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**An empirical investigation  
of the corporate governance and financial performance  
of Vietnamese non-financial listed firms**

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A thesis

submitted in partial fulfilment  
of the requirements for the Degree of  
Doctor of Philosophy

at

Lincoln University

by

Anh Tuan Ha

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Abstract of the thesis submitted in partial fulfilment of the requirements for the Degree of Doctor of Philosophy.

**An empirical investigation of the corporate governance and financial performance of Vietnamese non-financial listed firms**

by

Anh Tuan Ha

During recent decades, corporate governance (CG) topics have attracted attention around the world (Ahrens, Filatotchev, & Thomsen, 2011), including whether CG impacts firm financial performance, a question remains unanswered. Therefore, this study examines the influence of CG features, including board and ownership structures, on the financial performance of Vietnamese non-financial listed firms. The study employs fundamental features of CG such as board size, board gender diversity, board independence, board duality, insider ownership, and blockholder ownership to analyse their likely effects on the financial performance measured by Tobin's Q.

The study uses a panel data of 412 Vietnamese non-financial listed firms during 2010-2015, and employs multiple estimation methods, including the System-GMM estimator to control for the endogeneity issue, and the ordinary least square (OLS) and fixed effects (FE) estimators for comparison purposes.

The study result shows that except for board size and board gender diversity, which have no effect on the firms' performance, the other governance attributes do impact the financial performance of Vietnamese non-financial listed firms. Specifically, board independence and board duality negatively influence the firms' performance. The relationship between insider ownership and the firms' performance is an inverted U-shaped form. When insider ownership is less than 30%, insider ownership positively influences the firms' performance. As the proportion of insiders' shares is above 30%, thus insider ownership negatively affects the financial performance of Vietnamese non-financial listed firms. Meanwhile, ownership concentration and the firms' financial performance form a cubic

relationship. At a low level (less than 25%) and a high level (more than 61%) of ownership concentration, the firms' financial performance is positively related to ownership concentration. However, at the middle level (from 25% to 61%) of ownership concentration, the financial performance is negatively related to ownership concentration. The study results support the argument that there is no "one size fits all" governance mechanism, and help to enrich the understandings of the corporate governance - firm financial performance relationship in developing countries such as Vietnam.

**Keywords:** board structure, ownership structure, financial performance, corporate governance, system GMM; Vietnamese non-financial listed firms

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# Chapter 1

## Introduction

### 1.1 Background of the study

In recent decades, corporate governance (CG) topics have received increasingly substantial attention around the world (Ahrens, Filatotchev, & Thomsen, 2011). According to Claessens & Yurtoglu (2013), the growing attention to CG issues is due to a series of financial crises. During the past 20 years, the world has observed the disastrous consequences of the 1997 Asian financial crisis and the 2008 global financial crisis. One of the underlying causes of these crises is the failure of existing CG systems across countries (Claessens & Yurtoglu, 2013). Following the aftershock of the financial crises, scholars, policymakers, and businesses all around the world have recognised the possible long-lasting severe outcomes of weakly-governed systems challenging their macro economies and business world (Claessens & Yurtoglu, 2013).

CG is derived from and regarded as a solution for the “agency problem”. In the classic work, namely *“The Modern Corporations and Private Properties”*, Berle & Means (1932) state that the “agency problem” is “a consequence of the separation of ownership and control” in the dispersed ownership structure, in which the “conflict of interests” happens between managers who are in control of the firm and stockholders who invest in the firm but they are unable to supervise its daily operations, leading to the likelihood that the managers prioritise their benefits over those of stockholders and misuse the firm’s resources. Therefore, many “internal governance mechanisms” as well as “external governance mechanisms”, today known as the CG mechanisms, were proposed and developed as a solution for mitigating agency conflicts. In other words, the primary objective of CG is to establish the means by which capital providers ensure that they can obtain returns for their investments and create the mechanisms that enable them to supervise managers (La Porta & Vishny, 1997).

In response to the growing concern about the need for a sound CG model, the Organisation for Economic Cooperation and Development (OECD) devised a set of standards and guidelines as early as 1999 (which became known as the Principles of CG and were further revised in 2004 and 2015) to assist policymakers in evaluating and comprehensively improving the law system, the rule and regulation system, and the institution system related to CG, hence promoting economic growth and sustainability and maintaining financial stability. Since then, the Principles of CG introduced by the OECD have become an international “benchmark” for sound CG practices in both OECD and non-OECD countries (OECD, 2015).

Many prior studies on CG show that CG is related to firm performance. For instance, Bhagat & Bolton (2008), Gompers, Ishii, & Metrick (2003) and Klapper & Love (2003) state that sound CG results in an improvement in the financial performance of firms. This is because in better governed firms, shareholders and stakeholders transfer less control power to managers and the managers tend to act to maximize the firms' wealth (Shleifer & Vishny, 1997). From the shareholders' perspectives, Jensen (1986) and La Porta, Lopez-de-Silanes, & Vishny (2002) further indicate that when rigorous CG mechanisms are in place, stockholders have more confidence in obtaining more returns from their investments instead of being taken away by managers.

In emerging countries, the importance of CG as well as its link with the performance of firms has been highlighted. For instance, La Porta & Vishny (1997) and La Porta, Lopez-de-Silanes, Shleifer, & Vishny (2000) state that CG plays a significant role in the growth of financial markets and corporate values across emerging countries. According to La Porta et al., (2000), one of the objectives of CG is to safeguard the benefits of "outside investors" from managers' expropriation. When investors are protected by a good CG regime, they are more willing to invest in the firms. As a result, it becomes easier for firms to mobilise capital either in the form of issuing shares or bonds. Therefore, ensuring the interests of investors (including both shareholders and creditors) will help firms with capital mobilisation and facilitate the growth of both the stock market and the credit market. Likewise, La Porta & Vishny (1997) indicate that countries with a high degree of investor protection will enjoy greater development of the equity market in terms of market capitalisation and the frequency of initial public offering (IPO) than countries with a low degree of investor protection. La Porta et al., (2000) also emphasise the significance of many reforms in CG mechanisms throughout emerging countries from Asia to Latin America and Eastern Europe, where the benefits of these reforms include expanding the financial markets, facilitating the provision of outside capital for establishing new firms, reducing ownership concentration, and promoting the efficient capital distribution. Klapper & Love (2003) state that firms may obtain a partial compensation for an inefficient judicial framework and its implementation by setting up sound CG mechanisms. Claessens & Yurtoglu (2013) in the most recent review on CG in emerging countries find that improved CG systems bring firms more available financial resources, lesser capital mobilisation costs, and better arrangements in treating all stakeholders.

## **1.2 Corporate governance in Vietnam**

Although the importance of CG is widely recognized, according to the World Bank (2007), Vietnam is at an early developmental stage in terms of implementing good CG practices.

### **1.2.1 Corporate governance regulatory framework in Vietnam**

The CG framework in Vietnam encompasses the following documents: (i) Enterprise Law promulgated in 2005, (ii) Securities Law enacted in 2006, (iii) CG Ordinance issued in 2007 applied to listed firms, and (iv) Disclosure and Listing Rules of the Hanoi Stock Exchange (HNX) and the Ho Chi Minh Stock Exchange (HSX). In this framework, Enterprise Law has been regarded as the most fundamental regulatory foundation for the setting up and development of CG standards and practices (Bui & Nunoi, 2008). Enterprise Law 2005 stipulates the mandatory internal CG mechanisms of a joint-stock firm which include four major components: (i) shareholders' meetings, (ii) Board of directors (BODs), (iii) CEOs, and (iv) Supervisory Board (or Board of Supervisors). The shareholders' meeting is the most powerful authority in the management of a joint-stock firm where the most important decision-making is discussed and voted on. Shareholding firms in Vietnam follow a dual board structure in which top management is simultaneously undertaken by both the BODs and board of supervisors. The BODs plays an essential role as a supreme body and representative of all shareholders of a firm. The appointment of board members is determined in the shareholders' meetings.<sup>1</sup> The BODs is authorized to monitor and discipline the CEOs. The number of board directors is at least three but not over eleven<sup>2</sup>. To enhance sound governance practices, firms can appoint non-executive independent members to the board. The supervisory board, also elected by shareholders, is authorized to supervise both the CEOs and BODs. The supervisory board functions include monitoring the performance of CEOs, assessing financial reports, overseeing the information disclosure and communication of the firm, and other oversight roles. Enterprise Law assures supervisory board members of having sufficient information on management activities of the firm. For instance, supervisory board members can be present in BODs meetings as well as receive reports of CEOs which are concurrently submitted to the BODs.

In 2014, the Enterprise Law 2005 was revised. The revised Enterprise Law, which has come into effect since the 1<sup>st</sup> of July 2015, is aimed at promoting the independence of the BODs, reducing the conflict of interests, and improving the accountability as part of the Vietnam government's drive to enhance sound CG practices (IFC, 2015).

Based on Enterprise Law 2005 and the OECD Principles of CG, the Finance Ministry of Vietnam issued the CG Ordinance in 2007 which requires all listed firms to comply with good CG practices with a view to improving CG mechanisms, thereby "ensuring the stability of the financial market and increasing the transparency of the economy"<sup>3</sup>. The Ordinance, revised in July 2012 and September 2017, acts as

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<sup>1</sup> See Enterprise Law 2005

<sup>2</sup> See Article 109 of Enterprise Law 2005

<sup>3</sup> See Decision 12/2007/QĐ-BTC on CG for Vietnamese listed firms issued by the Finance Ministry of Vietnam on 13<sup>th</sup> March 2007

the role of a CG Code that requires all listed firms to comply with it. Accordingly, listed firms incorporate and develop principles and provisions contained in the Ordinance in their firms' charters in implementing the good CG mechanism. The fundamental principles of CG introduced by the Ordinance involve principles in terms of shareholders' rights, shareholders' meetings, BODs, board of supervisors, the conflict of interests and transactions of related parties, and information announcements and transparency<sup>4</sup>.

### **1.2.2 Corporate governance context in Vietnam**

Vietnam is a country with high ownership concentration characterised by the high state ownership. According to the World Bank (2013b), at the end of 2012, 355 listed firms reported having state ownership, of which 244 listed firms have from a 25% state ownership proportion.

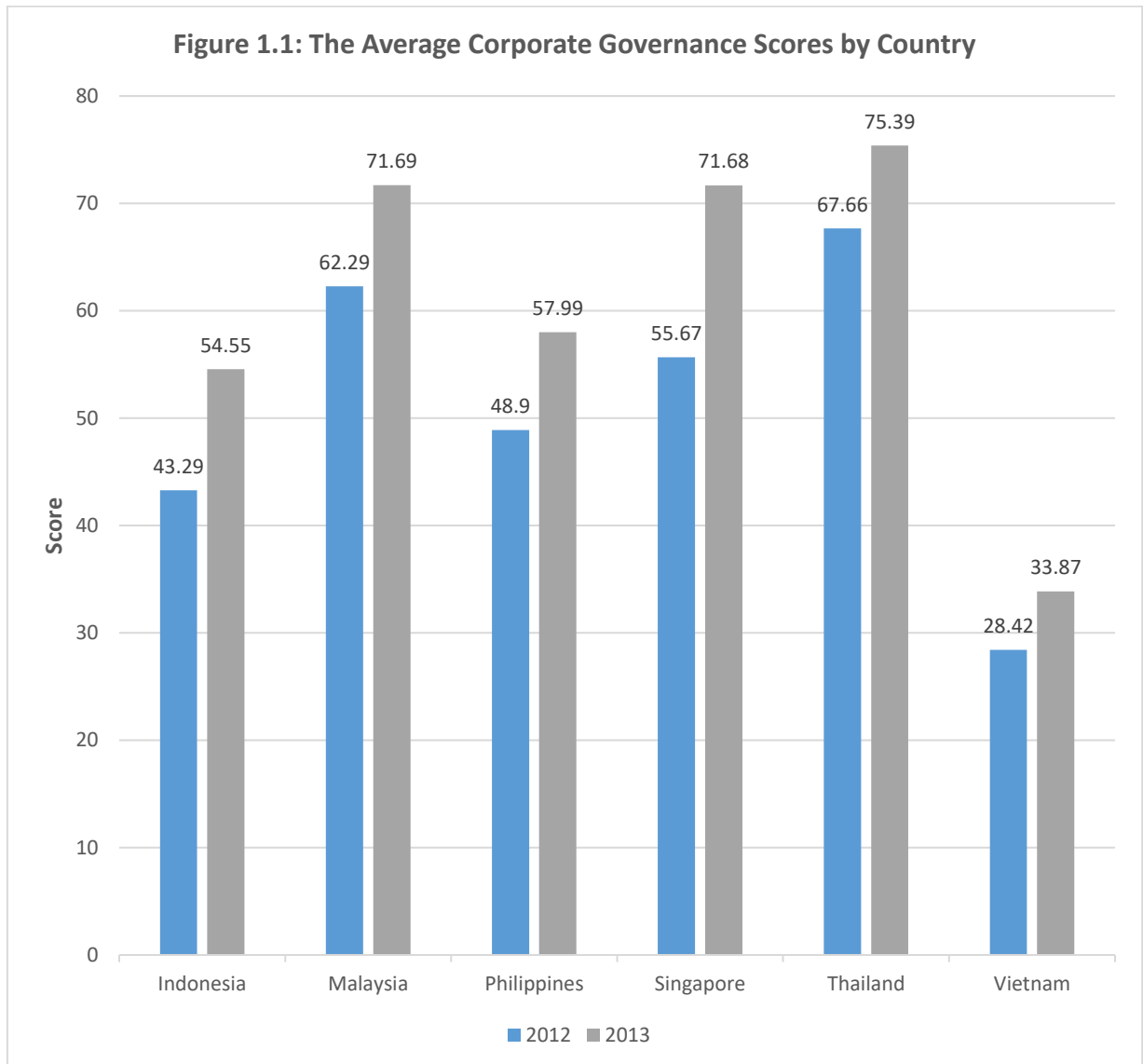
The state continues to play a dominant role. For example, the state dominates "a number of key sectors, with estimated revenue shares of 91 percent in telecommunications, 99 percent in coal, 94 percent in electricity, 51 percent in cement, 26 percent in construction and chemicals, and 21 percent in textiles" (World Bank, 2013b, p.15).

Although the Vietnam government has made significant efforts to effectively implement sound CG mechanisms, CG practices in Vietnam are still underdeveloped. According to the World Bank (2013a), Vietnam is ranked 169<sup>th</sup> among 185 countries in terms of protecting investors' rights. In another report conducted by the Asian Development Bank (ADB) in 2014 based on the scorecard method, the average CG scores of Vietnam in 2012 and 2013 were 28.42% and 33.87%, respectively (see Figure 1.1). Notably, Vietnam's scores are the lowest among the South East Asian countries surveyed, and the gap in these scores between Vietnam and the rest is considerable. Transparency, protection of minority shareholders, and board professionalism and effectiveness are among the weaknesses of CG practices in Vietnam (World Bank, 2013b). Recently, Vietnam has suffered several corporate financial scandals in high profile state owned enterprises and listed firms such as Vinashin Corporation (a leading state-owned enterprise in the ship-building industry) and Asia Commercial Bank and Ocean Bank (listed firms), which shook the confidence of domestic and foreign investors and had unexpected impacts on the sustainable development of the securities market and the ongoing equitisation process of state owned enterprises in Vietnam. Therefore, in the era of global integration accompanied by increased international competition, the question of designing appropriate policies in order to improve the CG

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<sup>4</sup> See Circular 121/2012-TT-BTC on CG for Vietnamese listed firms issued by the Finance Ministry of Vietnam on 26<sup>th</sup> July 2012

framework and practices has increasingly become a central consideration of the Vietnam government and related international organisations.



