

VIETNAM NATIONAL UNIVERSITY HO CHI MINH CITY  
**UNIVERSITY OF ECONOMICS AND LAW**

NGUYEN VAN TAN

**THE IMPACT OF EQUITIZATION ON FIRM PERFORMANCE:  
EVIDENCE FROM VIETNAMESE STATE-OWNED ENTERPRISES**

SUMMARY OF DOCTORAL DISSERTATION IN ECONOMICS

Ho Chi Minh City, 2022

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# Chapter 1

## INTRODUCTION

This chapter represents problem statements to explain reasons why the dissertation is necessary. Also, the chapter includes the background of the research, research gaps and introduction of the dissertation.

### 1.1 Problem statements

According to the Vietnamese Steering Committee for Enterprise Renovation and Development (2021), the Vietnamese Government conducted equitization through three phases, and the first phase took place from 1992 to 2000.

Although equitization has brought many benefits to boost economic development, equitization still has some limitations in Vietnam. First, Vietnam has applied incentive policies for equitized enterprises such as tax incentives (Decree 164/2003/ND-CP), land lease (Decree 51/1999/ND-CP), and land allocation for enterprises after equitization, but these policies create unfair competition for other enterprises. Incentive policies do not create an efficient market as the efficient market theory refers to, thereby creating information speculation, giving speculators an advantage in investing in equitized enterprises. Tax incentives can affect firm performance because it can affect profit after tax directly. Second, while other developed and developing countries conducted “privatization” programs (i.e. selling state assets to the private sector, keeping only a few key SOEs to regulate the economy), Vietnam has chosen the "equitization" policy. The Vietnamese Government often uses the ‘equitization’ term instead of ‘privatization’ because equitization is the process of transferring assets of SOEs to the private sector, and the State still holds dominant shares of equitized SOEs after equitization in many cases (Loc, 2006; Tran *et al.*, 2015). The purpose of equitization is to accomplish four major objectives, including arranging, equitizing, divesting state capital so that SOEs have a more rational structure to improve operating efficiency and good governance to meet international standards in Vietnam. It is because the goal of Vietnam's equitization is to retain the state's directing power in the majority of enterprises after equitization. According to the theory of competitive advantage, there are different impacts of equitization on firm performance improvement based on industries. Finally, there is low assets valuation of state-owned enterprises with many problems and a lack of transparency easily leads to the loss of the state capital (Tam, 2019). Some SOEs sell “golden real estate” to the private sector at a low price, leading to many problems, such as Tan Thuan investment and construction

company Ltd., protrade corporation (Binh Duong), civil engineering construction corporation no.1 (CIENCO1), etc. Thus, equitization makes it difficult for enterprises to improve firm performance.

In addition, equitization in Vietnam has also been carried out gradually (Loc, 2006; Tran *et al.*, 2015), leading to stagnation and lack of active participation in enterprise innovation, thereby making it difficult to improve firm performance after equitization. The new public management theory suggests that privatization transfers control of service delivery to the private sector and this transfer helps firms operate more effectively than SOEs with state control. The efficient market theory also states that there should not be state interference in the market to build an efficient capital market because security prices reflect all the information that investors already know.

However, with the control of the state representatives, the transparency of information, the disclosure of all information on the stock market do not exist in Vietnam. Typically, there are few equitized SOEs listed on the stock market (The World Bank, 2020). The reason is also due to disagreement in the shareholders' council, where the state representative plays a dominant role in information disclosure. Thus, it is clear that the state's domination of the majority of equitized enterprises in Vietnam has been against economic theories, including the theory of new public management and the efficient market theory. There is low assets valuation of equitized enterprises in many cases, listing delay, lack of information disclosure and transparency of all enterprises after equitization. Also, the equitization progress has been so slow due to gradual divestment based on the equitization nature in Vietnam. Thus, it is necessary to study the IPO valuation, the impact of equitization on firm performance when considering tax incentives and state ownership divestment (deregulation) in Vietnam.

Privatization topics have attracted research interests from several researchers all over the world. However, empirical studies have inconsistent results on the impact of privatization on firm performance. Most of these empirical studies apply firm performance measures proposed by Megginson *et al.* (1994). Empirical studies in developed countries mainly apply a pre-post comparison method and indicate that privatization can help privatized firms improve firm performance (Brown *et al.*, 2016); Dewenter and Malatesta, 2001). Also, the State just remain some SOEs and mostly transfer state assets to the private sector in developed countries, helping privatized firms restructure ownership, operation, focus on maximizing profits. Developed countries have tried to create efficient markets indicated in the efficient market theory where the market reflects all stock prices and investors can make decisions easily and help privatized SOEs easily access capital. Most empirical studies in Vietnam apply a pre-post comparison method and with-without comparison

method also indicate that equitization can help equitized SOEs improve firm performance (Loc *et al.*, 2006). However, Pham (2017) suggests that equitization may not have a positive impact on firm performance. These results are similar to empirical studies in China, where privatization is less likely to improve firm performance of privatized SOEs (Jiang *et al.*, 2009). Empirical studies in both developed and developing countries have inconsistent results because of different research methods, firm performance measures and different contexts. According to the new public management theory and efficiency market theory, the state interference in equitized SOEs can not create an efficient market in Vietnam. Besides, few studies have considered the impact of equitization on firm performance when considering non-equitized SOEs, especially in Vietnam. Tran *et al.* (2015), Loc and Tran (2016) have not considered industry when choosing two participating and non-participating firms leading to a biased comparison.

Based on the above reasons, the author has chosen the topic “The impact of equitization on firm performance: Evidence from Vietnamese state-owned enterprises” for the doctoral dissertation.

## **1.2 Background of the research**

First, the number of studies on the privatization impact on firm performance of privatized SOEs when considering non-privatized enterprises in the same periods is limited, mainly conducted in China. Previous studies in developed and developing countries use the pre-post comparison method to assess the impact of privatization on firm performance without considering non-participating firms. This also raises the question of whether equitization can improve the firm performance of equitized SOEs compared to non-participating firms in Vietnam.

In particular, quantitative studies often use the pre-post comparison method to measure changes in firm performance measures after privatization compared to the pre-privatization period, and this method was first proposed by Megginson *et al.* (1994). This method calculates the average values of the post-privatization and pre-privatization firm performance measures. Then, this method uses the t-Test and Man Whitney test to test changes in mean and median values of firm performance measures through pre-post privatization windows. Since Megginson *et al.* (1994) proposed seven firm performance measures, the following studies have often applied these measures or have adjusted them to measure firm performance. These measures include (1) profitability (ROE, ROA and ROS); (2) operating efficiency (sales/number of employees, net income/number of employees); (3) capital investment (capital expenditures/sales, capital

expenditures / total assets); (4) output (nominal sales/consumer price index); (5) employment (total number of employees); (6) leverage (total debt/total assets, long-term debt/equity); and, (7) payout (cash dividends/sales, cash dividends/net income).

Many research works have applied the pre-post comparison method, including research work by Pham (2017) when studying how privatization impacts on firm performance of privatized SOEs in Vietnam. Sakr (2014) also applies the pre-post comparison method to analyze how privatization impacts Egypt's firm performance. Other research works also apply this method in other countries such as in Egypt (Alipour, 2013) in China (Ho *et al.*, 2011; Huang and Wang, 2011; Jiang *et al.*, 2009). Recent studies have also applied a with-without comparison method through propensity score matching techniques (PSM) evaluating the impact of privatization on firm performance.

