low institutional environment. Although we found no statistical evidence of the effect of GOV on ROA as well as ROE, it is worth noting that regression coefficients show negative values. It can be explained that low institutional environment increases informal costs, asymmetric information and corruption; which can reduce the effectiveness of the business. Moreover, the

role of government in monitoring and supporting will be limited in a low regional institutional environment. Therefore, the role of government ownership will not be effective incorporates.

Other factors are robust in Tables 2-4 and the regression coefficients of control variables are similar to matrix correlations in Table 2. GROWTH plays a significantly positive role for ROA and ROE at 1% statistic. It implies that the profitability of firms is significantly based on prior growth. Meanwhile, FINRISK has a negative link with the profitability of firms at 1% or 5% significance, showing the use of excessive short-term debt will reduce efficiency. SIZE is negatively related to corporate profitability, similarly to the level of the fixed asset using (FIXED). Firms with large total assets and high rates of tangible assets may be more challenging to improve their efficiency than smaller firms, and it will negatively impact on the corporate profitability (Le & Chizema, 2011).

CONCLUSION

This study estimates the impact of government ownership on firms' profitability and the role of the regional institutional environment by using data of listed firms from 2007 to 2015 in Vietnam. With the two-step sys-GMM method, the study shows that government ownership is positively related to the profitability of firms, as presented by ROA and ROE. The findings also show that profitable ability will increase when the institutional environment of the province is enhanced. In addition, empirical results show that the government should strongly privatise (reduce government ownership to below 25%) or concentrate highly (keep government ownership>75%) to improve profitability, besides improving the regional institutional environment. In addition, the characteristics of enterprises such as size, debt ratio, tangible assets proportions or growth rates are found to have a statistically significant relationship with firms' profitability. Our results are reliable in all models with ROA as well as ROE.

Our research brings some policy implications as follows: First, the government should continuously improve the institutional environment by strongly enhancing the provincial competitiveness of the national economy, thereby acting as a precursor to economic prosperity. Because the empirical results show that when improving the institutional environment at the regional level, it impacts on firm profitability is positive. Second, privatising or centralizing the level of government ownership should be at the mercy of the market conditions in order to enhance the firm’s profitability. The expanded experimental results also show that the role of the state is crucial and beneficial in stimulating the profitability of enterprises in a transparent institutional environment. However, the extensive experimental results show that the different government ownership ratio has different impacts on the profitability of enterprises. Accordingly, the government should strongly privatise commercial enterprises or keep a high level of government ownership in strategic firms.

ENDNOTES

1. Corresponding author: Phung Anh Thu, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam. Email: pathu@ntt.edu.vn.

REFERENCES

Abramov, A., Radygin, A., Entov, R., & Chernova, M. (2017). State ownership and efficiency characteristics. *Russian Journal of Economics, 3*(2), 129-157.

Aguilera, R.V., & Jackson, G. (2003). The cross-national diversity of corporate governance: Dimensions and determinants. *Academy of Management Review, 28*, 447-465.

An, Z., Li, D., & Yu, J. (2016). Earnings management, capital structure, and the role of institutional environments. *Journal of Banking & Finance, 68*, 131-152.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies, 58*, 277-297.

Ben-Nasr, H., Boubakri, N., & Cosset, J. C. (2015). Earnings quality in privatized firms: The role of state and foreign owners. *Journal of Accounting and Public Policy, 34*, 392-416.

Ben Rejeb Attia, M., Lassoued, N., & Chouikha, M. (2018). State ownership and firm profitability in emerging markets. *International Journal of Public Sector Management, 31*(2), 167-183.

Biddle, G.C., & Hilary, G. (2006). Accounting Quality and Firm-Level Capital Investment. *The Accounting Review, 81*(5), 963-982.

Borisova, G., Brockman, P., Salas, J.M., & Zagorchev, A. (2012). Government ownership and corporate governance: Evidence from the EU. *Journal of Banking & Finance, 36*(11), 2917-2934.

Duncan, R. (2014). Institutional quality, the cyclicality of monetary policy and macroeconomic volatility. *Journal of Macroeconomics, 39*, 113-155.

Huang, W., & Boateng, A. (2013). The role of the state, ownership structure, and the performance of real estate firms in China. *Applied Financial Economics, 23*, 847-859.

Huong, V.V., & Cuong, L.K. (2018). Does government support promote SME tax payments? New evidence from Vietnam. *Finance Research Letters*. doi:10.1016/j.frl.2018.11.017

Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*, 305-360.

Jiang, H., Habib, A., & Wang, S. (2018). Real Earnings Management, Institutional Environment, and Future Operating Performance: An International Study. *The International Journal of Accounting, 53*(1), 33-53.

Jiang, Y., & Yan, T. (2012). Institutional Environment's Impact on Execution of Accounting Standards. *Accounting Research, 4*, 69-78.

Kang, Y.S., & Kim, B.Y. (2012). Ownership structure and firm performance: Evidence from the Chinese corporate reform. *China Economic Review, 23*, 471-481.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, Robert W. (1998). Law and finance. *Journal of Political Economy, 106*(6), 1113-1155.

Le, T.V., & Chizema, A. (2011). State ownership and firm performance: Evidence From Chinese Listed Firms. *Organizations & Markets in Emerging Economies, 2*, 72-90.

Lehmann, E., & Weigand, J. (2000). Does the governed corporation perform better? Governance structures and corporate performance in Germany. *Review of Finance, 4*(2), 157-195.

Najid, N.A., & Rahman, R.A. (2011). Government ownership and performance of Malaysian government-linked companies. *International Research Journal of Finance and Economics*, 42-56.

Phung, D.N., & Mishra, A.V. (2015). Ownership structure and firm performance: Evidence from Vietnamese listed firms. *Australian Economic Papers, 55*(1), 63-98.

Quang, D.X., & Xin, W.Z. (2014). The impact of ownership structure and capital structure on financial performance of Vietnamese firms. *International Business Research, 7*(2).

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *The Stata Journal, 9*, 86-136.

Shleifer, A. (1998). State versus private ownership. *The Journal of Economic Perspectives, 12*, 133. doi:10.1257/jep.12.4.133

Singal, M., & Singal, V. (2011). Concentrated ownership and firm performance: does family control matter? *Strategic Entrepreneurship Journal, 5*(4), 373-396.

Tian, L., & Estrin, S. (2008). Retained state shareholding in Chinese PLCs: Does government ownership always reduce corporate value? *Journal of Comparative Economics, 36*, 74-89.

USAID/VNCI-VCCI. (2017). *The Vietnam Provincial Competitiveness Index 2017: Measuring economic governance for business development*. Retrieved from

Xu, D., Lu, J.W., & Gu, Q. (2014). Organizational Forms and Multi-population Dynamics. *Administrative Science Quarterly, 59*(3), 517-547.

Yu, M. (2013). State ownership and firm performance: Empirical evidence from Chinese listed companies. *China Journal of Accounting Research, 6*, 75-87.