Source: Adapted from ADB (2014). *“The Asean CG Scorecard: Country Reports and Assessments 2013-2014”*

### 1.3 Problem Statement

Many corporate governance studies focus on CG and listed firm performance in developed markets (e.g., Gompers et al., 2003; Kiel and Nichoson, 2003; Christopher, 2004; Bhagat and Bolton, 2008; Gill and Mathur, 2011). Recently, a considerable amount of research on emerging markets has been conducted (e.g., Klapper and Love, 2003; Mak and Kusnadi, 2005; Mashayekhi and Bazaz, 2008; Jackling and Johl, 2009; Rouf, 2011; Claessens and Yurtoglu, 2013). However, there is a shortage of research in developing markets such as Vietnam, probably because corporate governance is still a new

concept in Vietnam (IFC, 2011) or the data is not widely available. In addition, Vietnam provides a unique environment to investigate the CG - firm performance relationship.

First, Vietnam differs from other developing countries since it is one of the only two developing economies under the communist regime (China is the other) where the State continues to play a dominant role (World Bank, 2013b). As the State is a major controlling shareholder, it often creates “problems for non-controlling shareholders to properly effectuate their shareholders rights” (OECD, 2006, p.71). In a communist developing country, such as Vietnam, characterised by the dominant leadership of communist party through the State power, a weak legal system and poor investor protection (Pham, Oh, & Pech, 2015), CG mechanisms play an essential role to address not only “the conflict of interests between the owners and the managers”, but also “the conflict of interests between controlling shareholders and minority shareholders” (OECD, 2006). The benefits and rights of the “minority shareholders” are a matter of concern of the CG system to ensure that they are protected from the possible expropriation of State ownership. This is a critical matter because the State is the owner and also the policymaker having state power. In this regard, the coexistence of high ownership concentration and high state ownership of a communist country such as Vietnam can provide a unique environment to study CG issues.

Second, from the corporate governance perspectives, high ownership concentration with the high level of State ownership makes the effectiveness of BODs and their composition a critical matter. While the ultimate goal of ordinary shareholders is to maximise the firm’s profits, the goals of State, as an owner as well as a policymaker, might be different. It could be a social goal such as creating more jobs, or a political goal such as protecting local producers from tough foreign competitors (Phung & Mishra, 2016). These goals of State ownership which depart from the goal of ordinary shareholders may influence the effectiveness of BODs in terms of maximising shareholders’ wealth. However, State owned firms are offered many governmental supports such as preferential loans from State banks (Firth et al., 2008). Moreover, political connections of State owned firms may help the firms with bureaucratic requirements (Phung & Mishra, 2016). Because of these favourable treatments from the State, firms with high State ownership have more advantages to improve their financial performance in comparison with other firms (Yu, 2013; Hess et al., 2010).

Regarding the composition of BODs, unlike other countries where the members of the BODs are appointed by stockholders through shareholder general meetings without the interference of the state, in Vietnam, many listed firms transformed from State owned firms have members of BODs or senior managers who are approved by the State authorities (Phung & Mishra, 2016). This may negatively impact the monitoring function of BODs over managers because they are “on the same boat” (Nguyen, 2008), leading to the inefficiency of financial performance. However, the political



relationships may be considered as the “firm wealth” which help State owned firms outperform others (Phung & Mishra, 2016), especially in an environment such as Vietnam where the practice of “ask and give” still exists (Freeman & Nguyen, 2006). Therefore, the high concentration of State ownership in a communist country such as Vietnam is a critical point to study the relationship between CG and firm performance.

There remain limited research in the context of Vietnam. Recently, there have been a few studies on the CG - firm financial performance relationship in Vietnam (e.g Adhikary & Le, 2014; Dao & Hoang, 2014; Nguyen et al., 2015). These studies produce mixed results and mainly focus on examining the impacts of board structure on the firm performance of Vietnamese non-financial listed firms.

This study is the first study to systematically investigate the comprehensive relationships between both board structure as well as ownership structure and the financial performance of Vietnamese non-financial listed firms. In addition, the Ordinary Least Square (OLS) and Fixed Effects (FE) estimators in prior research produce biased results as the endogeneity problems have not been fully addressed. Harris & Raviv (2008), Hermalin & Weisbach (2003), and Wintoki et al., (2012) suggest that financial performance is dynamically linked with CG, which means that past financial performance may influence current governance. The use of OLS and FE estimators that ignore this possible dynamic characteristic of the CG - performance relationship leads to endogeneity problems. Wintoki et al., (2012) suggest that the System Generalised Method of Moments (SYS-GMM) is the most appropriate estimator to examine the CG – firm performance relationship because it can fully address the endogeneity problem by employing internal instruments in the panel in a dynamic framework.

This study employs the SYS-GMM estimator to investigate the association between the financial performance of Vietnamese non-financial listed firms and key determinants of CG including both board structure and ownership structure, namely board size, board gender diversity, board independence, board duality, insider ownership, and ownership concentration. This study attempts to bridge the gaps in prior studies and provides a more comprehensive investigation on the CG - financial performance relationship of non-financial listed firms in Vietnam.

#### **1.4 Objectives of the study**

The present research aims to investigate the relationship between CG and non-financial listed firms' financial performance in Vietnam. The research objectives include:

- (i) To identify the impact of board size on the financial performance of Vietnamese non-financial listed firms;

- (ii) To analyse the relationship between board gender diversity and the financial performance of non-financial listed firms in Vietnam;
- (iii) To determine the effect of board independence on the financial performance of Vietnamese non-financial listed firms;
- (iv) To assess the impact of board duality on non-financial listed firms' financial performance in Vietnam;
- (v) To identify the influence of insider ownership on the financial performance of Vietnamese non-financial listed firms;
- (vi) To study the impact of ownership concentration on non-financial listed firms' financial performance in Vietnam;

### **1.5 Significance of the study**

Firstly, motivated by the recent heightened focus of CG in Vietnam and the shortage of research on this issue, the present study attempts to provide a strong understanding of the CG practices of Vietnamese non-financial listed firms, thereby assisting policymakers, regulators, non-financial listed firms and all kinds of stakeholders in an attempt to promote the implementation of good CG standards and practices in Vietnam.

Second, this study bridges the gaps in prior studies by using the SYS-GMM estimator which effectively addresses the problem of endogeneity in a large sample of 412 non-financial listed firms on the HSX and the HNX in 2010-2015, thereby providing more reliable and comprehensive results.

Finally, this study contributes to the growing CG literature by examining the impact of CG on non-financial firms' performance under the unique environment in Vietnam, where high ownership concentration coexists with high state ownership.

### **1.6 Structure of the study**

The thesis is organised as follows. Chapter Two summarises reviews of the relevant literature on CG and its relationship with firm financial performance. It introduces the definitions and theoretical bases of CG and then it discusses the CG - firm financial performance association in the literature. Building on the literature review, Chapter Two also develops the research hypotheses on the relationship between CG and the financial performance of non-financial listed firms in Vietnam. Chapter Three presents the data collection, definitions of variables, the endogeneity and dynamic relationship between CG and firm financial performance, and the empirical estimation methods used in the study

to investigate the CG - financial performance link of non-financial listed firms in Vietnam. Chapter Four reports the empirical results and findings. Chapter Five presents the conclusions, including the main findings, contributions, implications, and limitations of the study, and provides suggestions for future research.

## **Chapter 2**

### **Literature Review and Hypotheses Development**

Section 2.1 provides the definitions of CG. Section 2.2 discusses the overview of fundamental theories of CG from different perspectives such as “agency theory”, “stakeholder theory”, “resource dependence theory”, and “stewardship theory”. Section 2.3 reviews the empirical findings of the linkage between CG and firm performance and presents the research hypotheses development. Section 2.4 summarizes the chapter.

#### **2.1 Definition of corporate governance**

The definitions of CG vary widely. According to Claessens & Yurtoglu (2013), CG definitions might be classified into two categories. Claessens & Yurtoglu (2013, p.3) suggest that “the first set of definitions concerns itself with a set of behavioural patterns: the actual behaviour of corporations, in terms of such measures as performance, efficiency, growth, financial structure, and treatment of shareholders and other stakeholders. The second set concerns itself with the normative framework: that is, the rules under which firms are operating - with the rules coming from such sources as the legal system, the judicial system, financial markets, and factor (labour) markets.”

Using the first set of definitions of CG, termed as the “narrow approach”, Shleifer & Vishny (1997, p.737) define CG as the means by which capital providers ensure that they can obtain their investment’s returns, prevent managers from misusing the resources of firms in projects that depart from maximising shareholders’ values, and create the mechanisms that enable capital providers to monitor managers. In a similar vein, Sternberg (1998) provides a definition in favour of the shareholders’ perspective describing CG as ways of ascertaining that the entire firm resources are properly utilised in achieving the corporate goals set by the shareholders. Likewise, Monks & Minow (1995) define CG narrowly as the relationship between participants, such as CEOs, managers, stockholders, and employees, in setting the firms’ objectives and performance.

The Cadbury Report (1992) introduces a neutral definition of CG, highlighting the important roles of shareholders and the BODs. It defines CG as “the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders' role in companies is to appoint the directors and auditors and satisfy themselves that an appropriate governance structure is in place. The responsibilities of the board include setting the companies’ strategic aims, providing the leadership to put them into effect, supervising the management of the business and reporting to shareholders on their stewardship. The board’s actions are subject to laws, regulations and the shareholders in general meeting” (Cadbury Report 1992, p.14).

A broader definition considers a CG system as “the complex set of constraints that shape the ex post bargaining over the quasi rents generated by the firm” (Zingales, 1998, p.499). The definition of CG provided by Zingales describes the complexity and the significance of the CG system in terms of determining the profits (quasi-rents) and allocating the profits among the stakeholders of the firms.

The OECD Principles of CG (2004) provide the following very broad definition which is considered as a basis for all OECD countries: “Corporate governance involves a set of relationships between a company’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined. The presence of an effective corporate governance system, within an individual company and across an economy as a whole, helps to provide a degree of confidence that is necessary for proper functioning of a market economy. As a result, the cost of capital is lower and firms are encouraged to use resources more efficiently, thereby underpinning growth.” (OECD 2004, p.11).

This present study follows the definition of CG proposed by the OECD. This is because the study aims to examine the CG - financial performance relationship of non-financial listed firms in Vietnam where the definition and the best practices of CG introduced by the OECD have been incorporated into the current Vietnamese regulatory framework on CG which is followed by all publicly listed firms.

## **2.2 Fundamental corporate governance theories**

This section briefly introduces the fundamental theories of CG, through which CG is reviewed in various perspectives. The present study follows the view that good CG, especially when approached in a broad manner, is difficult to be comprehensively explained by a single theory and thus, the combination of different theories may be relevant to describe good CG practices.

### **2.2.1 Agency theory**

“Agency theory” might be viewed as one of the most fundamental theories to explore the insights of CG. The foundation of “agency theory” was initiated by the classic publication of Berle & Means (1932, p.117), namely "*The Modern Corporation and Private Property*", in which the authors state that where “ownership is widely dispersed”, as the consequence of the “separation of ownership and control”, managers of the firms tend to seek their personal objectives instead of maximising shareholders’ benefits. Jensen & Meckling (1976) further developed this viewpoint of Berle & Means (1932) into “Agency Theory” as it is known today.

In the renowned article published in 1976, namely "*Theory of the firm: Managerial behavior, agency costs and ownership structure*", Jensen & Meckling (1976, p.308) define the “agency relationship as a

contract under which one or more persons (the principal(s)) engages another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent". The problem which arises from the dispersed ownership is that, unlike the managers (the agents) who manage the daily operations of the firm, the owners (the principals) are not always there to follow these daily operations, which results in the likelihood that the managers take advantage of being in control of the firm to prioritise their own interests over maximising shareholders' values (Jensen & Meckling, 1976).

As a consequence, the owner will have to incur "agency costs", which are described by Jensen & Meckling (1976, p.308) as "the sum of (1) the monitoring expenditures by the principal, (2) the bonding expenditures by the agent, and (3) the residual loss". The "monitoring costs" are the expenditures by "the principal" in establishing incentives as well as monitoring systems to direct the actions of "the agent" for the purpose of maximising "the principal's value". The "bonding costs" are the expenditures by "the agent" to follow the established monitoring system. "Residual losses" are some agency losses as "the consequence of the conflict of interests" between the "principal" and "agent" even after monitoring and bonding (Jensen & Meckling, 1976).

"Agency theory" focusses on "the monitoring function" of the BODs in a CG mechanism. According to "agency theory", the BODs is considered as a key "monitoring device", playing a very important role in eliminating the problems arising from the "agency relationship" (Mallin, Mullineux, & Wihlborg, 2005). Tricker (1984) recognises the significance of the board in supervising managers' actions and emphasises the importance of the chairman - CEO relationship. As for the roles of the chairperson and CEO, Williamson (1985) and Fama & Jensen (1983) further posit that the protection of the owners' interests can only be ensured where the positions between the chairman and CEO are divided, or where the CEO's interests are aligned with the stockholders' interests which can be achieved by setting up appropriate incentive compensation schemes.

"Agency theory" mainly focuses on stockholders, BODs and managers of the firm. Meanwhile, other participants in the operations of a firm such as employees, suppliers, buyers or customers, or the environment<sup>5</sup> are not accounted for. A remedy for the agency theory that takes into account these shortcomings is named the stakeholder theory.

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<sup>5</sup> Freeman (1984) views stakeholders as groups and organizations impacted by or which impact the operation of the firm. Stakeholders consist of shareholders, employees, customers, local communities, government agencies and officials, and the environment. The managers should balance the interests of all stakeholders. Therefore, they should protect the environment where the firm is operating.

### **2.2.2 Stakeholder theory**

“Stakeholder theory” was initiated by Freeman (1984) which suggests that a CG mechanism should ensure “protection of the interests of all stakeholders” of the firm. In other words, a governance system should safeguard not only stockholders’ interests as supported by the agency theory, but also other direct interests as well as indirect interests. For example, shareholders, employees, customers and suppliers are among the stakeholders who have direct interests in a firm because they are directly impacted by or impact the operation of the firm. Firms cannot survive without the ongoing contribution of this group of stakeholders. Stakeholders having indirect interests in a firm may include related firms, media and other various interest groups who establish an indirect relation with the firm. They may be indirectly impacted by or influence the operation of the firm, but their participation is not crucial to the firm’s survival since they have no business transactions with the firm (Wheeler & Maria, 1997).

According to Rodriguez, Ricart, & Sanchez (2002), stakeholders can be classified into three categories as “consubstantial, contractual and contextual stakeholders”. “Consubstantial stakeholders” are described as stakeholders who determine the survival of a firm. They may be stockholders, employees, and strategic partners. “Contractual stakeholders” are regarded as stakeholders having several types of official contracts with the firm. They may include suppliers, buyers or customers, and financial institutions. Meanwhile, “contextual stakeholders” can be understood widely as the social, economic and political environments or people and organisations surrounding and relating to the firm’s operation. Thus, related government agencies and officials, local communities and societies, and the environment where the firm operates are among the “contextual stakeholders” of the firm.

March & Simon (1958), among others, indicate that each group of stakeholders can contribute to providing particular resources to the firm. In return, each group also has expectations towards the firm in protecting the group’s interests. Friedman & Miles (2006) indicate that the firm can be regarded as “a grouping of stakeholders”. The goals of the firm are to manage the interests, requirements, and viewpoints of these groups of stakeholders, built on moral principles.

The authors further indicate that the managers of the firm play an important role in managing stakeholders’ interests. The managers should run the firm in the ways that guarantee the rights and decision-making participation of every group of stakeholders. In addition, the managers should also serve as “the agents of the shareholders” in order to ensure that the firm will survive, and the long-term stakes of every group will be protected.

### **2.2.3 Resource dependence theory**

Developed in the late 1970s by Pfeffer & Salancik (1978), “resource dependence theory” focusses on the important role played by “non-executive directors”. This theory suggests that the participation of “non-executives” on the BODs may contribute to providing critical resources to the firm.