Tran *et al.* (2015) combine to use pre-post comparison, with-without comparison method and regression to examine the effects of privatization on firm performance of 309 privatized enterprises in Vietnam in 2009. However, considering the firm size and year of establishment is not reasonable in the PSM technique because there are still biases when the authors may compare privatized and non-privatized enterprises in different industries. Some other empirical studies also apply the regression approach (Liao *et al.*, 2014; O'Toole *et al.*, 2016; Ochieng and Ahmed, 2014; Wang and Shailer, 2015). Sprenger (2014) uses a sample of 497 Russian privatized and non-privatized firms that were surveyed in 1999-2000 without using propensity score matching to identify privatized and non-privatized firms.

Thus, most previous studies have applied the pre-post comparison method, so the effects of privatization on participating SOEs have not been considered compared with non-participating SOEs. Also, the studies mentioned above have inconsistent results on the impact of privatization on firm performance in different countries, depending on the evaluation method, privatization method, privatization policy or the economic landscape and characteristics of the privatized SOEs (Estrin and Pelletier, 2018; Iwasaki and Mizobata, 2018). Therefore, studying equitization policies and the impact of equitization policies on firm performance is an issue that needs to be studied and clarified in Vietnam. There have been few empirical studies, especially doctoral dissertations evaluating the equitization impact on firm performance in Vietnam. Linh (2017) studies the equitization progress of large-scale SOEs in Vietnam while Hoa (2016) reviews policies for Vietnamese equitized state-owned enterprises in the textile industry. Tien (2019) identifies determinants of business income of equitized SOEs in Vietnam without evaluating how equitization impacts on firm performance of equitized SOEs.

Second, the major privatization objectives of other countries are to privatize public assets, the state only retains some SOEs in key areas. However, the purpose of Vietnamese equitization is to accomplish some major objectives, including arranging, equitizing, divesting state capital so that SOEs have a more rational structure to improve operational efficiency and good governance to meet international standards in Vietnam. With the equitization nature of gradual divestment or deregulation, the State still controls equitized SOEs after equitization in Vietnam. Thus, these enterprises can not restructure ownership, operations and improve firm performance after equitization.

According to the new public management, the state should conduct privatization programs and transfer the rights to provide public services to the private sector to enhance service quality. The public choice theory also indicates that individuals or organizations should make decisions themselves for efficiency. The state representatives still hold high ownership to control decision-making and voting rights in enterprises after equitization in Vietnam making it difficult to disclose and transparent information about enterprises after equitization. These enterprises cannot meet the requirements of listing on the market and building an efficient market. The efficient market theory assumes that a firm's market value is reflected through complete information about past, present information and market events. However, it is difficult for Vietnam to build an efficient capital market because most equitized SOEs have not listed on stock markets. Therefore, it is important to study whether state representatives should hold more than 50% of the shares after equitization. Loc et al. (2006) only study the change in firm performance after equitization when the state holds more than and less than 30% of ownership rates in Vietnam.

Third, according to the theory of competitive advantage, firms operating in different industries have different competitive advantages and these advantages can affect firm performance. If privatized firms are in highly competitive sectors, their firm performance after privatization is much better than those in less competitive industries (Sheshinski and López-Calva, 2003). Most of the empirical studies have applied the pre-post comparison and regression method to consider the impact of privatization on firm performance according to different industries. It means that these studies have not considered non-equitized SOEs in the same period. At present, the Government has issued Decision 22/2021/QĐ-TTg to maintain 100% state ownership in 13 industries and over 50% state ownership of the charter capital in 14 industries. The government has changed the number of industries to maintain state ownership and choose equitized SOEs based on these criteria. However, there have been few empirical studies explaining which industry groups



have firm performance improvement after equitization to support the decision of remaining some specific industries.

Fourth, incentive policies when conducting privatization help promote the privatization process in countries, encouraging firms to participate in privatization programs. However, government intervention using incentive policies creates unfair competition for other enterprises (Estrin and Pelletier, 2018; Iwasaki and Mizobata, 2018). The efficient market theory explains that firm value and security prices are fully represented in the market because relevant information has been disseminated and fully reflected. However, the application of preferential policies, in general, will create many impacts on firm value, the market value of enterprises then depends on the intervention of the Government's policies to some enterprises.

Countries in developed countries, Russia and China often only apply preferential policies to all enterprises according to investment fields and areas of operation, but not exclusively for privatized enterprises. Therefore, Vietnam has applied preferential tax policies, land rental, etc for equitized enterprises, which are specific policies that need to be fully evaluated and studied. Currently, studies in Vietnam have not assessed whether tax incentives help equitized enterprises improve firm performance. Also, most of the empirical studies in Vietnam have not examined how listed firms improve firm performance compared to unlisted firms after equitization in Vietnam.

Finally, Vietnamese enterprises determine their enterprise values before submitting to the equitization steering committee for approval of equitization plans. Equitized SOEs can ask auditing service firms for firm valuation/ assets pricing to ensure a more accurate firm valuation. However, many problems have taken place concerning the firm valuation of equitized enterprises. The state representatives of equitized enterprises set low firm value, especially the real estate price to sell to the private sector at a low price of state property for their benefits, thereby causing the loss of state property (Tan Thuan investment and construction company Ltd., protrade corporation, Binh Duong, civil engineering construction corporation No.1, etc). Market feedback theory and efficient market theory state that underpricing through privatization can be determined by the market and responded to when firms are listed on the stock market.

However, underpricing of state assets when equitization leads to state budget losses, creating a manipulative phenomenon in equitization, which cannot create an efficient market like the market theory proposed. Tran *et al.* (2015) conclude that Vietnamese IPOs are underpriced by 38% (considering the  $AR_i$ ) and 49% (considering  $MAAR_i$ ). This study does consider equitized

enterprises and private enterprises through IPO, so the study can not explain how equitized SOEs are underpriced or undervalued.

After summarizing the background of the study, the author finds out some gaps as follows:

(1) There are still limited studies on how equitization impacts firm performance when considering non-equitized SOEs in the same period. Tran et al. (2015), Loc and Tran (2016) have not considered the industry when choosing two participating and non-participating groups, leading to a biased comparison.

(2) The divestment progress in Vietnam is plodding due to its gradual equitization nature. Thus, studying how state ownership changes affect the firm performance of equitized SOEs is necessary. There is an unanswered question whether the State should hold over 50% shares in equitized SOEs after equitization.

(3) There should be a study to evaluate how firms in specific industry groups can improve firm performance to support the equitization selection criteria because empirical studies have found that firm performance is improved dissimilarly according to industry groups.

(4) Equitization policies in Vietnam are also different from other countries. So, studying these typical equitization policies that impact Vietnam's firm performance will reflect the equitization nature in Vietnam. There is a gap in analyzing how equitization impacts equitized SOEs with tax and without tax incentives in Vietnam. The difference in firm performance improvements between listed firms and unlisted firms after equitization should be addressed in Vietnam.

(5) The equitization characteristics in Vietnam have some differences compared to privatization in developed and developing countries. In particular, assets valuation when equitization has faced many difficulties in Vietnam, leading to the slow equitization progress. This dissertation focuses on assessing the underpricing phenomenon level of state-owned enterprises in both short run and long run to determine whether there is underpricing or overpricing in asset valuation of state-owned enterprises when equitization, especially if adjusted according to market values.

### **1.3 Research objectives**

#### **1.3.1 General research objectives**

The study primarily aims to identify the impact of equitization on firm performance changes in Vietnam compared with non-equitized SOEs in the same periods, especially by average state ownership rates after equitization and industry groups. The equitization impacts can be determined by tax incentives for equitized SOEs. Also, the dissertation examines differences in firm performance changes between listed and unlisted firms after equitization and underpricing in the

short run and long run in Vietnam. Based on research findings, the author proposes some recommendations for investors, SOEs and the Vietnamese Government.

### **1.3.2 Specific research objectives**

Based on research gaps and general research questions, this dissertation aims to:

Identify whether equitization helps equitized SOEs improve firm performance than non-equitized SOEs in the same period.

This dissertation examines the different impacts of equitization on firm performance of equitized SOEs with different average state ownership rates after equitization (below 20%, 20% up to 30%, 30% up to 50%, 50% up to 65% and above 65%).

Examine the different impacts of equitization on firm performance of equitized SOEs according to different industry groups.

This dissertation analyzes how equitization impacts on firm performance of equitized SOEs with tax and without tax incentives. The dissertation also examines differences in firm performance changes between listed and unlisted firms after equitization in Vietnam.

Evaluate IPO underpricing of SOEs in the short run and long run when participating in the equitization program.

### **1.4. Research questions**

How can equitization impact on firm performance of equitized SOEs when compared with non-equitized SOEs in the same period?

How does equitization impact on firm performance of equitized SOEs with different average state ownership rates after equitization (below 20%, 20% up to 30%, 30% up to 50%, 50% up to 65% and above 65%)?

How does equitization impact on firm performance of equitized SOEs according to different industry groups?

How does equitization impact on firm performance of equitized SOEs with tax and without tax incentives in Vietnam? Do listed firms have higher firm performance improvements compared to unlisted firms after equitization in Vietnam?

How about underpricing levels in the short run and long run in Vietnam?

## 1.5 Research object and research scope

### 1.5.1 Research object

This dissertation focuses on analyzing typical equitization characteristics in Vietnam and the impact of equitization on firm performance of equitized SOEs after equitization. This dissertation only uses two firm performance measures, including change in ROA (dROA) and change in total assets turnover (dTAS) for analysis.

### 1.5.2 Scope of the study

**Content:** This dissertation examines how equitization impacts on firm performance of equitized SOEs after equitization in Vietnam. Also, this dissertation examines listing, underpricing and overpricing phenomenon of equitized SOEs.

**Extent and time:** This research uses SOEs' secondary data in two main phases of the Vietnam equitization process (SOEs equitized from 2006 to 2015). This dissertation uses VGSO data about firm performance from 2002 to 2019 because of four-year equitization windows. Applying four-year equitization windows help the author analyze the impact of tax incentives on firm performance in Vietnam. Besides, the dissertation applies data from HSX and HOSE to examine underpricing in the short run and long run.

## 1.6 Research methodology

The research paper adopts qualitative and quantitative research methodology.

**For the first research objective:** This dissertation applies qualitative research methodology for summarizing previous empirical studies on the impact of privatization and equitization on firm performance. Some related theories explain equitization impact to identify the research model for the average treatment effect approach through PSM. This dissertation also adopts a with – without comparison method to evaluate how equitization impacts change in equitized SOEs' firm performance when considering non-equitized SOEs in the same periods. Difference-in-difference (DID) method is similar to the pre-post comparison method, but the DID approach uses subtractions of performance changes to calculate DID measures.

According to Khandker *et al.* (2009), a with-without comparison method is another option when evaluating a program's effectiveness. This method is applied through a technique known as propensity score matching, and Rosenbaum and Rubin (1983) were the first researchers to propose this method. This method's advantage is that it eliminates the possibility of selection bias because it allows choosing two participants in the program that has some similarities in characteristics.

Claessens and Djankov (2002) and Pohl *et al.* (1997) suggest using this method to assess the impact of privatization on firm performance in European countries.

This study employs the with-without comparison method but chooses four variables of firm size, the number of operating years, industry, and equitization year to determine the propensity score to identify similarities between the treatment and control group. Besides, this dissertation also adopts a robustness test for testing result consistency (Khandker *et al.*, 2009). This study uses direct nearest-neighbor matching (nnmatch) and five nearest-neighbor matchings (psmatch) for the robustness testing of the average treatment effect on the treated (ATE). The studies by Loc and Tran (2016), Hung *et al.* (2017) only use radius matching (0.001).

**For the second research objective:** This dissertation also applies the average treatment effect approach through PSM to consider the different impacts of equitization on firm performance based on average state ownership rates after equitization (below 20%, 20% up to 30%, 30% up to 50%, 50% up to 65% and above 65%).

**For the third research objective:** This dissertation adopts the average treatment effect approach through PSM to consider the different impacts of equitization on firm performance according to industry groups.

**For the fourth research objective:** This dissertation applies qualitative research methodology to summarize previous studies, related theories explaining how privatization/equitization impacts firm performance to identify a regression model evaluating how tax incentives and listing impact on firm performance changes of equitized SOEs.

**For the final research objective:** This dissertation uses the t-Test comparing underpricing measures with zero to consider whether these firms are underpriced in the short run and long run. This dissertation also applies four different underpricing measures, including  $AR_i$  (%) (raw first-day return),  $MAAR_i$  (%) (market-adjusted abnormal return),  $AR_t$  (the average benchmark-adjusted return),  $CAR_{0,t}$  (cumulative benchmark-adjusted long-run performance).

## 1.7 New contribution

### 1.7.1 In the theoretical aspect

Most of the related privatization theories have not considered the benefits of privatization for privatized SOEs compared with non-privatized firms. Also, there have been few empirical studies examining how incentive policies through privatization programs affect firm performance changes of privatized firms. This dissertation finds that equitization helps firms improve profitability

(dROA) but does not help firms improve operating efficiency (dTAS) compared with non-equitized enterprises in the same periods.

Deregulation has been an interesting topic over decades and there have been many theories explaining the roles of the State in countries, including the “invisible hand”, “visible hand”, the mixed economy, the public choice and the new public management theories. There have been still arguments on State deregulation and the roles of the State. Research results from this dissertation show that equitization only helps firms improve profitability compared with non-participating firms (dROA) when firms are no longer under state control after equitization (average rate of state ownership after four years of equitization is less than 50%).

Empirical studies from developing and developed countries have shown that there is underpricing in the short run but overpricing in the long run. Most of these empirical studies have applied signaling, market feedback and efficient market theories explaining that the pre-IPO profitability can signal investors to make IPO investments in privatized firms, leading to underpricing or overpricing. This dissertation generalizes existing theories on the short-run underpricing in Vietnam, including the market feedback theory, the signaling theory and the divergence of opinion theory.