According to “resource dependence theory”, the BODs is considered as “the provider of diversified resources” to the firm, which is referred to by Hilman & Dalziel (2003) as the “board capital”. Board capital, according to Hilman & Dalziel (2003, p.383), can be in the form of “human capital (experience, expertise, reputation) and relational capital (network of ties to other firms and external contingencies)”. For example, non-executives on the board can provide the CEO with occupational expertise and useful suggestions to help the CEOs to formulate and implement the firm’s development strategies. Furthermore, they may also help the firm to access external resources that enable the CEOs to control uncertainties more efficiently. Non-executive directors may help a firm to access financial sources (Thompson & McEwen, 1958). For example, a firm which borrows money from banks may opt for appointing an official of a bank as the firm’s non-executive director to help arrange and facilitate the firm’s access to funds from banks. Therefore, non-executive directors might contribute in a number of ways to a firm, from their expertise to their individual networks and financial sources, and thereby improving the firm’s performance (Hilman & Dalziel, 2003).

### **2.2.4 Stewardship theory**

“Stewardship theory” was initiated by Davis, Schoorman & Donaldson (1997, p.25). In their paper, the authors suggest that “a steward protects and maximises shareholders’ wealth through firm performance, because by so doing, the steward’s utility functions are maximised”. Under this viewpoint, “stewards” are the managers and executives of the firm and they act towards the interests of stockholders. This is because the stewards integrate their objectives with the objectives of the firm (Donaldson & Davis, 1991).

Stewardship theory pays attention to the motivation forms of executives and managers, which are developed by organizational theory. Managers are considered as faithful and committed to the firm, and keen on gaining great performance. The managers’ aspiration towards having an excellent performance is the main drive which induces them to attempt to get their job accomplished (Davis et al., 1997). According to McClelland (1961) and Herzberg, Mausner, & Snyderman (1959), there are incentives in the non-financial form for managers. For example, managers are motivated by attaining their satisfaction through hard work, fulfilling their responsibility with shareholders, and hence achieving appreciation and acknowledgement from their colleagues and bosses. Similarly, Daily,



Dalton, & Cannella (2003) posit that the incentive for executives and managers to maximise their firms' performance and stockholders' values is to protect their reputation.

In addition, the theory supports the combination of the chairperson and CEO. According to Donaldson & Davis (1991), the combination of the chairman and CEO will help decrease "agency costs" as well as improve the significant role of stewards. Brickley, Coles, & Jarrell (1997) further explain that the cost of splitting the roles of the chairman and CEO might outweigh the benefits. Given the separation of the chairman and CEO, there will be information sharing costs between them and also incentive costs that are connected with the succession processes through which the CEO is promised the chairperson position. Moreover, when the CEO compensation is associated with the firm's wealth, this may cause the CEO to avoid risks, which can be a cost in some cases (Zajac & Westphal, 1994). If the chairman is also the CEO, then the firm does not have to pay more to hire a CEO from outside the board. In addition, CEO duality "creates a unity at the top of the organization", which is more efficient to reach the goal of "profit maximization" within the organizations (Donaldson & Davis, 1991).

## **2.3 Corporate governance and firm financial performance**

As discussed in the previous section, CG is a concept derived from "agency theory". The fundamental purpose of a CG system is to deal with "agency problems". The achievement of CG largely depends on the efficiency of the CG mechanism (or CG structure).

Scholars often categorize the CG mechanism into two types, namely "internal and external CG mechanisms". According to Gillan (2006), the "internal governance mechanism" includes the BODs, ownership structure, corporate rules and internal control system. The external mechanism is another kind of CG mechanism that may contribute to control the potential conflict of interests arising from the stockholders-managers' relationship, which is performed through the environment in which firms operate (Gebba, 2015). The external CG mechanism consists of "the legal system, the judicial system, financial markets, and factor (labour) markets" (Claessens & Yurtoglu, 2013, p.3).

This study focuses on the impact of two important "internal CG mechanisms", including (i) board structure and (ii) ownership structure on Vietnamese non-financial firms' performance.

### **2.3.1 Board structure and firm financial performance**

The BODs is a crucial mechanism in the governance of modern firms (Guest, 2009; Gillan, 2006). Fama & Jensen (1983) suggest that the BODs is at "the apex of the system of internal controls" of firms. The primary functions of the board are to align the benefits of stockholders and those of managers, punish or fire underperforming managers who are unable to contribute to increasing firms' values, or expropriating the firms' resources. There are several features regarding the board structure. This study

selects four proxies of board structure, including board size, board gender diversity, board independence, and board duality to investigate their effects on non-financial listed firms' financial performance in Vietnam.

### **2.3.1.1 Board size and firm financial performance**

Board size is viewed as “an important attribute of board structure” (Nath, Islam, & Saha, 2015, p.107). It is defined as “the total number of directors” on the BODs (Guest, 2009, p.396). The main functions of the BODs are to supervise managerial performance, provide expertise (in forms of skills, experience, advice, etc.) to CEOs, and give access to diversified resources (Hilman & Dalziel, 2003; Adams & Ferriera, 2007; and Fama & Jensen, 1983).

Through the CG literature, there exist various arguments relating to the nexus between board size and firm financial performance. Several scholars suggest that a larger board tend to benefit a firm for many reasons. First, a larger board may bring more “potential networking and skilled personnel” to the firm, thus improving the quality of strategic decisions (Kiel & Nicholson, 2003). Secondly, larger board size may possess more collective information, which may result in to higher performance (Dalton & Dalton, 2005; Lehn et al., 2004). Third, larger boards with additional outside directors may bring independence into the boardrooms, and hence provide better monitoring (Raheja, 2005).

However, other arguments propose that the firm with a larger board may have some disadvantages. These disadvantages can be “free rider” issues and coordination ineffectiveness. First, it is harder for a large board to organise board meetings and obtain agreement, which generate a slow-speed, less efficient decision-taking process (Jensen, 1993). Likewise, Lipton & Lorsch (1992) state that it is more difficult to obtain board cohesiveness in a large board due to different points of view, coupled with less readiness to share a common purpose by the board members. In a similar vein, Hermalin & Weisbach (2003) suggest that a small BODs can “coordinate and communicate better” and “make decisions faster”. Secondly, according to Lipton & Lorsch (1992), director “free riding” rises as the cost to a director who fails to exercise diligence is reduced as a result of greater board size. Moreover, Lipton & Lorsch (1992) and Jensen (1993) posit that when the board size rises over a certain point, the disadvantages prevail over the benefits of having a greater board size, resulting in a decrease in firm performance. For example, Lipton & Lorsch (1992) recommend that board size should not be over eight/nine directors. Similarly, Jensen (1993) reports that as the number of directors rises over seven/eight people, the board is likely to perform less efficiently and is “more easily controlled” by the CEO. However, Hermalin & Weisbach (2003) argue that there may not be an optimal board size for all firms. Diversified firms which operate in numerous sectors may need more advice, counsel and discussions; therefore a larger board might be more efficient for these firms. This argument is consistent with those of Klein (1998) who asserts that “the type and magnitude of advice” a CEO needs

are dependent on the size and complexity of the firm. In addition, it is also seen that board size varies across industries as Adams & Mehran (2003) show that manufacturing firms have significantly smaller boards than those in the banking sector.

Studies that empirically focused on developed countries (i.e, the U.S and UK) broadly provide consistent evidence of an adverse effect of board size on firm financial performance, but those in developing countries, especially Asian countries, produce mixed results. For example, Yermack (1996), analysing the data of 452 large firms operating in the industrial sector in the U.S over the period from 1984 to 1991, finds an inverse effect of board size on Tobin's Q, and posits that more directors in boardrooms may lead to a decrease in the board effectiveness. Guest (2009) who examines 2,746 listed firms in the UK during 1981-2002 period also reports that board size strongly and negatively influences the firms' profits, stock returns and Tobin's Q. Similarly, Gill & Mathur (2011) examine 166 listed firms in Canada over the period 2008-2010 and posit that the firms' performance is adversely associated with board size. Conyon & Peck (1998) use five European countries data for the period 1992-1995 and show an inverse relation between board size and the performance of firms. Conversely, research in developing countries have produced inconsistent results. Haniffa & Hudaib (2006) on studying 347 listed firms in Malaysia for the period 1996-2000 find that board size positively impacts the firms' performance. This is similar to Dwivedi & Jain (2005) who also find a positive impact of board size on the performance of Indian firms based on the data of 340 firms during 1997-2001. However, Mashayekhi & Bazaz (2008), using Iranian listed firms data, document that board size adversely impacts the firms' financial performance. Rouf (2011) shows that small board size improves firms' value in Bangladesh.

It is also noted that the major issue when investigating the influence of board size on firm performance is the potential endogeneity problem (Wintoki et al., 2012). There are "three sources of endogeneity", that is (i) unobserved heterogeneity where both firm performance and board size are affected by "unobservable firm specific factors", (ii) simultaneous endogeneity where board size and firm performance have simultaneous causality, and (iii) dynamic endogeneity where the current value of the board size is determined by the past value of performance. Using the OLS or FE estimators may lead to spurious results because the OLS estimator ignores the fixed effects of the firms, hence cannot control for unobserved (time-invariant) heterogeneity which leads to biased and inconsistent results (Wintoki et al., 2012, p.582). The FE estimator controls for unobserved heterogeneity, but in a dynamic framework, the estimates may be also biased when they do not allow current governance to be impacted by past performance (Wintoki et al., 2012; Flannery & Hankins, 2013). Wintoki et al., (2012) suggest that CG variables, including board size and other board structure, are dynamically related to firm performance. The SYS-GMM method is "the most appropriate" to analyze the CG - firm performance relationship in "a dynamic framework".

Empirical studies with Vietnam's data produce inconclusive results. Adhikary & Le (2014) study 58 large Vietnamese listed firms on the HSX from 2007-2009 and report that board size positively influences ROE and ROA, but insignificantly impacts Tobin's Q. Dao & Hoang (2014) examine 30 Vietnamese listed firms selected for VNindex 30 in 2012 and document that board size is positively linked with ROE. Meanwhile, Vo & Phan (2013) analyse 77 Vietnamese listed firms on the HSX for the period 2006-2011 and show an adverse impact of board size on ROA.

The influence of board size on firm performance may differ from country to country on the ground that the roles and functions of the board may vary across countries because of the differences in the institutional and legal environments (Guest, 2009). In Vietnam, according to LOE 2005, the BODs of a firm must have at least three but no more than eleven members. Vietnam has considerable variances in management culture in comparison with the international practices. For example, Vietnamese management does not appear to share managerial power (Truong, Swierczek, & Dang, 1998). Thus, the cost of coordinating and sharing information among the BODs, board of management and supervisory board in Vietnam may be high. We propose the first hypothesis of the present study as follows:

**Hypothesis 1:** Board size has a significantly negative impact on the financial performance of Vietnamese non-financial listed firms.

### **2.3.1.2 Board diversity and firm financial performance**

During recent decades, board diversity has been one of the most critical CG issues. Kang, Cheng, & Gray (2007, p.195) provide the definition of "board diversity as the variety in the composition of the board of directors". Similarly and in more detail, Ingley & Walt (2003, p.8) describe board diversity as "the varied combination of attributes, characteristics and expertise" that board members possess. Board diversity is generally in the form of either "observable (or demographic) diversity" or "unobservable (or non-observable or cognitive) diversity". "Observable diversity" consists of age, gender, nationality and race/ethnic background. Erhardt, Werbel, & Shrader (2003) and Kang et al., (2007) suggest that "non-observable diversity" includes experience, technical skills, educational background, and organization membership.

It is commonly thought that board diversity can increase financial performance. Board diversity will enhance board independence as members of the BODs belong to "different backgrounds, cultures, and nationalities". Board independence will be increased through "asking various questions" which will "improve the board discussion", "increase the creativity and innovation" and "provide new insights and perspectives" to the board (Rose, 2007; Carter, Simkins, & Simpson, 2003).

Nevertheless, studies to date provide mixed results about the correlation between board diversity and firm financial performance. Some research shows evidence that there is a positive association between them. For example, Carter et al., (2007), using all Fortune 500 listed firms in 1998-2002, postulate that board diversity positively impacts Tobin's Q. Their result is similar to that of Erhardt et al., (2003) who study 112 firms in the Fortune 1000 for the period 1993-1998 and find a positive board diversity- firm performance linkage measured by ROA and ROI.

Some other research shows a negative effect or no effect of board diversity on financial performance. For instance, Wang & Clift (2009) analyse the relation between ethnic and gender diversity and firm performance measured by ROE, ROA, and shareholder returns, employing 243 large Australia firms for the period 2003-2006, and indicate that diversity does not affect the firms' performance. Similarly, Marinova, Plantenga, & Remery (2010) and Randoy, Oxelheim, & Thomsen (2006) study European firms and fail to find any significant correlation between the firms' financial performance and board diversity. Zahra & Stanton (1988) study the influence of ethnic and gender diversity on ROE and EPS using 100 firms in Fortune 500 in the year 1980 and document that board diversity negatively influences the firms' financial performance. Similarly, Dobbin & Jung (2011) show that the greater board gender diversity results in significant decreases in stock value. The argument that supports a negative effect of board diversity on firms' financial performance is that board diversity may "slow down the decision-making process" (Hambrick, Cho, & Chen, 1996) or lead to greater disagreement and ineffective communication, which counter or prevail over the benefits of wider views (Dobbin & Jung, 2011).

In recent years, board gender diversity, as one important feature of board diversity, has become the topic of many empirical studies (Rhode & Packel, 2014). The increasing focus on the board gender diversity theme in academia coincides with the recent movement in European countries to support greater participation of women in the boardroom as the result of the concern about the lack of gender equality. To date, as many as sixteen countries have set quotas to promote female participation on the board (Rhode & Packel, 2014). The European Union has set a target of having 40 percent female non-executive directors in large firms by 2020, while Germany recently introduced legislation mandating 30 percent gender diversity of non-executive directors from 2016. Norway also introduced a quota of 40 percent gender diversity in 2003 for compliance by 2009 (Rhode & Packel, 2014). Spain followed Norway, enacting a law requiring all listed firms to increase the proportion of female members on the BODs to 40 percent by 2015. In Sweden, the participation of females on the board is also a legal requirement (Medland, 2004). Unlike Norway and some other European countries, where gender quotas are introduced, the interference of the government in Asian countries is less apparent (UNDP, 2010).

According to Low, Roberts, & Whitling (2015) and Carter, Simkins, & Simpson (2010), “agency theory” and “resource dependence theory” are considered as theoretical foundations that support the greater representation of females on the BODs.

From the “agency theory” perspective, Francoeur, Labelle, & Sinclair-Desgagne (2008) hypothesise that females often give a fresh viewpoint on complicated matters, thereby assisting the board to reconcile the differences in viewpoints and information in boardrooms with regard to solving problems and setting business strategies. Moreover, women tend to put forward questions on concerned issues (Bilimoria & Weeler, 2000) and take an active role on their board, resulting in increased civilised behaviour and improved CG (Virtanen, 2012; Singh & Vinicombe, 2004). Furthermore, boards with increased numbers of women monitor reporting systems more effectively and thus help to ensure the accuracy of the outcomes (Srinidhi, Gul, & Tsui, 2011) and improve the quality of information dissemination to the public (Gull, Irshad, & Zaman, 2011). Therefore, the participation of women on the BODs is expected to lead to a reduction of the principal-agent problem, and thus obtain better performance outcomes.

“Resource dependence theory” views “the board as the provider of diversified resources” to firms, which Hilman & Dalziel (2003) termed as “board capital”. The women’s participation in the boardroom can promote creative and innovative solutions for a firm and thereby improve the problem solving efficiency because the greater diversity on boards can contribute various viewpoints which results in more solutions to the problems the board faces (Rose, 2007). Furthermore, the participation of females on the board may bring greater understanding of the marketplace. As the markets become more and more diversified, the diversity in demand from the firm’s potential buyers or customers can be better satisfied by diversifying the firm’s views which improve the firm’s capability to enter into these diverse markets and as a result lead to generating more value for the firm (Campbell et al., 2008; Carter et al., 2003).