### **1.7.2 In the practical aspect**

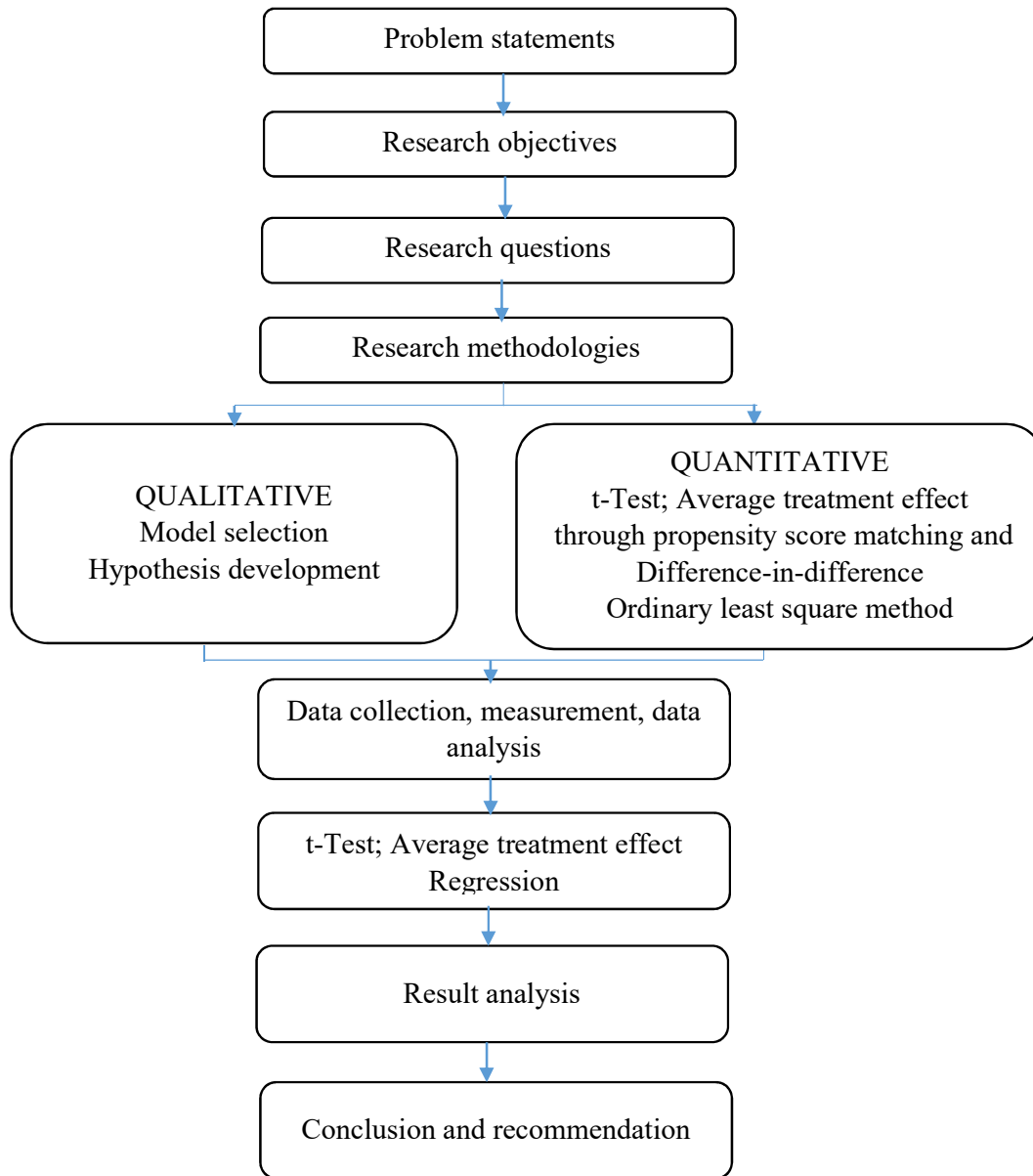
The Vietnamese Government has always encouraged SOEs to participate in equitization but the number of equitized SOEs has declined since 2007, there are some reasons. Most large-scale SOEs were not equitized in the first two equitization stages or there is complexity in asset pricing, IPO pricing, ownership restructuring and complicated procedures, etc. This dissertation finds that equitized SOEs improve profitability (dROA) compared with non-equitized SOEs in the same period and listed firms have higher profitability (dROA) compared with non-equitized SOEs. Besides, equitized SOEs with state control after equitization do not improve firm performance compared with non-equitized ones.

From research results, equitized SOEs can improve profitability (dROA) compared with non-equitized SOEs in the same period when they participate in equitization programs and unlisting can not help equitized SOEs improve firm performance.

There are many unlisted firms after equitization in Vietnam and investors can have suitable decisions based on the research results of this dissertation. Generally, IPO investment can help

investors get initial returns because there is short-run underpricing. However, overpricing, in the long run, can infer that investors should not hold IPOs shares for a long time.

### 1.8 The research framework



**Figure 1.1. The research framework**

Source: proposed by the author

### 1.9 Structure of the dissertation

Chapter 1. Introduction

Chapter 2. Theories and empirical studies on equitization and firm performance.

Chapter 3. Methodology, data and research models

Chapter 4. Research results

## **Chapter 2**

# **THEORIES AND EMPIRICAL STUDIES ON EQUITIZATION AND FIRM PERFORMANCE**

Privatization or equitization have a significant influence on achieving economic development objectives across nations in the world. This chapter represents definitions of privatization/ equitization and firm performance, relevant theories, and empirical evidence on the privatization or equitization impact on firm performance.

### **2.1 Definitions of privatization/ equitization and firm performance**

#### **2.1.1 Definitions of SOEs**

According to the OECD's definition (2017), SOEs include any enterprises where the state has significant control through full of majority ownership. SOEs definitions vary from country to country and depend on government policies in each country. According to Lin *et al.* (2020), SOEs can be classified into perfect competitive sectors and strategic sectors (i.e., key industries related to national security and national economic lifelines). Bernier *et al.* (2020) explain that SOEs can be organizations directly producing public services, ultimately owned or partially controlled by the public sector to accomplish public missions and the public ownership can be shifted to the private sector. According to Peng *et al.* (2016), SOEs play important roles in regulating economies and contributing to national GDP.

Many different SOEs' definitions depend on government policies. However, SOEs are legal entities of a government to take part in commercial activities on the government's behalf. They are either wholly or partially owned by a government and governments use them as a tool to regulate the economy. With the new laws on enterprises in 2020, the number of SOEs is considerable because equitization has been partial in Vietnam and there are many equitized SOEs above 50% of state ownership. Thus, the new law on enterprise can affect the equitization plan in the future in Vietnam.

#### **2.1.2 Privatization/ equitization**

##### **Privatization**

“Privatization” concept comes from the new public management theory, public-choice theory, the neo-Austrian school, and property-rights theory (Gruening, 2001). Privatization means



greater reliance on the private institutions of society and less dependence on government to satisfy people's needs. According to Savas (2000), Privatization takes many forms: contracting, franchising, vouchering, selling and leasing government-owned assets to the private sector, shedding services and deregulating. The various forms of privatization all operate by allowing markets to provide desired goods and services to consumers. Public managers and decision-makers face complex choices about which public services and functions should be kept in the public sector and which should be privatized (Savas, 2000).

In various studies, the concept of privatization is not the same. Privatization can be understood as a shift from public involvement (as a whole or one part) to private concerns (Hirschman, 1982). Schmidt (1996) explains that privatization brings benefits of improving firm performance and increasing State budgets but this program can reduce the rights of politicians or State representatives in public firms. Megginson *et al.* (1994) conclude that privatization is the process of reducing state ownership. Privatization is a process of asset and land redistribution from state ownership to private ownership.

Based on the above discussions, the concept of privatization can be understood as a process of transferring state ownership to form private ownership, which is directed by Governments. Most researchers and politicians admit the benefits of privatization and there should be a shift from the public sector to the private sector the rights of production of goods and services because of firm performance improvement and economic gains. The State should only remain some key public firms to regulate economies instead of remaining state interference in most public firms. Successful privatization programs from the U.K, the U.S and other developing countries have shown that privatization has brought a lot of benefits for both firms and economies.

### **Equitization**

In Vietnam, the term "equitization" is only used instead of "privatization" because equitization in Vietnam does not mean that the State sells all its assets to the private sector. The State still holds dominant shares of equitized SOEs in many cases. This is done through the market economy with a multi-ownership structure in socialism orientation.

Sjöholm (2006) characterizes equitization similarly with privatization in Vietnam compared with other countries. However, the author has used the words “modest” and “cautious” to explain equitization in Vietnam. Even in China, the Chinese government uses the term of privatization instead of equitization like in Vietnam although the Chinese government also applies a gradual strategy of divestment in privatization programs (Huang and Wang, 2011).

According to Ngu (2002), equitization definition in Vietnam was first introduced in 1992 and it indicated the process to transfer rights of production of goods and services to the private sector gradually with the objectives of mobilizing capital among SOEs individuals, developing firms but ensuring the supervision of society over firm operations. However, Loc (2006) applies “privatization” instead of “equitization” in Vietnam because privatization and equitization are quite similar in nature to transferring the production of goods and services from the public to the private sector. Tran (2016) has used privatization term in the Vietnam context because equitization is not so different from privatization.