Despite the substantial theoretical support for increased gender diversity on boards, a relationship between financial performance and gender diversity is inconclusive. Adams & Ferreira (2009, p. 305) posit: “The literature on diversity also has ambiguous predictions for the effect of diversity on performance.”

Carter et al., (2003) report a positive link between the participation of females on the BODs and Tobin's Q of 638 firms in Fortune 1000. Likewise, Erhardt et al., (2003) show a positive effect of the female directors’ percentage and the performance of 127 large U.S firms measured by ROA and ROI. Similarly, Campbell & Mínguez-Vera (2008) find a positive impact of board gender diversity on the performance of listed firms in Spain. In the Asian context, Julizaerma & Sori (2012) show that board gender diversity positively impacts the financial performance of Malaysian listed firms. Liu, Yu, Wei, Zuobao, Xie, &

Feixue (2014) analyse the impact of gender diversity on the financial performance of 2,000 Chinese listed firms during 1999-2011 and also show a positive link between board gender diversity and the firms' performance measured by ROS and ROA. In a cross-country research of 3,876 listed firms in 47 countries in 2010, Terjesen, Couto, & Francisco (2015) demonstrate that firms with more women directors exhibit greater financial performance measured by Tobin's Q and ROA. Similarly, in another cross-country research, Low et al., (2015) examine 5,503 Asian firms in South Korea, Singapore, Malaysia and Hong Kong, and show that board gender diversity positively influences the firms' performance measured by ROE.

Meanwhile, some other studies show no linkage between board gender diversity and firm financial performance. Gregory-Smith, Main, & O'Reilly (2014) investigate the relation between board gender diversity and firm performance measured by ROA, ROE, market-to-book value, and total shareholder returns, based on 350 large UK firms for the period 1996-2011 and conclude that gender diversity has no impact on the firms' performance. Similarly, Rose (2007) documented that gender diversity does not influence the financial performance of Danish listed firms over the period 1998-2001. Rose's finding is similar to that of Farrell & Hersch (2005) who use the U.S data and find no impact of additional female directors on ROA.

Several empirical studies show a negative effect of increased gender diversity on firms' financial performance. Ahern & Dittmar (2012) study the impact of gender quotas on financial performance in Norway, where 40 percent of directors are required by law to be female. The authors examine 248 firms from 2001 to 2009 and find that the quota is linked with a significant decrease in Tobin's Q. Darmadi (2011), studying Indonesian listed firms, suggests that the presence of female members on the BODs negatively impacts Tobin's Q and ROA. Further, the author explained that the nomination of women to the BODs in Indonesia might be the result of family relationships instead of the expectations of their great contributions in terms of skills and knowledge; hence resulting in a decrease in the firms' financial performance. The arguments on the drawbacks of the participation of female directors on the BODs is that greater board gender diversity tends to communicate less frequently in the boardroom (Cox & Blake, 1991; Earley & Mosakowski, 2000). In addition, gender diversity might generate some differences and inconsistencies on the BODs and slow down decision-making processes since male directors and female directors have dissimilar leadership styles (Litz & Folker, 2002; Fenwick & Neal, 2001). Because of the problems in coordination and communication generated by board diversity, it may be difficult for the firm with a diverse board to have a fast decision-making process.

A more complex result is provided by Adams & Ferrera (2009), who examine 1,939 U.S firms during the 1996-2003 period and posit that firms with more females on boards organise meetings more frequently, enjoy greater rates of attendance, have higher participation in decision-making processes,

have greater degrees of supervision, and are more likely to fire CEOs if necessary. Greater representation of women in boardrooms negatively influences the financial performance of firms with sound governance and positively impacts the performance of weakly-governed firms. These findings reveal that while increased gender diversity on the BODs may lead to greater monitoring of the board, it does not always lead to increased firm financial performance. Over-monitoring of the board may decrease shareholder values (Adams & Ferrera, 2009).

In summary, although the greater gender diversity on boards is theoretically supported, the findings from empirical studies show ambiguous evidence regarding whether greater board gender diversity would lead to an improvement in firm financial performance. Campbell & Minguez-Vera (2008) explain that the inconclusive empirical findings are the consequences of the difference in sample timeline and country context, inappropriate estimation methodologies, such as the absence of relevant control variables such as leverage and firm size, or the failure to take into account potential endogeneity issues.

Vietnam provides an interesting context in which the relationship between gender diversity and firm financial performance should be explored as to date, although board gender diversity is widely supported, there have not been any explicit regulatory initiatives or guidelines to promote women's participation on the BODs. In such an environment, women would be appointed to the board based on their expected positive contributions rather than as a response to external pressure to make appointments of women. This environment enables us to analyse the significance of gender diversity in the absence of external influences. Until now, research on the linkage between board gender diversity and firm financial performance using Vietnam's data have produced mixed results. For example, To (2011) who investigates the 100 largest listed firms in 2009 fails to find any significant impacts of board gender diversity on Tobin's Q. Adhikary & Le (2014) examine 58 large firms listed on the HSX from 2007 to 2009 and report a negative effect of board gender diversity on Tobin's Q, but no effect on ROA and ROE. Vo & Phan (2013) study 77 firms listed on the HSX from 2006 to 2011 and find a positive relation between gender diversity and ROA. Most recently, Nguyen et al., (2015) examine the link between board gender diversity and firm financial performance using a dynamic model framework to control for the endogeneity problem. Analysing 122 Vietnamese non-financial listed firms for the period 2008-2011, the authors also indicate that board gender diversity positively affects Tobin's Q. Based on the empirical suggestions of Nguyen et al., (2015), the following relationship is hypothesized:

**Hypothesis 2:** Board gender diversity has a significantly positive effect on the financial performance of Vietnamese non-financial listed firms.



### **2.3.1.3 Board independence and firm financial performance**

In recent decades, the importance of board independence with the presence of “non-executive” or “independent directors” on the BODs has been increasingly highlighted by regulators and shareholders activists. The Higgs Report (2003) in the UK suggests that the board should have more than 50 percent of directors as “independent, non-executive members”. The U.S has also introduced the same requirement (Holmstrom & Kaplan, 2003). The efficiency of the board monitoring function over managers is considered to be linked with the board independence (Fama & Jensen, 1983; Jahra & Pearce II, 1989).

The appointment of “independent directors” is strongly supported by “resource dependence theory” and “agency theory”. From the “agency theory” perspectives, “outside directors” are appointed since they are believed to be “independent and free from conflicts of interest” (Ameer, Ramli, & Zakaria, 2010). They could be experts from various fields and may provide independent views and judgement required for strategic decision-taking processes by the BODs, which create values for firms (Dalton, Daily, Johnson, & Ellstrand, 1999; Fields & Keys, 2003). In addition, independent board members may be more motivated to safeguard stockholders’ benefits in order to maintain a good reputation (Fama, 1980). According to “resource dependence theory”, “outside directors” can be seen as a valued “source of external resources and information” for firms (Hilman & Dalziel, 2003; and Fama & Jensen, 1983) and essential for firms in “perceiving external risks” and devising ways to safeguard the firms against them (Ehikioya, 2009).

However, proponents of “stewardship theory” argue that “executive directors” have more advantages than “non-executive directors” in terms of overseeing managers since “executive directors” possess greater firm-specific information on daily business operations (Baysinger & Hoskisson, 1990) which enables them to make appropriate and informed decisions and address problems more efficiently. Furthermore, “non-executives” are often part-time members of the board and hence, the degree of their overseeing is minimized and their access to specific information required for making decision is limited (Bozec, 2005). Consequently, the appointment of “non-executive board members” may lead to an adverse impact on corporate performance. Weisbach (1988) also suggests that “non-executive directors” have less motivation to supervise management.

Empirical studies of the developed world on the board independence - financial performance relation generate inconclusive results. Studying the U.S market, Rosenstein & Wyatt (1990) show that there exists a positive effect of the outside directors’ participation on firm performance. However, other research such as those of Klein (1998) and Yermack (1996) report that the appointment of “external directors” does not impact financial performance. Meanwhile, Agrawal & Knoeber (1996) show that the proportion of “outside directors” on boards adversely influences firms’ financial performance.

Outside the U.S, Krivogorsky (2006) investigates European firms' data and documents that the proportion of "non-executives" is positively linked with financial performance. Similarly, O'Connell & Cramer (2010) find that the increasing number of board "non-executives" may lead to an improvement in the financial performance of firms in Ireland. Likewise, Dehaene, De Vuyst, & Ooghe (2001), analysing 122 large (listed and nonlisted) firms in Belgium, show that "outside directors" on boards positively influence ROE, but do not impact ROA. Moreover, the authors indicate that the significance of "external directors" appears to be greater for listed firms in comparison with nonlisted firms or holding firms or firms having only one blockholder (those who possess over five percent). Dehaene et al., (2001) also show a positive effect of the proportion of "external directors" on firm size and this effect varies considerably from industry to industry.

Many studies in developing countries also show mixed results. For example, (Chang, 2004), studying Malaysian firms, demonstrates that financial performance exhibits an adverse link to board independence. Jackling & Johl (2009) also show an inverse effect of "external directors" on firm performance. In contrast, there are positive impacts of the independent directors' participation on the firms' financial performance in South Korea (Choi, Park, & Yoo, 2007) and Iran (Mashayekhi & Bazaz, 2008).

Empirical studies based on Vietnam's data generally show an adverse effect of board independence on firm performance. Adhikary & Le (2014) study 58 large firms listed on the HSX in 2007-2009 and report an adverse correlation between board independence and ROE and ROA, but no significant link with Tobin's Q. To (2011) analyses the 100 largest firms in the year 2009 and find an inverse effect of board independence on Tobin's Q. Likewise, Dao & Hoang (2014), examining 30 listed firms in VNindex 30 in the year 2012, suggest board independence adversely influences ROE. Meanwhile, Vo & Phan (2013) employing 77 listed firms on the HSX covering six years from 2006 to 2011 report an insignificant relation between board independence and ROA.

In Vietnam, due to the limited source of independent director candidates, it is difficult for listed firms to select appropriate people as their "independent directors". As a consequence, the efficiency of "independent directors" is questionable. In addition, according to Haniffa & Hudaib (2006), in a majority of emerging countries, the appointment of independent directors is made for political and business connections, rather than for expected expertise contributions. As a consequence, the firms' performance may not rely much on the participation of "non-executive members" on boards. Thus, the following relationship is hypothesized:

**Hypothesis 3:** Board independence has a significantly negative effect on the financial performance of non-financial listed firms in Vietnam.

### **2.3.1.4 Board duality and firm financial performance**

Board duality is considered as “the practice of a single individual serving as both CEO and board chair” (Krause, Semadeni, and Cannella, 2013, p.256). Board duality has attracted much attention for more than twenty years (Krause et al., 2013) following the outbreak of large U.S corporate scandals. One of the underlying causes of these scandals is that the powerful CEOs abuse their power to expropriate the interests of firms and shareholders. Since the 1990s, many regulators and governance activists have been pushing firms to split the roles of the board chair and CEO with a view to achieving independent leadership on the board to avoid any “conflicts of interest”. It started from 1992 when the Cadbury Report called for a separation of the positions of the chairperson and CEO. In the U.S, many proposals that call for a separation of the top two positions were introduced in 2009 by the U.S Congress and in 2010, under the Dodd-Frank Act, the Security Exchange Commission issued rules that oblige listed firms to disclose the reasons behind their board leadership structure (Dodd-Frank Act, 2010).

Under the pressure of splitting the positions of the board chair and CEO, the shift to separate chairman/CEO roles has been seen across countries. According to a study conducted by Russell Reynolds Associates, in the U.S, 44 percent of S&P 500 firms in 2011 separated the roles of the board chair and CEO, a considerable increase from only 21 percent in 2001. Similarly, 62 percent of NASDAQ 100 firms in 2011 split the positions of the chairman and CEO from only 45 percent in 2005. In Europe, the trend to separate the chairman and CEO positions is more established (Russell Reynolds Associates, 2012). According to a European Corporate Governance Report in 2014, only 20 percent of European firms still combine the roles of the chairperson and CEO. A recent survey conducted by the UK’s Financial Reporting Council (FRC) shows that 96 percent of FTSE 350 firms had a non-combined chairman and CEO in 2014. In Vietnam, the code of CG in 2012 promulgated by Vietnam Ministry of Finance stipulates that “a chairman/chairwoman of a board should not be in the position of the CEO of a company unless this duality is approved by the annual general meeting of the company’s shareholders”.

The leadership structure of the board is a long-lasting debate with two contradictory theories. The “agency theory” strongly supports the view that the separation between the board chair and CEO results in an improvement in financial performance. Fama & Jensen (1983) and Jensen (1993) posit that duality may decrease the monitoring of the board over the managers of firms and the split is required to formulate the efficiency and effectiveness for the “check and balance” system by the BODs and CEO. Moreover, Jensen (1993) indicates that if one person holds the roles of the board chair and CEO, then the board cannot assess the performance of the CEO which may lead to a weak internal control system. This view is supported by Goyal & Park (2002) who argue that the combination of the chairperson and CEO hinders the board in removing underperforming managers. In a similar vein,

Finkelstein & D'Alene (1994) assert that the combination of the chairperson and CEO allows management entrenchment and reduces the independence of the board. By breaching this independence, board duality tends to negatively influence performance because it weakens the board's potential to effectively supervise management (Jensen, 1993). On the contrary, the "stewardship theory" argues that if the positions of the board chair and CEO are combined, then the firm may have speedier decision-taking processes, lesser costs of information transfer, further improvement in the firm's strategy implementation, and further effective leadership, thereby making contributions to achieving the firm's objectives (Brickley et al., 1997; Chen, Lin, & Yi, 2008).

Some authors argue that board leadership structure has no optimal form because either separation or duality has both benefits and costs (Brickley et al., 1997). Furthermore, Brickley et al., (1997) document that the costs are likely to be greater than benefits for larger firms. Goodwin & Seow (2000) further explain that the substantial cost could arise from the insufficient transfer of information and the mix-up regarding who is responsible to lead the firm.

Empirical evidence both in developed and developing countries shows mixed results related to the effect of board duality and financial performance. In the developed world, a majority of the studies focused on the U.S firms. Yermack (1996), analysing 452 large firms operating in the industrial sector in the U.S covering eight years from 1984 to 1991, reports that the split between the chairperson and CEO improves the firms' performance. Donaldson & Davis (1994) and Rechner & Dalton (1991) also show a positive association between board duality and firm financial performance. On the contrary, Vafeas & Theodorou (1998) and Dalton, Daily, Johnson, & Ellstrand (1999) report no significant impact of board duality on firm financial performance. Within the developing countries contexts, Rouf (2011) examines 93 Bangladeshi non-financial listed firms in 2006 and reports that board duality positively affects ROE. Benjamin & Ehikioya (2009) and Chang (2004) show that board duality adversely influences the firms' financial performance in Nigeria and Malaysia, respectively. Mashayekhi & Bazaz (2008), using data of Iranian listed firms for the year 2005-2006, show no impact of board duality on ROE and ROA.

Empirical studies in Vietnam generally indicate a positive effect of duality on firm performance. Vo & Phan (2013) use the data of 77 firms listed on the HSX covering six years from 2006 to 2011 and show a positive linkage between board duality and ROA. Similarly, To (2011) examining the 100 largest listed firms in 2009 shows a positive relationship between board duality and Tobin's Q. Meanwhile, Dao & Hoang (2014) investigate 30 listed firms in VNindex 30 for the year 2012 and find that board duality negatively influences the firms' financial performance measured by ROE. The following relationship is hypothesized:

**Hypothesis 4:** Board duality has a significant positive affect on the financial performance of Vietnamese non-financial listed firms.

### **2.3.2 Ownership structure and firm financial performance**

Berle & Means (1932) and Jensen & Meckling (1976) state that “the separation of ownership and control” may result in “agency problems” between shareholders and managers when managers who control the firm may seek to pursue their benefits instead of stockholder’ benefits. This concern has made the ownership structure issue become one of the most critical and attractive subjects in the CG literature.

#### **2.3.2.1 Insider ownership and firm financial performance**

As an important dimension of ownership structure, insider ownership is one of the most discussed issues because insider ownership has been viewed as a device to control managers’ self-interested behaviours (Park & Jang, 2010; Jensen & Meckling, 1976).

Jensen & Meckling (1976) and Farma & Jensen (1983) indicate that insider ownership may lead to two conflicting effects on firm governance: (i) interests’ convergence with stockholders, and (ii) the effect of entrenchment. According to Jensen & Meckling (1976), increasing insider ownership may “align the interests of managers with shareholders’ values”. They further explain that managers tend to restrict themselves to consume a firm’s resources as their holding grows because such consumption of the firm’s resources would fall to them in proportion to their ownership. In this way, the “hypothesis of convergence of interests” with shareholders prevails, which may result in a positive effect on the firm’s performance. Conversely, Demzets (1983) and Fama & Jensen (1983) put forward an argument that under the pressure of market discipline, the insiders may act toward the stockholders’ benefits in spite of their small shareholdings. However, when the insiders increase their holding of the firm’s shares to a certain level that allows them to gain a substantial voting power, they can pursue their goals instead of maximising shareholders’ values without endangering their position or salary. In this way, the “hypothesis of entrenchment” prevails, which may result in a negative effect on the firm’s financial performance.

Empirical studies on the linkage between insider ownership and firm financial performance produce mixed results. Chung & Pruitt (1996) evaluate 404 U.S public firms in 1987 and show a positive relationship between executive equity ownership and the performance measured by Tobin’s Q. Similarly, Bhagat & Bolton (2008) show evidence of a convergence effect of board ownership on firms’ performance. Shah & Hussain (2012) report a negative link between managerial ownership and the firms’ performance when examining 61 non-financial listed firms in Pakistan in the period 2008-2010. Meanwhile, Agrawal & Knoeber (1996) examine 383 U.S firms in Forbes-standing in 1987 and fail to

find any effect of insider ownership on Tobin's Q. Several other research shows a non-linear relation between insider ownership and firm financial performance. For example, Hermalin & Weisbach (1991) and McConnell & Servaes (1990) show an inverted U-shaped relation between insider ownership and the firms' performance using the data of listed firms in the U.S, meaning the financial performance increases at a low level and decreases at a high level of insider ownership. De Miguel, Pindado, & De la Torre (2004) examine 135 non-financial listed firms in Spain during 1990-1999 and show a cubic relation between insider ownership and the firms' financial performance, which means the firms' performance increases at low and high levels of insider ownership and decreases at an intermediate level of insider ownership.

Demsetz & Lehn (1985) suggest that the ownership structure is endogenous. The authors argue that there is no systematic relation between ownership concentration and the profit rates; and there is no common ownership structure that suits all firms, thus each firm should choose the relevant ownership structure (whether concentrated or dispersed) that can maximise a firm's value. Notably, they find a significant relation between ownership structure and firm specific characteristics (which can also influence firm performance). Similarly, Demsetz & Villalonga (2001), among others, indicate that ownership structure is endogenous, arguing that firm performance and ownership structure may have a simultaneous causality relationship which may present the endogeneity problem. Therefore, analysing the linkage between insider ownership and firm financial performance may require consideration of the endogeneity issue.

Based on the findings of Hermalin & Weisbach (1991) and McConnell & Servaes (1990), we expect insider ownership and the financial performance of Vietnamese non-financial listed firms to form an inverted U-shaped relationship. Thus, the following relationship is hypothesized:

**Hypothesis 5:** There is an inverted U-shaped relationship between insider ownership and the financial performance of non-financial listed firms in Vietnam.

### **2.3.2.2 Ownership concentration and firm financial performance**

There are two fundamental structures of corporate ownership, namely: "concentrated ownership structure" and "dispersed ownership structure". The wide dispersion of ownership is typically observed among a majority of developed countries. Meanwhile, the concentration of ownership is generally seen in many developing countries which are frequently characterised by the absence of sufficiently sound judicial and regulatory frameworks. La Porta et al., (1997) and La Porta et al., (1998) suggest that concentrated ownership is a consequence of varying levels of judicial protection tools for minority stockholders from country to country. This is because increasing concentration of ownership appears to help enhance the voice of shareholders in pressuring managers to maximise the benefits of shareholders and other stakeholders. The CG literature points out that concentrated ownership (or

block ownership) is an important internal governance mechanism, especially when blockholders are prevalent across firms and around the world. Holderness (2009) shows in his study that 96 percent of the U.S firms and 93 percent of non-U.S firms contain from one blockholder.

The question of whether ownership concentration may help enhance the management and supervision over expropriation risks is a long-lasting debate. "Agency theory" posits that the concentration of ownership may help reduce the "agency problem" (Shleifer & Vishny, 1986). This is because in firms with highly dispersed ownership structure, minority shareholders often lack information and refrain from investing their own resources in supervising managers. Meanwhile, "large shareholders" have stronger incentives to monitor firms. This is because their great stakes in the firms create more incentives for them to bear the cost of monitoring management (Holderness, 2003). In addition, "large shareholders" are better able to collect information and have practical power to monitor management (Shleifer & Vishny, 1997). Through employing their own voting power or coordinating voting power among some large shareholders if necessary, they can influence managers to carry out efficient management and discipline entrenched managers. Large shareholders may also choose to exit a firm through selling their stocks and; driving the stock prices down, which puts pressure on the managers of the firm to pursue the objectives of maximising stockholders' values (Edmans, 2011). The benefits generated by ownership concentration appears to be more pronounced in countries where shareholder protection from a judicial framework remains limited (La Porta et al., 1999).

However, if large shareholders follow their own goals which depart from pursuing the shareholders' wealth, then it can adversely impact the minority shareholders (e.g., Fama & Jensen, 1983; Morck, Shleifer, & Vishney, 1988). They will utilise the power they have to take out a firm's resources to maximize their own interests. Thus, corporate performance is affected as the wealth of the firm is extracted by large shareholders.

Empirically, the CG literature documents inconclusive evidence about the link between ownership concentration and firm financial performance. For example, McConnell & Servaes (1990) examine 1,173 U.S listed firms in 1976 and 1,093 U.S listed firms in 1986 and report a positive impact of ownership concentration on Tobin's Q. However, Lehmann & Weigand (2000), using data of 361 firms in Germany from 1991-1996, show a negative linkage between ownership concentration and the firms' profitability. Demsetz & Lehn (1985) examine 511 U.S firms in 1980 and show no significant impact of ownership concentration on the firms' profit rates. Meanwhile, many other studies find a curvilinear relation between CG and firm performance, which means both convergence and expropriation effects of ownership concentration on firm financial performance are present. For instance, De Miguel et al., (2004) using the data of listed firms in Spain show an inverted U-shaped relation between ownership

concentration and the financial performance. Similarly, Thomsen & Pedersen (2000) report an inverted U-shaped relationship between ownership concentration and financial performance as a result of investigating 435 firms from 12 European countries.

According to OECD (2006), In the “outsider system” of CG that is practised by several countries such as the UK and U.S where the ownership structure is highly dispersed, the main “conflict of interest is between managers and shareholder”. Conversely, in the “insider system” that is exercised in countries such as Germany, Japan and a number of emerging countries characterised by the “high degree of ownership concentration”, the major “conflict of interest is between the controlling shareholders and minority shareholders” (OECD, 2006, p.71). Nevertheless, these dissimilarities may also be derived from variations in the judicial systems, institutional settings, along with cultural, historical elements (OECD, 2006).

Based on suggestions of De Miguel et al., (2004) and Thomsen & Pedersen (2000), I expect a non-linear relationship between ownership concentration and the financial performance of Vietnamese non-financial listed firms. Moreover, given the high degree of ownership concentration of listed firms in Vietnam (World Bank, 2013a), I believe that the firms’ financial performance may increase at a low level of ownership concentration and decreases at an intermediate level of ownership concentration, but when ownership concentration reaches a significant level, the interests of blockholders and those of shareholders will be closely integrated, which strongly motivate blockholders to play an active role in monitoring opportunistic managers’ behaviours, and exploit their resources to maximise the firms’ values, thus leading to an increase in the financial performance. Therefore, the following relationship is hypothesized.

**Hypothesis 6:** There is a cubic relationship between ownership concentration and the financial performance of non-financial listed firms in Vietnam.

## 2.4 Summary

This chapter reviewed the existing CG literature on the relationship between CG and firm financial performance. The chapter begins with definitions of CG. Next, the chapter presents an overview of fundamental theories of CG from different perspectives such as “agency theory”, “resource dependence theory”, “stakeholder theory”, and “stewardship theory”. Theoretically, sound CG may help improve firms’ financial performance. However, empirical findings to date by many researchers on the linkage between CG and financial performance show inconclusive results. Based on the existing literature, this study developed six hypotheses on the relationship between CG and the financial performance of non-financial listed firms in Vietnam. Chapter Three presents the data and empirical models to test the hypotheses.



## **Chapter 3**

### **Data and methodology**

Chapter 3 presents the data and methodology used in this study to examine the effect of CG on the financial performance of non-financial listed firms in Vietnam. Section 3.1 introduces the data collection. Section 3.2 presents the variables including the dependent variables, explanatory variables and control variables used in the study. The endogeneity and dynamic relationship between CG and firm financial performance is discussed in section 3.3. Section 3.4 presents the model and estimation techniques. Section 3.5 and section 3.6 discuss pre-estimation tests and specification tests, respectively. Section 3.7 summarizes the chapter.

#### **3.1 Data**

In order to examine the correlation between CG and the financial performance of Vietnamese non-financial listed firms, this study employs data of non-financial listed firms both on the HSX and the HNX over six years, from 2010 to 2015. The year 2010 is selected as the base time frame in the present study for several reasons. First, listed firms, which failed to comply with CG regulations, were not reprimanded before 2010 in the Vietnam securities market. Good CG principles for Vietnamese listed firms were first introduced in Vietnam in the year 2007 by the CG Ordinance of Vietnam Ministry of Finance issued on 13<sup>th</sup> March 2007. However, failing to comply with the CG Ordinance by listed firms has only been punished since 2010 when Decree 85/2010/ND-CP of the Vietnam Government dated 2<sup>nd</sup> August 2010 on “Sanctioning of administrative violations in the field of securities and the securities market” was promulgated. According to Decree 85/2010/ND-CP, failing to follow the CG Ordinance is legally recognized as an administrative violation in the securities market. Second, access to the financial data of listed firms in the two exchanges from Datastream and Bloomberg is unavailable before 2010. Thirdly, using data from 2010, three years after the 2008 global financial crisis, rather than an earlier base time may help lessen possible noises derived from the consequences of the financial crisis which may affect the investigation of the relationship between CG and non-financial listed firms’ financial performance. We select the year 2015 as the last year of the study because the year 2015 is the latest year for which the data is available when collecting the data.

Financial and banking sectors are excluded from our sample for many reasons. First, according to Fama & French (1992, p.429), banks and financial firms must be excluded “because the high leverage that is normal for these firms probably does not have the same meaning as for non-financial firms, where high leverage more likely indicates distress”. The difference in the operational nature of financial firms and banks with other industries makes the leverage, one of the variables in this study, incomparable.

Second, the financial and banking sectors follow typical standards of accounting regulations which may lead to differences in calculating financial performance with other sectors (Rose, 2007). Thirdly, the financial and banking sectors are also subject to stricter rules and specific governance regimes (Yermack, 1996). In Vietnam, banks and financial firms are not only subject to the provisions of the Law on Enterprise 2005, but also the Law on Credit Institutions 2010. According to the Law on Credit Institutions, the CEO and board chairperson of the banks must be separated (Article 34 of the Law on credit institutions 2010). However, non-financial firms may select either CEO duality or non-dual leadership. Moreover, the Law on Credit Institutions sets particular ownership proportion restrictions in credit institutions. Specifically, individual and institutional investors are not permitted to hold more than 5 percent and 15 percent of shares of a credit institution, respectively (Article 55 of the Law on credit institution 2010). Meanwhile, non-financial firms are free from such restriction provisions. Lastly, it appears to be a common practice in the literature to exclude the financial and banking industries from the sample when examining the relationship between CG and financial performance. Adams & Mehran (2011, p 1) state that “most studies exclude financial firms from their samples”. This is explained by the different fundamental operational activities (Fama & French, 1992; Vo & Phan, 2013), and more closely regulated corporate mechanisms (Yermack, 1996; Schulz et al., 2010), and the different accounting system (Rose, 2007) of banks and financial firms in comparison with other firms.

Following Lachenmaier & Rottmann (2007) and Serrasqueiro & Nunes (2012), non-financial listed firms with less than 4-year consecutive data are excluded from the study sample because our estimation approach uses lagged values of financial performance and CG as instruments.

Financial data for this study are obtained from Datastream. Blockholder ownership and insider ownership data are collected from Datastream and Bloomberg, respectively. Board structure data, which is not available in Datastream and Bloomberg, is collected manually from annual financial and CG reports of Vietnamese non-financial listed firms which are available on the websites of non-financial listed firms.

Ultimately, our dataset constitutes an unbalanced panel data of 412 non-financial listed firms with 2,322 observations for the period of six years from 2010 to 2015. Previous studies on the relationship between CG and non-financial firms' financial performance in Vietnam used limited sample sizes due to data accessibility. For example, To's (2011) study uses cross-sectional data of only 100 listed firms for the year 2009. Dao & Hoang's (2014) study uses only 30 firms for the year 2011. Adhikary & Le's (2014) study employs small samples with only 58 listed firms during the period 2007-2009. Nguyen et al.'s (2015) study uses data of 122 listed firms over a four year period from 2008 to 2011 (488 observations). In comparison with prior studies, our larger dataset (in terms of the number of observations and the number of sampled firms) may enhance the estimation of the relationship

between CG and the financial performance of Vietnamese non-financial listed firms. The sample of Vietnamese non-financial listed firms is classified into nine industry categories based on Industry Classification Benchmark (ICB) including: (i) “Oil & Gas”; (ii) “Basic Materials”; (iii) “Industrials”<sup>6</sup>; (iv) “Consumer Goods”; (v) “Health Care”; (vi) “Consumer Services”; (vii) “Telecommunications”; (viii) “Utilities”; and (ix) “Technology” (FTSE Russell, 2017, p.9). This study uses ICB because (i) it is a broadly used benchmark for firms’ classification, and (ii) it is available from Datastream.

Table 3.1 shows the number of Vietnamese non-financial listed firms in our panel data. There are 412 non-financial listed firms, of which 231 firms are listed on the HNX and 181 firms on the HSX.

**Table 3.1 Number of Vietnamese non-financial listed firms in the panel data**

<b>Stock Exchange</b>	<b>Number of listed firms</b>	<b>Number of observations</b>
HNX	231	1297
HSX	181	1025
<b>Total</b>	<b>412</b>	<b>2322</b>

Source: Thomson Datastream (accessed on March 2017)

Table 3.2 shows the sector categories of the non-financial listed firms in the data. The table shows Industrials, Consumer Goods and Basic Materials are the largest industries, in which Industrials accounts for 57.3 percent of total sampled observations.