Thus, with socialism direction, the Vietnamese government has applied gradual equitization policy with slow divestment progress or the government choose to interfere with most of equitized SOEs after equitization in Vietnam. This does not mean that the Vietnamese government has not applied privatization theories in equitization programs but the government has carefully conducted equitization gradually to avoid any risks of losing state control in public firms.

### **2.1.3 Firm performance**

According to Megginson *et al.* (1994), Governments often implement privatization programs with the common goal of improving SOEs' firm performance by selling state-owned shares to the private sector. The purpose of privatization is to increase firm profitability, operational efficiency, investment, and output. Governments are also keen to achieve these goals but still ensure increased labor productivity and workforces. According to Helfert and Helfert (2001), firm performance can be analyzed through investment, operating, and financial performance. There are many tools for firm performance assessment, including Dupont analysis, KPIs, and balance scorecard. Financial performance refers to performing a financial activity or the degree to which financial goals are being or have been accomplished. Operating performance refers to performing the operational activity of certain core operations for an organization or business.

In conclusion, the firm performance includes investment, operating, and financial performance. Operating performance is performing the operational activity of certain core operations for an organization. Financial performance is performing a financial activity or the degree to which financial goals are being or have been accomplished. Most of the previous empirical studies consider firm performance as operating and financial performance. Financial performance can be measured through profitability, financial leverage and payment while

operating performance can be measured by sales efficiency, net income efficiency and total asset turnover.

## **2.2 Relevant theories**

There are some relevant theories explaining state roles, privatization/equitization and the impact of privatization/equitization on firm performance. These theories include invisible hand, visible hand and mixed economy theories, new public management (NPM), efficient market theory, welfare economics and theory of competitive advantage. There are some theories relating to underpricing and listing, including the market feedback theory, the signaling theory, the divergence of opinion theory, the life cycle and market-timing theories.

According to NPM, privatization/equitization helps privatized SOEs restructure ownership and change control mechanisms to improve firm performance for better services to citizens. Privatization programs have almost finished in developed countries but there are still some developing countries with incomplete privatization programs, especially in Vietnam. Privatization requires a strong enough capacity of private entities to “sell” public services to citizens.

## **2.3 Empirical studies and research gaps**

There are some empirical studies based on five research gaps, including empirical studies on the impact of privatization/equitization on firm performance of privatized/equitized SOEs compared with non-participating SOEs, the impact of equitization on firm performance of equitized SOEs compared with non-equitized SOEs by average state ownership rates after equitization, the impact of equitization on firm performance of equitized SOEs compared with non-equitized SOEs according to industry groups, incentive policies for privatization programs and firm performance differences between listed and unlisted firms and underpricing when firms go public.

After summarizing empirical studies on the impact of privatization/equitization on firm performance, the author finds that there are five gaps as mentioned in Chapter 1.

# **Chapter 3. METHODOLOGY, DATA AND RESEARCH MODELS**

Chapter 3 represents hypothesis development to answer five research questions based on five research objectives and give research gaps. This chapter also includes the introduction of research models, data collection and estimation methods.

## **3.1 Hypothesis development**

Based on relevant theories and empirical studies, the author proposes some hypotheses as follows:

**H1:** Equitization helps equitized SOEs improve firm performance compared with non-equitized SOEs.

**H2:** When considering non-equitized SOEs in the same period, equitization impacts firm performance dissimilarly according to average state ownership rates after equitization.

**H3:** When considering non-equitized SOEs in the same period, equitization impacts firm performance dissimilarly according to industry groups

**H4:** Tax incentive policy has a direct impact on firm performance changes of equitized SOEs in Vietnam and there are differences in firm performance changes between listed and unlisted firms after equitization.

**H5:** Vietnamese equitized SOEs tend to underprice IPOs when equitization and the underpricing occurs in the short run but overpricing occurs in the long run.

### 3.2 Research models

For the final research gap about testing underpricing in the short run and long run, the author only applies t-Test for the mean different from 0. Thus, there is no research model needed for the final research gap.

#### 3.2.1 Research model to examine the impact of equitization on firm performance changes of equitized SOEs compared with non-equitized SOEs

Based on hypotheses H1, H2 and H3, with – without comparison method is employed through propensity score matching techniques. This study proposes to use a with-without comparison approach using propensity score matching with comparative control variables based on research work by Tran *et al.* (2015) to identify common support areas, including firm size (the natural logarithm of total real assets), the number of operating years, industry, and equitization year. The author also applies industry as one control variable in the regression model (1).

$$Y_i = \beta_0 + \beta_1 \text{LNAGE}_i + \beta_2 \text{LNASSET}_i + \beta_3 \text{IND}_i + \beta_4 \text{EQUIyear}_i + \varepsilon_i \quad (1)$$

$\text{LNAGE}_i$  is the natural logarithm of SOEs' operating year,  $\text{LNASSET}_i$  is the natural logarithm of total assets in equitization years,  $\text{IND}_i$  is the industry dummy variable, and  $\text{EQUIyear}_i$  is the equitization year dummy.

The author estimates the impact of the equitization program using a difference-in-difference matching estimator through the estimation model (2).

With data on participant and control observations before and after program intervention, a difference-in-difference (DID) matching estimator can be constructed. With data over two

privatization periods  $t = (0,1)$ , the local linear DID estimator for the mean difference in outcomes  $Y_{it}$  across participants  $i$  and nonparticipants  $j$  in the common support is given by

$$\text{TOT}_{\text{PSM}}^{\text{DID}} = \frac{1}{N_T} \left[ \sum_{i \in T} (Y_{i1}^T - Y_{i0}^T) - \sum_{j \in C} \omega(i, j) (Y_{j1}^C - Y_{j0}^C) \right] \quad (2)$$

Where  $N_T$  is the number of participants  $i$  and  $\omega(i, j)$  is the weight used to aggregate outcomes for the matched nonparticipants  $j$

There are certain equitized SOEs groups according to hypotheses H2 and H3, the author applies the estimation model (3) and (4) for different groups of average state ownership and industry groups.

$$\text{TOT}_{\text{PSM}}^{\text{DID}} = \frac{1}{N_T} \left[ \sum_{i \in T} (\text{ROA}_{i1}^T - \text{ROA}_{i0}^T) - \sum_{j \in C} \omega(i, j) (\text{ROA}_{j1}^C - \text{ROA}_{j0}^C) \right] \quad (3)$$

Where  $N_T$  is the number of equitized SOEs  $i$  and  $\omega(i, j)$  is the weight used to aggregate outcomes for the matched non-equitized SOEs  $j$

$$d\text{ROA}_i^T = \text{ROA}_{i1}^T - \text{ROA}_{i0}^T$$

$$d\text{ROA}_j^C = \text{ROA}_{j1}^C - \text{ROA}_{j0}^C$$

$$\text{TOT}_{\text{PSM}}^{\text{DID}} = \frac{1}{N_T} \left[ \sum_{i \in T} (\text{TAS}_{i1}^T - \text{TAS}_{i0}^T) - \sum_{j \in C} \omega(i, j) (\text{TAS}_{j1}^C - \text{TAS}_{j0}^C) \right] \quad (4)$$

Where  $N_T$  is the number of equitized SOEs  $i$  and  $\omega(i, j)$  is the weight used to aggregate outcomes for the matched non-equitized SOEs  $j$

$$d\text{TAS}_i^T = \text{TAS}_{i1}^T - \text{TAS}_{i0}^T$$

$$d\text{TAS}_j^C = \text{TAS}_{j1}^C - \text{TAS}_{j0}^C$$

### 3.2.2 Research model to evaluate how tax incentives and listing affect firm performance changes

Hypothesis H4 indicates that tax incentive policy has a direct impact on firm performance changes (dROA and dTAS) of equitized SOEs and firm performance differences of listed firms and unlisted firms in Vietnam. Based on hypotheses from H4, the regression equation can be written as follows:

$$d\text{Perf}_i = \beta_0 + \beta_1 d\text{STATE}_i + \beta_2 \text{TAXAD}_i + \beta_3 d\text{LNEMP}_i + \beta_4 d\text{LEV}_i + \beta_5 \text{LNAGE}_i + \beta_6 d\text{GROWTH}_i + \beta_7 \text{LIST}_i + \beta_8 \text{IND}_1 + \beta_9 \text{IND}_2 + \beta_{10} \text{PHASE}_i + \varepsilon_i \quad (5)$$

Dependent variables ( $dPerf_i$ ) include changes in operating efficiency ( $dTAS_i$ ) and profitability ( $dROA_i$ ).