**Table 3.2 Industrial classification of Vietnamese non-financial listed firms in the panel data**

<b>No.</b>	<b>Industries</b>	<b>Number of observations</b>
1	Oil & Gas	68
2	Basic Materials	212

<sup>6</sup> Industrials is one of total ten industries categorised by ICB. Industrials includes two supersectors, namely (i) Constructions & Materials and (ii) Industrial Goods & Services. Each supersector is further classified into sectors and subsectors. Thus, Industrials comprises seven sectors and twenty subsectors. Seven sectors in Industrials include “(i) Construction & Materials, (ii) Aerospace & Defense, (iii) General Industrials, (iv) Electronic & Electrical Equipment, (v) Industrial Engineering, (vi) Industrial Transportation, and (vii) Support Services. Twenty subsectors in Industrials include (i) Building Materials & Fixtures, (ii) Heavy Construction, (iii) Aerospace, (iv) Defense, (v) Containers & Packaging, (vi) Diversified Industrials, (vii) Electrical Components & Equipment, (viii) Electrical Equipment, (ix) Commercial Vehicles & Trucks, (x) Industrial Machinery, (xi) Delivery Services, (xii) Marine Transportation, (xiii) Railroads, (xiv) Transportation Services, (xv) Trucking, (xvi) Business Support Services, (xvii) Business Training & Employment Agencies, (xviii) Financial Administration, (xix) Industrial Suppliers, and (xx) Waste Disposal Services”.

3	Industrials	1330
4	Consumer Goods	348
5	Health Care	80
6	Consumer Services	147
7	Telecommunications	6
8	Utilities	82
9	Technology	49
<b>Total</b>		<b>2322</b>

Source: Thomson Datastream (accessed on March 2017)

Table 3.3 shows year frequency of observation in our panel data. The time period (T) is not similar for all non-financial listed firms. This is because non-financial listed firms may enter or leave the stock markets at different points of time or data is randomly missing. Thus, the data constitutes an unbalanced panel data comprising 412 Vietnamese non-financial listed firms with 2,322 firm-year observations for the period 2010-2015. It should be noted that compared to the balanced panel, the unbalanced panel may have some disadvantages in the estimation of empirical models. According to Flannery & Hankins (2013), the unbalanced panel combined with endogeneity would lead to difficulty in the estimation and inference of empirical models. However, one of the advantage of using a panel data is that it enables researchers to employ an unbalanced panel to utilise all available data. In addition, Flannery & Hankins (2013, p13) suggest that the GMM estimator is likely to be “the most robust methodology for unbalanced panels with endogeneity variables”. This study uses the GMM method to work with our unbalanced panel data.

**Table 3.3 Year frequency of observations in the panel data**

<b>No.</b>	<b>Year</b>	<b>Number of observations</b>
1	2010	298
2	2011	388
3	2012	412

4	2013	412
5	2014	408
6	2015	404
<b>Total</b>		<b>2322</b>

Source: Thomson Datastream (accessed on March 2017)

## 3.2 Variables

### 3.2.1 Dependent variables

In the literature, firm financial performance is measured by “accounting-based measures”, or “market-based measures”, or both measures. This study uses Tobin’s Q as the dependent variable to measure firms’ financial performance. Based on the governance literature, Tobin’s Q is the most commonly used “market-based” proxy for the measurement of firm financial performance (Al-Matari, Al-Swidi, & Fadzi, 2014; Nguyen et al., 2014). Tobin’s Q is widely selected as a measure of performance in many studies on CG (Agrawal & Knoeber, 1996; Eisenberg, Sundgren, & Wells, 1998; Reddy, Locke, Scrimgeour, & Gunasekarage, 2008). As a “forward-looking measurement”, Tobin’s Q can reflect the market assessment and the forecast of a firm’s values that may not be accounted for in any accounting measures. These values may be intangible assets or potential future values of the firms (Demsetz & Villalonga, 2001).

Tobin’s Q is introduced and defined by Tobin (1969) as the ratio of market value of a firm, including “market value of its equity” and its liabilities”, divided by “the replacement cost of its total assets”:

$$\text{Tobin's Q} = \frac{\text{Market value of equity} + \text{Market value of liabilities}}{\text{Replacement cost of total assets}} \quad (3.1a)$$

When Tobin’s Q is greater than unity (Tobin’s Q>1), this means the stock market is optimistic about the firm’s value and further investment in the firm’s assets could be a good decision because the profit earned exceeds the actual cost of the investment. In contrast, when Tobin’s Q is less than unity (Tobin’s Q<1), the value of the firm are undervalued by the stock market and the firm should consider selling off the assets rather than putting them into use. In practice, constructing Tobin’s Q following the equation (3.1a) is difficult due to the unavailability of data on “the replacement cost of assets” and “market value of liabilities”. To solve this problem, Chung & Pruitt (1994) introduced an approximately constructed Tobin’s Q, in which the “replacement cost of total assets” and the “market value of liabilities” are substituted by “the book value of assets” and “the book value of liabilities”, respectively.

$$\text{Tobin's Q} = \frac{\text{Market value of equity} + \text{Book value of liabilities}}{\text{Book value of total assets}} \quad (3.1b)$$

By showing the correlation of this modified Tobin's Q and the original Tobin's Q is above 0.99, Chung & Pruitt (1994) demonstrate that researchers can employ the modified Tobin's Q equation without worrying about the possibility that it departs considerably from the more theoretical Tobin's Q in equation (3.1a) as the data required for calculating equation (3.1a) is unavailable. The use of Tobin's Q equation developed by Chung & Pruitt (1994) becomes a common practice of researchers and practitioners because this equation not only offers an approximately and realistically calculated Tobin's Q with available data from financial reports but also considerably simplifies the computational efforts (Nguyen et al., 2015).

Although the Tobin's Q ratio may still be subject to a concern of measurement errors (Klock, Thies & Baum, 1991), any other measures in any other experiments have similar concern because measurement errors may come from data collection errors or from the likelihood that the measure used is not a perfect measure to reflect the real phenomenon of economic relationships (Nguyen et al., 2014; Wooldridge, 2013). In the Vietnam context, this study chose "market-based measure" such as Tobin's Q instead of "accounting-based measures" for the following reasons.

First, "accounting-based measures" are subject to "firm-specific reporting errors" and potential "managerial manipulation" (Ahmad & Jusoh, 2014; Nguyen et al., 2014). In fact, those matters are relatively popular in Vietnam since Vietnam is undergoing a financial statement reform following international financial standards. Besides, the transparency of information in Vietnam, like some other developing countries, is a matter of great concern (World Bank, 2013b; IFC, 2011).

Second, "accounting-based measures" may inappropriately reflect the value of some assets such as the land-use-right value. In Vietnam, the land-use-right value reported in financial statements is restricted by the price frame set by the Government, meanwhile in many cases, the market price of that land-use-right might be much higher due to real estate market booms (Trinh & McClusky, 2012). In this regards, "accounting-based measures" may be subject to severe measurement errors.

Tobin's Q, as a "market-based measure", has the advantage of reflecting the firm's potential values or hidden values. In the literature, Tobin's Q has been seen as the best "market-based measure" of financial firm performance and used extensively by academics and practitioners to examine the CG-firm performance relation (Ahmad & Jusoh, 2014, Al-Matari et al., 2014). Thus, this study selects Tobin's Q as the "market-based measure" instead of "accounting-based measures".

Following Chung & Pruitt (1994), Tobin's Q at time t of a firm is computed by the following equation:

$$\text{Tobin's } Q_t = \frac{\text{Market value of equity}_t + \text{Book value of liabilities}_t}{\text{Book value of total assets}_t} \quad (3.1 \text{ c})$$

Following Agrawal & Knoeber, 1996; Eisenberg, Sundgren, & Wells, 1998, and Nguyen et al., 2014, this study employs the natural logarithm of Tobin's Q as a measure for non-financial firms' financial performance (denoted as lnQ).

### 3.2.2 Explanatory variables

The explanatory variables include (i) board size, (ii) board gender diversity, (iii) board independence and (iv) board duality which are categorised as board structure variables; (v) insider ownership which represents the identity of ownership; and (vi) blockholder ownership which represents the ownership concentration variable.

#### 3.2.2.1 Board structure variables

##### Board size

Board size as an important feature of board structure is defined as "the number of board members". The size of boards may substantially influence the effectiveness and capabilities of the board decision-making in a firm. "Agency theory" (Kiel & Nicholson, 2003; and Dalton & Dalton, 2005) argues that a larger board could enhance the monitoring capability of boards of directors over managers to ensure that managers work toward maximising owners' values. "Resource dependence theory" (Pfeffer & Slancik, 1978; Raheja, 2005) suggests that a larger board with outside directors brings to firms more external resources and linkages with outside environments and; contributes to board independence by putting forward more objective views. Therefore, a larger board results in improved financial performance. The support for a larger BODs of "agency theory" and "resource dependence theory" is challenged by the arguments of "stewardship theory" that a larger size of board with different viewpoints may "lead to ineffectiveness in the decision-making process" due to difficulties in board communication and obtaining board agreement and cohesiveness, resulting in decreased firm performance (Jensen, 1993; and Hermalin & Weisbach, 2003). Several researchers go further to propose the optimal size of the BODs. For example, Jensen (1993) suggest that the board size comprising seven/eight members is optimal for a firm's performance.

In the governance empirical research, the relationship between board size and firm financial performance is inconclusive. Haniffa & Hudaib (2006) and Dwivedi & Jain (2005) report a positive correlation between board size and firm performance. Yermak (1996), Guess (2009), and Gill & Mathur (2011) show that board size inversely influences financial performance.

In the present study, the board size - financial performance relationship of non-financial listed firms in Vietnam is investigated. Following Guess (2009) and Wintoki et al., (2012), we use the natural logarithm of board size (denoted as *BS*) to represent board size in this study sample.

### **Board gender diversity**

More female directors on the BODs may have an effect on board efficiency. “Agency theory” (Francoeur et al., 2008) and “dependence resource theory” (Rose, 2007) argue that females are likely to generate fresh views and innovation which may help the BODs to improve the problem-solving and business strategy-setting. In addition, women directors supervise reporting systems more efficiently (Srinidhi et al., 2011). Therefore, greater female participation on boards leads to better firm financial performance. On the contrary, there are several arguments on the disadvantages of the participation of females on boards. For instance, gender diversity might generate some differences and inconsistencies in the boardroom and slow down decision-making processes (Litz & Folker, 2002; Fenwick & Neal, 2001). Moreover, the increasing women’s participation on the BODs might lead to an exceeded supervision of the BODs over managers, resulting in the decrease in shareholders’ values (Adams & Ferrera, 2009).

Empirical studies provide inconclusive results of the relationship between board gender diversity and firm financial performance. For instance, Carter et al., (2003) report a positive linkage between board gender diversity and the performance of firms in Fortune 1000. Similarly, Julizaerma & Sori (2012) and Liu et al., (2014) find that more female directors lead to improved financial performance in Malaysian and Chinese firms. In contrast, Ahern & Dittmar (2012) and Darmadi (2011) document that increased gender diversity negatively impacts the firms’ financial performance in Norway and Indonesia, respectively. Gregory-Smith et al., (2014), Rose (2007), and Farrell & Hersch (2005) find that gender diversity does not impact firm financial performance.

In this study, to analyse the relationship between board gender diversity and non-financial firms’ financial performance, I measure gender diversity by the percentage of female members on the BODs, calculated by dividing the number of female directors by the number of directors. Gender diversity is denoted as *FD*.

### **Board independence**

Board independence is viewed as one of the important elements of board structure. Board independence is represented by “the proportion of independent directors” or “the proportion of non-executive directors” on the BODs (Fama & Jensen, 1983; Hilman & Dalziel, 2003; Wintoki et al., 2012; Weisbach, 1988).



The efficiency of the BODs in monitoring managers is considered to be linked with the board independence (Fama & Jensen, 1983; Jahra & Pearce II, 1989). In the governance literature, “agency theory” and “resource dependence theory” support the appointment of “independent directors”. “Agency theory” argues that “independent directors” may provide independent and objective views required for dealing with the conflict of interests and making strategic decisions, thus leading to improved firm performance (Dalton et al., 1999; Fields & Keys, 2003). “Resource dependence theory” views “outside directors” as a valued “source of external resources and information” for firms (Hilman & Dalziel, 2003; and Fama & Jensen, 1983). In contrast, “stewardship theory” argues that in comparison with executive directors, external directors have less firm-specific information required for decision-making (Bozec, 2005), or less motivation to supervise management (Weisbach, 1988). Therefore, the appointment of “independent directors” might have an adverse effect on financial performance.

In previous empirical studies, there is no consensus of the influence of board independence on firm financial performance. For instance, the impact of board independence on firm financial performance is found to be positive (Rosenstein & Wyatt, 1990; Krivogorsky, 2006; Choi, Park, & Yoo, 2007; Mashayekhi & Bazaz, 2008), or negative (Agrawal & Knoeber, 1996); Adhikary & Le, 2014; Jackling & Johl, 2009), or insignificant (Klein, 1998; Yermack, 1996; Hermalin & Weisbach, 1991).

Following Agrawal & Knoeber (1996), Yermack (1996), and Wintoki et al., (2012), the current study uses “the percentage of non-executives” on the BODs, calculated by dividing the number of non-executive directors by the number of directors on the board, to measure board independence. The percentage of “non-executives” on the BODs is denoted as *NED*.

### **Board duality**

Board duality (denoted as *DUAL*) is when “the titles of the CEO and board chair are held by one person” (Krause et al., 2013). In the governance literature, the leadership structure is a topic of debate by “agency theory” and “stewardship theory”. “Agency theory” supports the view that the split between the board chair and CEO leads to better firm performance because the separation of the two positions enhances the effectiveness of the “check and balance” system by the BODs and CEO (Jensen, 1993; Fama & Jensen, 1983). On the contrary, “stewardship theory” argues that if the positions of the chairperson and CEO are combined, then the firm might obtain faster decision-making processes, less cost of information transfer and; further improvement in the firm’s strategy implementation; thereby contributing to achieving the firm’s goals (Brickley et al., 1997; Chen et al., 2008).

Empirical studies report mixed evidence of the CEO duality - firm financial performance relationship. For example, Yermack (1996), Donaldson & Davis (1994), and Rouf (2011) document a positive effect

of board duality on firms' performance. In contrast, Benjamin & Ehiokoya (2009) and Chang (2004) report that board duality has an inverse impact on performance. Meanwhile, Mashayekhi & Bazaz (2008) show no effect of board duality on firms' performance.

Following Ammari, Kadria, & Ellouze (2014), and Nguyen et al., (2015), this study uses the dummy variable of board duality. The value of this variable equals 0 when the titles of the CEO and chairman are merged and equals 1 when the titles are separated.

### **3.2.2.2 Insider ownership**

In the governance literature, there are two conflicting hypotheses on the impact of insider ownership on firms' financial performance, namely the "convergence of interest hypothesis" and the "entrenchment hypothesis" (Jensen & Meckling, 1976; and Fama & Jensen, 1983). The "convergence of interest hypothesis" suggests that firm financial performance increases with the increase in insider ownership. This is because the greater share holding of managers may "align their interests with the interests of shareholders", thus drive them to work towards maximising the shareholders' value which leads to better firm financial performance (Jensen & Meckling, 1976). In contrast, the "entrenchment hypothesis" (Demsetz, 1983; and Fama & Jensen, 1983) argues that firm financial performance may decrease at a certain level of insider ownership because as the shareholding of managers increases to a point that enables them to possess a substantial voting power, they may prioritize themselves over the benefit of shareholders. For example, the managers may become entrenched in order to secure their position and salary instead of taking risks in promising investment opportunities (Hill & Snell, 1988; and Ellstrand, Tihanyi, & Johnson, 2002).

Previous studies show inconclusive results of the relationship between insider ownership and firm financial performance. Chung & Pruitt (1996) and Fauzi & Locke (2012) report a convergence effect of insider ownership on firm performance. Several studies find no effect (Demsetz & Vilalunga, 2001; and Loderer & Martin, 1997) or an entrenchment effect (Shah & Hussain, 2012) of insider ownership and firm financial performance. Other studies show a curvilinear association of insider share holding and financial performance, meaning both convergence and entrenchment effects of insider ownership on financial performance coexist. The curvilinear relationship between insider share holdings and financial performance may be either the inverted U-shaped relationship, that is, firm financial performance increases at a low level and decreases at a high level of insider ownership (McConnell & Sraes, 1990; Hermalin & Weisbach, 1991), or a cubic relationship where financial performance increases at low and high levels of insider ownership and decreases at an intermediate level of insider ownership (Mocrk et al., 1998; and De Miguel et al., 2004).