Explanatory variables include  $dSTATE_i$ ,  $TAXAD_i$  and  $LIST_i$  ( $dSTATE_i$  is change in percentage of state ownership through four-year equitization windows,  $TAXAD_i$  a dummy variable that takes the value of 1 if equitized SOEs have tax incentive advantage after equitization and 0 otherwise and  $LIST_i$  is a dummy variable (1 if equitized SOEs are listed within four years after equitization and 0 otherwise)).

Control variables include the change in the natural logarithm of the average total employees during four-year equitization windows ( $dLNEMPL_i$ ), change in the average leverage during four-year equitization windows ( $dLEV_i$ ), The natural logarithm of the operating year of SOEs ( $LNAGE_i$ ), change in the average sales growth during four-year equitization windows ( $dGROWTH_i$ ), industry ( $IND_1$  and  $IND_2$ ), and equitization phases ( $PHASE_i$ ). Different from the research models proposed by Rakhman (2018), this dissertation applies regression models for cross-section data.

### **3.3 Data and data collection**

This research uses a probability sampling method to choose all SOEs equitized from 2006 to 2015 and 418 non-equitized SOEs in the same period from VGSO. Then, the author compares with the information about equitized enterprises of the steering committee of enterprise innovation and development along with the elimination of enterprises with missing data in the four years before and after equitization. The author eliminates about 5 enterprises with outlier phenomena from the study (due to high negative ROA and high TAS values). Finally, the author keeps 295 equitized SOEs from 2006 to 2015 and 418 non-equitized SOEs in the same period. After identifying propensity scores, the author keeps 295 equitized SOEs from 2006 to 2015 and 414 non-equitized SOEs in the same period for the total sample.

The dissertation adopts firm performance data from 2002 to 2019 to measure firm performance. Data are in the form of repeated cross-section data with two ‘period’ windows (pre- and post-equitization). The performance measures are calculated in average values for four years before and after equitization. There is a lack of genuine panel data in many countries where specific individuals or firms are followed over time. The author also collects data from HNX, HOSE and SSC for listing, stock prices, market index and IPOs data.

### 3.4 Estimation methods

#### 3.4.1 Average treatment effect through propensity score matching

For hypotheses H1, H2 and H3, the author uses a probit model to determine propensity scores to find a control group (non-equitized SOEs) (model 1). Since then, the study uses the average treatment effect to evaluate the policy impact on the changes in the firm performance of two groups of enterprises (models 2, 3 and 4).

#### 3.4.2 Ordinary least square

For hypotheses H4, this study also uses the regression approach of ordinary least squares (OLS) to evaluate the impact of tax incentive policy of the equitization program on firm performance changes and how listing status impacts firm performance changes after equitization.

#### 3.4.3 t-Test for underpricing phenomenon

After calculating IPO short-run and long-run returns, the author applies t-Test to identify whether IPO short-run returns and long-run returns are greater than zero (hypothesis H5).

## Chapter 4. RESEARCH RESULTS

This chapter analyzes firm performance in the pre-post equitization windows by total sample and by specific groups after equitization. This chapter also presents model estimation results and tests the impact of equitization on firm performance changes.

### 4.1 Firm performance of equitized SOEs in the pre-post equitization periods

#### 4.1.1 Descriptive statistics

**Table 4.1. Descriptive statistics of firm performance measure changes**

Variables	Non-equitized SOEs		Equitized SOEs	
	Mean	Std	Mean	Std
dROA	0.005	0.088	0.018	0.092
dTAS	0.012	1.006	-0.089	1.117
AGE	21.162	8.827	21.081	11.543
ASSETe	388,552.7	1,286,468	665,836.1	3,590,453
n	414		295	

Source: Author's data analysis

Descriptive statistics from Table 4.1 show descriptive statistics of firm performance measure changes of both equitized and non-equitized SOEs.

**Table 4.2. Descriptive statistics of certain variables for equitized SOEs (for regression analysis)**

Variables	Observations	Mean	Std	Min	Max
dROA	295	0.018	0.092	-0.535	0.601
dTAS	295	-0.089	1.117	-10.561	5.094
dSTATE	295	-57.511	23.819	-100	-1
dLNEMPL	294	-0.286	0.652	-3.088	2.805
dLEV	295	-0.046	0.416	-1.624	3.245
LNAGE	295	2.927	0.476	2.197	4.205
dGROWTH	295	0.054	29.826	-91.874	77.244

Source: Author's data analysis

**Table 4.3. Descriptive statistics of underpricing and underpricing determinants**

Variable	Obs	Mean	Std. Dev.	Min	Max
AR <sub>i</sub>	112	10.306	87.820	-213.047	419.167
MAAR <sub>i</sub>	112	25.347	90.922	-96.942	518.564

Source: Author's data analysis

Descriptive statistics from Table 4.3 show that firms have different underpricing levels based on AR<sub>i</sub> (%) and MAAR<sub>i</sub> (%). Firms have high underpricing and underpricing is highly dispersed (standard deviation of AR<sub>i</sub> is 87.82% and standard deviation of MAAR<sub>i</sub> is 90.922%).

#### 4.1.2 Firm performance changes of equitized SOEs

The author also uses a pre-post comparison method with t-Test for mean changes and Mann Whitney test for median changes.

**Table 4.4. Firm performance changes of equitized SOEs**

Obs	ROA			TAS		
	Mean/ median before	Mean/ median after	Mean/ Median change	Mean/ median before	Mean/ median after	Mean/ Median change
590	0.019	0.037	0.018**	1.379	1.289	-0.09
	0.011	0.023	0.012***	0.964	0.957	-0.007

Note: \*,\* and \*\*\* denote significant levels at 10%, 5% and 1%.

Source: Author's data analysis

According to the t-Test, equitized enterprises have a significant increase in profitability (ROA increased by 1.8%). However, this study's remarkable result is that equitized enterprises do not improve operating efficiency through TAS.



## 4.2 Quantitative research results

### 4.2.1 The impact of equitization on firm performance of equitized SOEs compared with non-equitized SOEs

**Table 4.5. General average treatment effect with PSM-DID**

dROA		dTAS	
ATE (nnmatch)	ATE (psmatch)	ATE (nnmatch)	ATE (psmatch)
0.0143*	0.015**	-0.126	-0.061
n before PSM: 713 (418 non-equitized SOEs and 295 equitized SOEs)			
n after PSM: 709 (414 non-equitized SOEs and 295 equitized SOEs)			

Note: \*,\* and \*\*\* denote significant levels at 10%, 5% and 1%.

Source: Author's data analysis

Research results show that equitization helps enterprises improve profitability if considering ROA compared with non-equitized enterprises in the same periods. In general, equitization does not help enterprises improve operating efficiency if considered with non-equitized enterprises in the same period.