To investigate the relationship between insider ownership and non-financial firms' financial performance, this study employs the percentage of insider ownership denoted as INSDO. This variable

is measured by the number of shares owned by insiders divided by the total ordinary shares of the firm. Insider ownership does not include the state ownership held by the insiders as the representative of the state ownership. According to “Decisions No.151/2005/QĐ-TTg of the Prime Minister” issued on June 20<sup>th</sup> 2005, the State Capital Investment Corporation (SCIC) was incorporated and the primary objective of SCIC is to represent the state ownership in enterprises. SCIC is responsible for managing State capital, and making investment decisions in “key sectors and essential industries” with a view to consolidating the leading role of the state sector, while following market rules. The ownership of the State in Vietnamese listed firms is under the name of SCIC. In the Bloomberg data system, the State ownership is separated from the personal ownership of insiders in the listed firms.<sup>7</sup> The insiders include members of BODs, managers and chief accountant of the listed firms.

### **3.2.2.3 Ownership concentration**

In the governance literature, the influence of ownership concentration on firm financial performance may be positive (the convergence effect prevails) or negative (the expropriation effect prevails). The convergence effect means that firm financial performance increases as the blockholder ownership increases. This is because block shareholders, in comparison with minority shareholders, have stronger incentives to monitor firms (Holderness, 2003) and have more information and practical power to monitor management (Shleifer & Vishny, 1997) to ensure the managers pursue shareholders’ benefits. Conversely, the “expropriation effect” of blockholder ownership on firm financial performance means that financial performance may decrease at a certain level of ownership concentration. The “expropriation effect” occurs when blockholder ownership increases to a point that allows them to “follow their own goals and expropriate the minority shareholders’ benefits” (Fama & Jensen, 1983; and Morck et al., 1988).

Previous empirical studies show that there is no consensus of the effect of ownership concentration on firms’ financial performance. Kapopoulos & Lazaretou (2007) and Gedajlovic & Shapiro (2002) find a convergence effect of ownership concentration on firms’ financial performance. Demsetz & Villalonga (2001), Demsetz & Lehn (1985), McConnell & Servaes (1990), and Shar & Hussain (2012) fail to find any effect of ownership concentration on firms’ performance. Meanwhile, Fauzi & Locke (2012), and Jiang, Yue, & Zhao (2009) report an expropriate impact of ownership concentration on firms’ performance. Other studies find both “convergence and expropriation effect of ownership concentration” on firms’ performance. For example, De Miguel et al., (2004) and Thomsen & Pedersen

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<sup>7</sup> In the Bloomberg data system, there is an option that allows researchers to access the State ownership to ensure the holdings of the State is not counted in the personal insider ownership. Therefore, many listed firms have high state ownership (such as VNM, DPM, ect), but insider ownership is low.

(2000) show an inverted U-shaped relation between ownership concentration and financial performance, meaning financial performance increases at a low level and decreases at a high level of ownership concentration.

Based on the literature, this study employs “the percentage of blockholders’ ownership”, denoted as *BLHO*, as the proxy for ownership concentration (Morck et al., 1988; Nguyen et al., 2015; Vo & Phan, 2013). A blockholder is defined as “the shareholder who holds from 5 percent of ordinary shares of a firm”. The percentage of blockholders’ ownership is the proportion of “the number of ordinary shares” owned by blockholders and “the number of ordinary shares” of a firm.

### **3.2.3 Control variables**

Apart from board structure and ownership variables used in this study, there are other factors which may have potential effects on firm financial performance. The relation between the dependent and independent variables may be influenced if these factors are not controlled for. Therefore, in order to remove these potential effects from our models (when these factors have no impact on the dependent variables) as well as mitigate the possible omitted variable bias problem (when these factors may have impacts on the dependent variables), it is necessary to control for the factors that may have impacts on the dependent variable. This study employs a set of eight control variables, including (i) firm size, (ii) firm leverage, (iii) firm age, (iv) firm risk, (v) firm profitability, (vi) number of insiders owning shares (vii) industry dummies, and (viii) year dummies.

#### **Firm size**

Following the literature, we select firm size (denoted as *Size*) as one of the control variables. The possible link between firm size and firm performance has been found in previous studies (Hall & Weiss, 1967; Klapper & Love, 2003; and Antonio, Guney, & Paudyal, 2008), so accordingly, firm size is likely to have a positive effect on firm financial performance. Hall & Weiss (1967) and Bayyurt (2007) explain that larger firms with higher market shares and more plentiful resources may have greater competitiveness than smaller firms. Bigger firms are able to exploit opportunities to generate profits in sectors where large investment capital is required. In addition, Antoniou et al., (2008) suggest that bigger firms with higher transparency and lower insolvency risk may enjoy greater accessibility to debt markets at lower costs and greater borrowings than smaller firms, thus helping them to obtain profit maximisation of a tax shield.

Firm size may also have a positive association with board structure such as board size or board independence. For example, Boone, Field, Karpoff, & Raheja (2007) suggest that the level of supervision and ratification of the board over managers’ decisions tend to be higher in bigger firms than in smaller firms. The more complicated the information requirement is in a larger firm, the bigger

the board size that is required. In the same vein, Cho & Kim (2003) show a positive link between firm size and board independence in Korea. This is because larger firms with a high reputation and sufficient resources tend to adopt better CG mechanisms than smaller firms. Because of the possible association between firm size and both firm performance and board structure, firm size needs to be controlled in the current study to avoid omitted variable bias in the models.

Firm size can be measured in many ways, such as “total assets”, the “market value of equity” or “annual sales” etc. In this study, we follow Wintoki et al., (2012) and Han & Suk (1998) to calculate firm size by taking the natural logarithm of “the market value of equity” of non-financial listed firms. We select the market value of equity to control for “size effect” because similar to Tobin’s Q, the “market value of equity” is a “forward-looking measure” that involves firm growth opportunities and stock market conditions. Furthermore, the accounting standard system in Vietnam is still imperfect and has gradually developed. Given that “the market value of equity” is a “market-based measure”, using it as the proxy for firm size appears to be more relevant than financial statement-based measures in terms of avoiding possible inaccuracy in accounting statements or differences in accounting methods applied by listed firms.

### **Firm leverage**

Leverage (denoted as *Lev*) may have an impact on firm financial performance. Jensen (1986) and Ang, Cole, & Lin (2000) suggest that debt may reduce the cash flow of firms, thereby limiting managers from abusing firms’ resources toward maximizing their own benefits. In addition, the presence of debtholders may enhance monitoring by providing external supervision. Nevertheless, firms with high debt may have more risks of insolvency and less financial independence. It is also noted that leverage might link with other firm characteristics such as firm size. For example, Rajan & Zingales (1995) and Harris & Raviv (1991) indicate that leverage is positively correlated with firm size. Therefore, the inclusion of leverage is necessary to avoid “omitted variable bias” in the models. Following the literature, leverage is calculated by taking “the book value of total debts” divided by “the book value of total assets” in the present study.

### **Firm age**

It is documented in the literature that older firms tends to have relatively poorer performance and decreasing market share value (Loderer & Waelchli, 2010). The most likely causes of the poorer performance of aging firms are the inability or unwillingness of firms to design contracts that bind key employees and utilise their ideas, and the inability to recommence their initial path breaking innovations (Loderer & Waelchli, 2010). On the other hand, younger firms appear to be evaluated more highly because of their faster growth and greater intangible-asset intensiveness (Black, Jang, & Kim,

2006). Following Ammari, Ayed, & Ellouze (2016), and Nguyen et al., (2015), this study measures firm age by taking the natural logarithm of the number of years from the time a firm lists on the stock exchanges (denoted as *lnAge*).

### **Firm risk**

Following Guest (2009) and Wintoki et al., (2012), this study uses “standard deviation of stock returns” in each year to control for firm risk. In the literature, firm risk is commonly controlled using Beta or “standard deviation of stock returns” (Patton & Verardo, 2010; Wintoki et al., 2012; Guest, 2009) to capture the volatility of the stock price. The larger the volatility of the stock returns, the more the risk of the stock. Following Wintoki et al., (2012), this study uses “standard deviation of daily stock returns” in each year from 2010 to 2015. The daily stock price of listed stocks is obtained from Datastream. “Standard deviation of daily stock returns” of each stock in each year is computed by taking “the square root of the daily moving variance of the stock returns”. The “standard deviation of daily stock returns” is denoted as *StdDev*.

### **Firm Profitability**

Profitability (denoted as *Profit*) indicates the capacity of a firm to generate earnings. It is observed that the firm with high profitability exhibits high performance (Phung, 2015). The governance literature shows a positive relation between firm profitability and financial performance (Phung & Le, 2013; Gurbuz & Aybars, 2010). This study selects annual earnings per share (*EPS*) as the proxy for the profitability of non-financial listed firms. According to Mlonzi, Kruger & Nthoesane (2011) and Islam, Khan, Choudhury, & Adnan (2014), *EPS* is seen as one important element to determine stock price and most individual investors based their investment decisions on the *EPS*. In this study, *EPS* is calculated by dividing “annual net income after taxes” by the “number of outstanding shares” in the year (Islam et al., 2014).

### **Number of insiders owning shares**

The number of Insiders owning shares (denoted as *NoInsd*) is also used in the models to examine the relation between insider ownership and non-financial firms’ financial performance. Insider ownership might be associated with the number of insiders owning shares of the firms due to its calculation. However, the number of insiders may have an effect on firms’ financial performance (Han & Suk, 1998). Therefore, the number of insiders owning shares needs to be controlled for in this study.

## Industry dummies

We include industry dummy variables (denoted as *Ind*) to control for the possible effects of industry-specific characteristics. It is documented in the literature that industry may have an influence on firm financial performance (e.g., Bowman & Helfat, 2001; Chaddad & Mondelli, 2013) because the industry growth rate, industry concentration and industry-boost policies may induce differences in financial performance of firms operating in different industries.

Nine dummy variables for nine industries classified by ICB are included in this study, including: “(i) Oil & Gas; (ii) Basic Materials; (iii) Industrials; (iv) Consumer Goods; (v) Health Care; (vi) Consumer Services; (vii) Telecommunications; (viii) Utilities; and (ix) Technology sector” (FTSE Russell, 2017, p.9). As the dummy variables, one industry dummy variable among them would be the benchmark category to alleviate the dummy variable trap.

## Year dummies (Year)

In order to capture time specific effects, following Akbar, Poletti-Hughes, El-Faitouri, & Shah (2016) and El-Faitouri (2014), we include six year dummy variables (denoted as *Year*) for the period 2010-2015 into our models. Year dummy variables should be controlled because each year could carry specific macroeconomic information of the year, including GDP growth rate, inflation rate, interest rate, exchange rate and other economic and stock market conditions. These specific macroeconomic conditions of each year may have an effect on the financial performance of listed firms.

The definitions and measurement of the variables are summarised in Table 3.4.

**Table 3.4**      **Definitions of variables**

<b>Variables</b>	<b>Acronyms</b>	<b>Definitions</b>
<b><i>Dependent variables</i></b>		
Tobin's Q	<b><i>InQ</i></b>	The market capitalisation plus the book value of liabilities divided by the book value of total assets. The natural logarithm of Tobin's Q is used
<b><i>Explanatory variables</i></b>		
Board size	<b><i>BS</i></b>	The number of directors on the BODs. The natural logarithm of the number of directors on the BODs is used

Board gender diversity	<b><i>FD</i></b>	The number of female directors on the BODs to the number of directors on the BODs
Board independence	<b><i>NED</i></b>	The number of non-executives on the BODs to the number of directors on the BODs
Board duality	<b><i>DUAL</i></b>	Dummy variable equals 0 when the title of the CEO and chairman is merged and equals 1 when the title is separated
Insider ownership	<b><i>INSDO</i></b>	The percentage of insider ownership in a firm
Ownership concentration	<b><i>BLHO</i></b>	The percentage of blockholders' ownership in a firm
<b><i>Control Variables</i></b>		
Firm size	<b><i>Size</i></b>	The natural logarithm of the market value of equity of a firm
Firm leverage	<b><i>Lev</i></b>	The ratio of total debts to total assets of a firm
Firm age	<b><i>InAge</i></b>	The number of years from the time a firm was listed. The natural logarithm of age is used
Standard deviation of stock returns	<b><i>StdDev</i></b>	Standard deviation of daily stock returns of a firm
Firm profitability	<b><i>Proft</i></b>	Annual net income divided by the number of outstanding shares in the year
Number of insiders owning shares	<b><i>NoInsd</i></b>	The number of insiders owning shares of a firm
Industry dummies	<b><i>Ind</i></b>	Nine dummy variables according to nine industries classified by ICB
Year dummies	<b><i>Year</i></b>	Six year dummy variables from 2010 to 2015



### **3.3 Endogeneity and dynamic relationships between corporate governance and firm financial performance**

The endogeneity problem is a matter of concern among academia when analysing the relationship between CG and firm performance (Wintoki et al., 2012, Nguyen et al., 2015, and Schultz et al., 2010). Endogeneity occurs when the explanatory variables (i.e., governance variables or ownership variables) are “correlated with the error term”, which results in bias and inconsistent estimates (Wooldridge, 2002).

According to Wintoki (2007), Schultz et al., (2010) and Wintoki et al., (2012), there are three sources of endogeneity when analysing the CG - firm financial performance relationship, namely “unobserved heterogeneity”, “simultaneous endogeneity”, and “dynamic endogeneity”.

Unobserved heterogeneity (also known as omitted variable bias) occurs when both firm financial performance and governance variables are correlated with unobservable firm specific components (Wintoki et al., 2012; and Roberts & Whited, 2013). For example, managerial capability, employees skills, and organisation culture are considered as unobservable firm specific factors. These factors may have impacts on firm financial performance and governance. Weak managerial capability and poor employees skills may result in a decrease in firm financial performance and stronger governance system arrangements to monitor managers.

Simultaneous endogeneity (or simultaneity) occurs when firm financial performance and governance variables simultaneously affect each other. For instance, insider ownership may have an impact on firm financial performance. In contrast, firm financial performance may also influence insider ownership (Demsetz & Villalonga, 2001). Therefore, firm financial performance and governance (both ownership and board structure) may concurrently affect each other.

Dynamic endogeneity is considered as one source of endogeneity because there is a likelihood that CG variables are not strictly exogenous when current governance may be influenced by past performance (Wintoki et al., 2012). For example, low past financial performance may lead to poor assessment of CEO capabilities from the board, which results in the possibility that the “CEO will be forced to accept more independent directors” on the board (Hermalin & Weshbach, 1998, p.97). This is viewed as a “direct effect of past performance on current governance” (Wintoki et al., 2012, p.585). In addition, there may be also an “indirect effect of past performance on current governance”. Wintoki et al., (2012, p.585) further explains that this indirect effect of past performance on current governance may occur when past performance influences firm specific characteristics and firm specific characteristics in turn may have an impact on current governance, then past performance indirectly affects current governance through firm specific characteristics. For example, the high past financial performance of

a firm may result in an increase in firm size. However, according to Boone et al., (2007), bigger firm size may require more directors on the board to ratify or monitor managers' behaviour. Thus, the high past financial performance may lead to a larger board size.

Wintoki et al., (2012) concludes that the current governance may be dynamically related to past performance. Similarly, Harris & Raviv (2008) and Hermalin & Weisbach (2003) also suggest that the CG - firm financial performance relation is dynamic. Wintoki et al., (2012) and Schultz et al., (2010) argue that failing to control for the "dynamic endogeneity" would lead to "spurious results" and inconsistency of the estimates of the relationship between CG and firm financial performance. The traditional techniques such as the OLS and FE estimators are not the solution for the dynamic endogeneity since they are designed for static models. The dynamic governance - performance relationship requires a dynamic model, meaning that past financial performance should be included in the models to examine the impact of CG on firm performance.