### 4.2.2 The different impacts of equitization on firm performance of equitized SOEs compared with non-participating firms by different average state ownership rates after equitization

Research results show that equitization only helps firms improve profitability compared with non-participating firms (dROA) when firms are no longer under state control after equitization (average rate of state ownership after four years of equitization is less than 50%). Firms with state ownership less than 20% improve ROA (3.95% on average) after equitization and firms with state ownership from 20% up to 30% also improve ROA (2.75% on average). Also, firms with state ownership from 30% up to 50% improve ROA (2.35% on average). Research results show that there should be fast state divestment and encourage no state control so that equitized firms can improve profitability (ROA) after equitization in Vietnam. Firms with no state control are easy to change and restructure operational activities to maximize profits.

### 4.2.3 The different impacts of equitization on firm performance of equitized SOEs compared with non-participating firms according to industry groups

Enterprises in the first group (agriculture, forestry and fishery sectors) and enterprises in the third group (service sector) do not significantly improve their firm performance compared with non-equitized SOEs in the same period (because the changes in profitability and operating efficiency are not statistically significant).

Equitized SOEs in the second sector (the manufacturing and construction sectors) have improved their profitability (dROA increased by 2.50% on average) after equitization compared with non-participating firms. However, these firms do not improve operating efficiency compared with non-participating firms.

#### 4.2.4 The impact of tax incentives on firm performance changes and firm performance changes between listed and unlisted firms

**Table 4.6. Regression results in firm performance changes**

Variables	dROA		dTAS	
	Coef.	P> t	Coef.	P> t
dSTATE	-0.001***	0.001	0.007	0.122
TAXAD	-0.019	0.113	0.259	0.165
dLNEMPL	-0.0002	0.989	0.256***	0.002
dLEV	-0.027	0.203	0.171	0.691
LNAGE	-0.009	0.389	0.057	0.655
dGROWTH	-0.0003	0.141	0.003	0.111
IND1	0.020	0.291	0.701	0.120
IND2	0.010	0.342	0.399**	0.020
LIST	0.026*	0.055	-0.163	0.258
PHASE	-0.024	0.121	0.169	0.903
_cons	-0.019	0.629	-0.080	0.828
F-statistic/ Prob > F	2.27**	0.014	1.95**	0.038
R-squared	0.1090		0.078	
With Robust Standard Errors	yes		yes	

Note: \*\*\*, \*\*, and \* denote significance levels of 1%, 5%, and 10% respectively.  
The number of observations is 295

Source: Author's data analysis

#### The impact of tax incentive policy on firm performance

The regression results from Table 4.6 show that equitization impacts profitability improvement (dROA) through the change in state ownership after equitization in Vietnam. However, the tax incentive policy generally does not affect ROA improvement. For ROA, improvement in this measure is not only dependent on the profit after tax ad assets also influence ROA improvement.

Results from Table 4.6 show that tax incentive policy does not impact the change in operating efficiency when considering the change in total asset turnover (dTAS). Tax incentive policy does not affect asset turnover change, and this is very reasonable since asset turnover is calculated based on revenue divided by assets, so tax policy does not affect asset turnover change.

#### Firm performance differences between listed and unlisted firms

Listing status has a positive impact on ROA improvement after equitization in Vietnam. This result shows that listed firms have greater ROA improvement than un-listed firms after equitization. The listing may require certain procedures but managers from equitized SOEs should actively have strategic plans for their firms to get listed after equitization.

#### 4.2.5 The underpricing phenomenon in the short run and long run

Research results show that there is no evidence of underpricing when considering the  $AR_i$  (%) value. If we consider the underpricing level calculated by  $MAAR_i$  (%), the research results show that there is an underpricing phenomenon considering the market price. Underpricing calculated by  $MAAR_i$  (%) also reaches an average of 26.129 % and is statistically significant. If classified by industry group, enterprises in manufacturing and construction industries are underpriced at 42.017 %, large-scale enterprises are also underpriced (29.058 %), and IPO firms before 2008 were underpriced (67.564 %). Thus, large-scale enterprises have the underpricing phenomenon if considered market adjustment price. The underpricing level based on market adjustment gives more accurate results (Aggarwal *et al.*, 1993).

Besides, research results show that underpricing no longer exists in the long run and is statistically significant from the twelfth month for  $AR_t$  and from the fourteenth month for  $CAR_{0,t}$ . This result shows that the market adjusts the stock price below IPO offer price in the long run. Underpricing IPOs helps to attract IPO investors because of short-term returns.

### 4.3 Hypothesis testing

**Table 4.7 Summary of hypothesis testing**

No.	Hypothesis	Testing results
1	H1: Equitization helps equitized SOEs improve firm performance compared with non-equitized SOEs.	Reject
2	H2: When considering non-equitized SOEs in the same period, equitization impacts firm performance dissimilarly according to average state ownership rates after equitization	Accept
3	H3: When considering non-equitized SOEs in the same period, equitization impacts firm performance dissimilarly according to industry groups	Accept
4	H4: Tax incentive policy has a direct impact on firm performance changes of equitized SOEs in Vietnam and there are differences in firm performance changes between listed and unlisted firms after equitization	Reject
5	H5: Vietnamese equitized SOEs tend to underprice IPOs when equitization and the underpricing occurs in the short run but overpricing occurs in the long run.	Accept

Source: Author's analysis

## Chapter 5. CONCLUSIONS AND RECOMMENDATIONS

Based on quantitative research results from Chapter 4, this Chapter represents conclusions and some recommendations for the Vietnamese Government, investors, equitized SOEs, and non-equitized SOEs.

### 5.1 Conclusions

*First*, the two matching techniques (direct neighbor matching and nearest-neighbor matching) provide a similar conclusion that the equitized SOEs only improve their profitability (dROA) but do not improve operating efficiency (dTAS) after equitization.

*Second*, Research results show that equitization only helps firms improve profitability compared with non-participating firms (dROA) when firms are no longer under state control after equitization (average rate of state ownership after four years of equitization is less than 50%).

*Third*, there are different firm performance improvements of equitized SOEs after equitization in Vietnam.

*Fourth*, research results show that tax incentive policy generally does not affect ROA improvement and operating efficiency change (dTAS). Listing status has a positive impact on ROA improvement after equitization in Vietnam. This result shows that listed firms have greater ROA improvement than un-listed firms after equitization.

*Finally*, there is evidence to conclude an underpricing phenomenon of IPOs in the short run and an overpricing phenomenon in the long run.

### 5.2 Recommendations

#### 5.2.1 Equitization and firm performance of equitized SOEs compared with non-equitized SOEs

**For small and medium-sized SOEs:** Small and medium-sized SOEs should have clear operational and strategic plans after equitization because equitization does not always help them operate more efficiently (compared with non-equitized SOEs). The Board of Directors or leaders of equitized enterprises needs to develop an efficient divestment process in the equitization plan to submit to the Government. The slow divestment progress has brought many adverse effects on the improvement of firm performance after equitization.

#### **For large-scale SOEs**

Large-scale equitized SOEs should actively participate in equitization programs to improve profitability. Some managers from equitized SOEs should not only focus on their firm performance

changes only without considering non-equitized SOEs in the same periods and this leads to inadequate conclusions or strategies.

The government needs to have criteria for selecting equitized enterprises, in which priority is given to large-scale enterprises in equitization because equitization helps these enterprises improve profitability. At present, Decision 22/2021/QD-TTg only classifies the group of enterprises with the percentage of state retained by the state, but has not paid attention to the firm size. In the coming time, the Government needs to consider adding classification criteria on firm size besides the industry factor into criteria for selecting priority enterprises for equitization, in which priority should be given to large-scale enterprises participating in equitization.

### **5.2.2 The state deregulation and control**

#### **For equitized SOEs with average state ownership below 50% after equitization**

The Vietnamese Government needs to speed up the divestment so that enterprises can reduce state ownership to operate more efficiently due to appropriate management mechanisms, clear operational goals, and operational restructuring. Public choice and new public management theories affirm that enterprises improve firm performance if state representatives do not control these enterprises after privatization.

Decree 91/2015/ND-CP and Decree 32/2018/ND-CP do not include specific periods for divestment based on specific industries. The Government should issue instructions and decisions for divestment periods after equitization so that equitized SOEs managers can strictly follow and shorten equitization progress. The Government should only retain state ownership in key and necessary sectors and should hold below 50% of state ownership in a majority of equitized SOEs to encourage equitization participation and improve firm performance after equitization. The Vietnamese government should apply fast divestment progress like privatization in developing countries, instead of gradualism for equitization.

#### **For equitized SOEs with average state ownership above 50% after equitization**

Investors should not invest in IPOs deals in case equitized SOEs still have state control after equitization to get initial returns. Enterprises with an ownership rate of more than 50% of state ownership after equitization need to propose to the equitization steering committee for quick divestment progress, or if there is a plan to divest, they need to speed up the divestment plan to improve profitability. Non-equitized SOEs should also carefully prepare plans to divest capital and

propose the Government approve the equitization plan with a rapid divestment schedule to improve firm performance.

### **5.2.3 The impact of equitization on firm performance changes according to industry groups**

The Government should consider Decision 22/2021/QD-TTg and other regulations in the future to reduce the number of industries that the State should control equitized SOEs because research results show that only equitized SOEs with no state control can improve profitability compared with non-equitized SOEs.

#### **For agriculture, forestry and fishery and service industry groups**

Non-equitized SOEs in other industry groups (agriculture, forestry and fishery and service) should have clear strategic operation plans after equitization to improve firm performance after equitization. These firms, especially firms in agriculture, forestry and fishery should change technology to improve firm efficiency and performance because they will face competition with private firms in the same sectors after equitization while they do not receive much support after equitization from the State. Vinamilk is a leading brand in the food and beverage industry with high technology and skilled workers. Vinamilk is a successful model for firms after equitization in Vietnam to be ready to fairly compete with both domestic and foreign competitors in the world.

#### **For manufacturing industry**

The government should choose most of the SOEs in this sector to participate in equitization. Other SOEs in the other two sectors should be limited chosen with the condition that managers from these SOEs need to prove suitable plans for improving firm performance after equitization in Vietnam. Decree 150/2020/ND-CP has not mentioned that SOEs in the manufacturing sector should be first chosen for equitization, this Decree mentions that all SOEs should be equitized except for SOEs in sectors that the Government should not equitize. Thus, the Government should issue instructions for choosing equitized SOEs in specific industries because only firms in the manufacturing and construction group tend to improve operating efficiency.

Non-equitized SOEs in manufacturing firms should be confident in registering for equitization because equitization helps these firms improve firm performance compared with non-equitized SOEs in the same period. At present, non-equitized firms are passive to propose an equitization participation plan to the equitization steering committee. Most of these firms do not accept changes and state representatives are afraid to lose control after equitization according to the new public management theory.

## **5.2.4 Incentive policies and listing encouragement**

### **For equitized firms with and without tax incentives**

The Vietnamese Government should have appropriate policies to support equitized enterprises, especially in the first years of the post-equitization period. Research results show that equitized enterprises can not improve firm performance in the first four years compared with non-equitized SOEs (except for dROA) due to difficulties such as new entry into the competitive environment, ownership structure change, lacking competitive ability compared to private enterprises in the same industry.

The Government should apply other subsidies to equitized enterprises such as supporting loans, land leasing and encouraging investment in research and development, green technology sectors like China, UK and Russia. Besides, the Government does not need to continue using corporate income tax incentives because it directly affects the country's budget. Research results show that tax incentives do not help equitized SOEs improve operating efficiency and profitability when compared with non-equitized SOEs. According to the Decree 150/2020/ND-CP, equitized SOEs have similar incentive policies with newly-established firms, including tax incentives and other fee incentives. Thus, the Government should revise this Decree and applies some incentive policies like in China, UK and Russia to create a fair competitive environment, instead of supporting all equitized SOEs.

### **For listed firms**

Research result shows that listed firms have greater ROA improvement than un-listed firms after equitization. Thus, post-equitization companies also need to quickly list on the stock market to contribute to the development of Vietnam's stock market.

### **For unlisted firms**

Equitized SOEs should also actively list their securities on the stock market to raise capital and develop the stock market in Vietnam. Most equitized SOEs do not list immediately after equitization.

Unlisted firms experience no firm performance improvements compared with non-participating firms. Thus, investors should consider carefully before investing in IPOs, and they have to wait when investing in IPO transactions because equitized SOEs are also not listed immediately after equitization.

The Vietnamese Government also needs to encourage firms to list on the official stock exchanges (HSX and HNX) using supportive policies and eliminating unnecessary procedures. Research results show that equitized SOEs delay listing after equitization.

### **5.2.5 Underpricing of equitized SOEs through IPOs**

#### **For firms in manufacturing and construction group**

Firms in manufacturing and construction tend to underprice ( $AR_i$  reaches 21.778% on average and  $MAAR_i$  reaches 42.017% on average). Firm in agriculture, forestry and fishery underprice 27.205% considering  $AR_i$  (%). However, there is no underpricing of firms in the service sector. Thus, Investors also need to consider investing in industries with short-term underpricing (manufacturing and construction, agriculture, forestry and fishery and they should not invest in firms in the service sector (transportation, retail, hotel, tourism, telecommunications, banking goods, insurance and real estate).

#### **For large-scale firms**

Small and medium-sized SOEs do not underprice in the short-run while there is underpricing of large-scale SOEs ( $AR_i$  reaches 15.066% on average and  $MAAR_i$  reaches 29.058% on average). Investors should not invest IPOs deals in small and medium-sized SOEs since they can not get initial returns when firms are listed on the stock market. However, they should invest in large-scale SOEs to get high initial returns. However, there should be a suitable supervisory mechanism for large-scale SOEs to make sure these firms do not underprice too much to lose state capital through IPOs. Underpricing can attract investors to make investment decisions but also lead to the state capital in equitization programs through IPOs.

#### **For equitized SOEs conducted IPOs before and after the economic crisis**

Non-equitized SOEs should analyze economic perspectives and choose a suitable time for proposing an equitization schedule to the equitization steering committee because there is overpricing after the economic crisis, leading to low market stock prices.

To avoid underpricing, the Government should specify more valuation methods to give specific instructions for public organizations to follow and the State Audit Office of Viet Nam can easily re-evaluate the actual value of these organizations to avoid state capital losses, such as discounted cash flow valuation, market value valuation method, etc. Besides, the state audit office of Vietnam should check abnormal firm valuation in equitization plans of SOEs to avoid too much underpricing, leading to unexpected state capital losses.

### **5.3 Limitation of the study and suggestions for further research**

This dissertation has tried to full fill five gaps as stated in chapter 1. However, this dissertation has certain limitations: (1) This study has not considered different assets valuation and depreciation



methods due to data limitation from VGSO; (2) Due to data limitations, the dissertation can not examine how the short-run underpricing affects firm performance changes after equitization in Vietnam; (3) The study has not considered the macroeconomic and micro factors that can affect firm performance after equitization. Thus, research results show that  $R^2$  is only 10.9% (dependent variable of dROA) and  $R^2$  is only 7.85% (dependent variable of dTAS). Also, studying some certain equitized SOEs cases to understand how equitization impacts on firm performance should be conducted since this dissertation mainly focuses on quantitative research methodology. Therefore, the author calls for the next research works to overcome the above research limitations.