Wintoki et al., (2012) when re-examining the impact of board structure on the financial performance of 6,000 U.S firms during 1991-2003 used the SYS-GMM estimator in a dynamic model and state that board structure has no effect on the firms' financial performance. However, Wintoki et al., (2012) uses the OLS and FE techniques similar to prior studies (Eisenberg et al., 1998; Yermack, 1996) and his estimation result is similar to those of Eisenberg et al., (1998) and Yermack (1996), that board size negatively influences the financial performance. This is because the dynamic endogeneity is not addressed in the OLS and FE estimators. Wintoki et al., (2012) call for the use of the GMM estimator in governance studies which is designed to address effectively the dynamic endogeneity problem.

Subsequently, many other researchers have employed the GMM estimator to investigate the CG - firm financial performance relationship in dynamic models, eg., Nguyen et al., (2014); Arora & Sharma (2016); and Ammari et al., (2014).

This study takes into account the dynamic endogeneity problem in the relationship between governance and firm financial performance. Thus we follow the studies of Wintoki et al., (2012) and Guest (2009) to use the GMM technique to identify the impact of board structure and ownership structure on the financial performance of Vietnamese non-financial listed firms.

### **3.4 Empirical model and estimation technique**

#### **3.4.1 Empirical Models**

The objectives of this study are to explore the link between the financial performance of Vietnamese non-financial listed firms and CG features, including board structure (board size, gender diversity, board independence, and board duality), ownership identity (insider ownership), and ownership

concentration (blockholder ownership). The governance literature suggests that the CG - firm financial performance relationship is dynamic in nature (Harris & Raviv, 2008; Hermalin & Weisbach, 2003; Wintoki et al., 2012). As discussed in section 3.3, the exclusion of the possibility that “governance is dynamically related to past firm performance may cause the dynamic endogeneity problem” (Wintoki et al., 2012, p.582). Taking the endogeneity problem into consideration, this study employs five equations (equations (3.2) to (3.6)) with the “lagged dependent variables” on the right hand side of each equation. Based on Wintoki et al., (2012), the general equation (3.2) is used in this study to examine the CG - financial performance relationship of Vietnamese non-financial listed firms as follows:

$$Y_{it} = \alpha + \theta Y_{i,t-1} + \sum_{k=1} \beta_k X_{k,it} + \sum_{k=1} \gamma Z_{it} + \delta K_{i,t} + \eta_i + \varepsilon_{it} \quad (3.2)$$

Where,

$Y_{it}$  is the financial performance of firm i at year t;

$\alpha$  is the constant;

$\theta$ ,  $\beta_k$ ,  $\gamma$  and  $\delta$  are estimated coefficients;

$X_{k,it}$  represents the vectors of the explanatory variables, including board structure and ownership structure;

$Z_{it}$  includes “observable firm characteristics control variables”, including firm size (*Size*), firm leverage (*Lev*), firm risk (*StdDev*), firm profitability (*EPS*). In this study, they are treated as “endogenous variables” in the models.

$K_{i,t}$  includes firm age, year dummy variables and industry dummy variables. They are treated as strictly exogenous in the models.

$\eta_i$  is unobserved firm fixed-effects (e.g., managerial ability, employees’ capacity, capital intensity);

$\varepsilon_{it}$  is the idiosyncratic error term;

**Research Objective 1 to Objective 4:** In order to investigate the influence of board structure on the financial performance of Vietnamese non-financial listed firms, based on equation (3.2), this study uses equation (3.3) as follows:

$$\begin{aligned}
& Performance_{it} \\
& = \alpha + \theta Performance_{i,t-1} + \beta_1 Board\ Size_{it} + \beta_2 Board\ Gender\ Diversity_{it} \\
& + \beta_3 Board\ Independence_{it} + \beta_4 Board\ Duality_{it} + \gamma_1 Firm\ Size_{it} \\
& + \gamma_2 Firm\ Leverage_{it} + \gamma_3 Firm\ Risk_{it} \\
& + \gamma_4 Firm\ Profitability_{it} + \delta_1 Firm\ Age_{it} + Industry\ Dummies_i \\
& + Year\ Dummies_i + \eta_i + \varepsilon_{it} \quad (3.3)
\end{aligned}$$

There are four dependent variables in equation (3.3) including *Board Size*, *Board Gender Diversity*, *Board Independence* and *Board Duality*. The control variables include *Firm size*, *Firm Leverage*, *Firm Risk*, *Firm Profitability*, *Firm Age*, *Industry Dummies* and *Year Dummies*.

**Research Objective 5:** to examine the effect of insider ownership on the financial performance of Vietnamese non-financial listed firms, based on hypothesis (5) that the relationship between insider ownership and the non-financial firms' financial performance is an inverted U-shape, a quadratic regression model is employed to answer this objective. Because the relation between insider ownership and the non-financial firms' performance is expected to be a quadratic relation, in quadratic regression equation (3.4), the percentage of shares held by insiders and the percentage of shares held by insiders squared are included to formulate equation (3.4). If the relationship between insider ownership and the non-financial firms' performance is an inverted U-shape, it is expected that the coefficient of the linear term of insider ownership is significantly positive, and the coefficient of the quadratic term of insider ownership is significantly negative. Equation (3.4) is given as follows:

$$\begin{aligned}
& Performance_{it} \\
& = \alpha + \theta Performance_{i,t-1} + \beta_1 Insider\ Ownership_{it} + \beta_2 Insider\ Ownership^2_{it} \\
& + \gamma_1 Board\ Independence_{it} + \gamma_2 Firm\ Size_{it} + \gamma_3 Firm\ Leverage_{it} \\
& + \gamma_4 Firm\ Risk_{it} + \gamma_5 Firm\ Profitability_{it} \\
& + \gamma_6 Number\ of\ Insiders\ owning\ shares_{it} + \delta_1 Firm\ Age_{it} \\
& + Industry\ Dummies_i + Year\ Dummies_i + \eta_i + \varepsilon_{it} \quad (3.4)
\end{aligned}$$

There are two dependent variables in equation (3.4) including *Insider Ownership* and *Insider Ownership squared*. The control variables involve *Board Independence*, *Firm size*, *Firm Leverage*, *Firm Risk*, *Firm Profitability*, *Number of Insiders owning shares*, *Firm Age*, *Industry Dummies* and *Year Dummies*.

To control for the impact of board structure variables on the non-financial firms' financial performance while examining the relationship between insider ownership and the non-financial firms' performance, the board independence variable is included into equation (3.4) as a control variable to capture the impact of board structure on the non-financial firms' performance. In addition, as discussed in subsection (3.2.3), the number of insiders owning shares is used as a control variable in equation (3.4)

because the number of insider owning shares might be correlated with insider ownership of the firms due to its calculation. However, the number of insider ownership owning shares may have an effect on the firms' financial performance (Han & Suk, 1998).

**Research Objective 6:** in order to investigate the influence of blockholder ownership which represents ownership concentration on the financial performance of Vietnamese non-financial listed firms, based on hypothesis (6) that the relation between ownership concentration and the non-financial firms' financial performance is a cubic relation, this study formulates equation (3.5). In equation (3.5), the linear, quadratic and cubic terms of blockholder ownership are included. If the relation between ownership concentration and the non-financial firms' performance is a cubic relation, it is expected that the coefficient of the linear term of blockholder ownership is significantly positive; the coefficient of the quadratic term of blockholder ownership is significantly negative; and the coefficient of the cubic term of blockholder ownership is significantly positive. Equation (3.5) is described as follows:

$$\begin{aligned}
 Performance_{it} &= \alpha + \theta Performance_{i,t-1} + \beta_1 Blockholder\ Ownership_{it} \\
 &+ \beta_2 Blockholder\ Ownership_{it}^2 + \beta_3 Blockholder\ Ownership_{it}^3 \\
 &+ \gamma_1 Board\ Independence_{it} + \gamma_2 Firm\ Size_{it} + \gamma_3 Firm\ Leverage_{it} \\
 &+ \gamma_4 Firm\ Risk_{it} + \gamma_5 Firm\ Profitability_{it} + \delta_1 Firm\ Age_{it} \\
 &+ Industry\ Dummies_i + Year\ Dummies_i + \eta_i + \varepsilon_{it} \quad (3.5)
 \end{aligned}$$

In equation (3.5), the board independence variable which represents board structure is included as a control variable to capture the effect of board structure on the non-financial firms' performance.

Since insider and blockholder ownership belong to ownership structure variables, it should be included in one unified model to investigate the effect of one factor while controlling the impact of the other factor on non-financial firms' performance. For this purpose, equation (3.6) is formulated combining equations (3.4) and (3.5) as follows:

$$\begin{aligned}
 Performance_{it} &= \alpha + \theta Performance_{i,t-1} + \beta_1 Insider\ Ownership_{it} \\
 &+ \beta_2 Insider\ Ownership_{it}^2 + \beta_3 Blockholder\ Ownership_{it} \\
 &+ \beta_4 Blockholder\ Ownership_{it}^2 + \beta_5 Blockholder\ Ownership_{it}^3 \\
 &+ \gamma_1 Board\ Independence_{it} + \gamma_2 Firm\ Size_{it} + \gamma_3 Firm\ Leverage_{it} \\
 &+ \gamma_4 Firm\ Risk_{it} + \gamma_5 Firm\ Profitability_{it} \\
 &+ \gamma_6 Number\ of\ Insiders\ owning\ shares_{it} + \delta_1 Firm\ Age_{it} \\
 &+ Industry\ Dummies_i + Year\ Dummies_i + \eta_i + \varepsilon_{it} \quad (3.6)
 \end{aligned}$$

Section 3.4.2 presents the estimation techniques of this study.

### 3.4.2 Estimation technique

The estimation technique used in this study is the SYS-GMM estimator. However, to observe how the results change as different techniques are employed, this study also uses the OLS and FE methods to estimate the CG - financial performance relationship.

The OLS estimator was considered to be the most common estimation technique until the endogeneity in governance study became a major concern. The OLS estimation method of unknown parameters in the linear regression is “to minimise the sum of the square of the differences between the observed value in the sample and predicted values of the dependent variable”. There are four assumptions for the OLS estimator to be valid: the linear regression model is linear in parameters; there is a random sampling of observations; there is no multicollinearity; and the condition mean is equal to zero (Wooldridge, 2012).

As discussed in section 3.3, the fixed effects of the firm ( $\eta_i$ ) which are contained in the error term may determine governance and firm specific characteristics variables. For example, weak managerial capability and employees’ skills may result in decreased firm financial performance and stronger governance systems to monitor managers. Therefore the assumption 4 (zero condition mean) is not satisfied, leading to bias and inconsistent OLS estimation.

The FE method is designed to eliminate the endogeneity caused by unobserved firm specific fixed effects. In order to do this, the goal of the FE estimator is to eliminate the fixed effects ( $\eta_i$ ) from the error term. Assume the following model

$$Y_{it} = \theta L.Y_{it} + \beta X_{it} + \gamma Z_{it} + \delta K_{it} + \eta_i + \varepsilon_{it} \quad (3.7)$$

Where,

$Y$  is the firm’s financial performance variable;

$L.Y$  is the first order lag of the firm’s financial performance

$X$  is the governance variables which are treated as an endogenous variable;

$Z$  represents “observable firm characteristics”, including firm size ( $Size$ ), firm leverage ( $Lev$ ), firm risk ( $StdDev$ ), firm profitability ( $EPS$ ). They are treated as endogenous variables;

$K$  includes firm age, year dummy variables and industry dummy variables. They are treated as strictly exogenous variables;

$\eta_i$  is unobserved firm fixed-effects (e.g., managerial ability, employees’ capacity, capital intensity);

$\varepsilon_{it}$  is the idiosyncratic error term;

First, the FE technique computes the mean value of all observations of the variables in model (3.7) as follows:  $\bar{Y}_i = \frac{1}{T} \sum_1^T Y_{it}$ ;  $\bar{L.Y}_i = \frac{1}{T-1} \sum_1^{T-1} L.Y_i$ ;  $\bar{X}_i = \frac{1}{T} \sum_1^T X_i$ ;  $\bar{Z}_i = \frac{1}{T} \sum_1^T Z_i$ ;  $\bar{K}_i = \frac{1}{T} \sum_1^T K_i$ ;  $\bar{\varepsilon}_i = \frac{1}{T} \sum_1^T \varepsilon_i$ ;  $\bar{\eta}_i = \eta_i$  since  $\eta_i$  unchanges over time.

Next, in order to eliminate the fixed effects  $\eta_i$  which is contained in the error term, the FE technique constructs a time-demeaning equation as follows:

$$Y_{it} - \bar{Y}_i = \theta(L.Y_{it} - \bar{L.Y}_i) + \beta(X_{it} - \bar{X}_i) + \gamma(Z_{it} - \bar{Z}_i) + \delta(K_{it} - \bar{K}_i) + (\eta_i - \bar{\eta}_i) + (\varepsilon_{it} - \bar{\varepsilon}_i) \quad (3.8)$$

$\eta_i$  is time-invariant unobservable firm specific fixed effects which does not change over time. Therefore  $\eta_i = \bar{\eta}_i$  and hence  $(\eta_i - \bar{\eta}_i)$  is equal to zero in time-demeaning equation (3.8).

Equation (3.8) can be rewritten as follows:

$$\dot{Y}_{it} = \theta \dot{L.Y}_{it} + \beta \dot{X}_{it} + \gamma \dot{Z}_{it} + \delta \dot{K}_{it} + \dot{\varepsilon}_{it} \quad (3.9)$$

$$\dot{Y}_{it} = Y_{it} - \bar{Y}_i; \dot{L.Y}_{it} = L.Y_{it} - \bar{L.Y}_i; \dot{X}_{it} = X_{it} - \bar{X}_i; \dot{Z}_{it} = Z_{it} - \bar{Z}_i; \dot{K}_{it} = K_{it} - \bar{K}_i; \text{ and } \dot{\varepsilon}_{it} = \varepsilon_{it} - \bar{\varepsilon}_i$$

The error term  $\dot{\varepsilon}_{it} = \varepsilon_{it} - \bar{\varepsilon}_{it}$  in equation (3.9) no longer contains  $\eta_i$  which correlates with the firm's financial performance, governance and firm specific characteristics. The endogeneity caused by unobserved firm specific fixed effects has been eliminated. Thus equation (3.9) can be estimated using the OLS estimator without the problem of unobserved heterogeneity.

However, one important condition for the FE estimator to be "unbiased and consistent" is that the current value of the model's independent variables are "completely independent of past value of dependent variable" (Wintoki, 2012, p.562). In the context of CG, the FE method does not allow for the current CG to be affected by past performance. In equation (3.9) where past performance is included because of the "dynamic relation" between CG and the firm's financial performance, dynamic endogeneity arises. This is because the error term  $\dot{\varepsilon}_{it}$  contains  $\varepsilon_{it-1}$  which is correlated with  $\dot{L.Y}_{it-1}$  in  $\dot{L.Y}_{it}$  (Bond, 2002). Therefore, the FE method still produces biased results.

Wintoki et al., (2012) concludes that, since the FE technique is not designed to address the dynamic endogeneity, in a dynamic framework where past performance is included in the empirical models, the relation between CG and firm performance documented in prior studies that employed the OLS or fixed effects estimators is spurious as the endogeneity problems have not been fully addressed.

In order to address endogeneity problems, researchers may also consider using the instrument variable approach (IV) or Two Stage Least Square (2SLS) estimators. These two approaches have a

common technique, that is the use of “external” instrument variables for endogenous variables. Nevertheless, employing these methods faces some challenges. First, it is “extremely difficult” to find “external instrument variables” in the CG context (Wintoki et al., 2012; Himmelberg, Hubbard, & Palia, 1999). Second, even if researchers may find external instrument variables, the correlation of these instrument variables and endogenous regressors need to be strong. Otherwise, using these methods may still cause estimation bias and extensive standard errors in the result (Himmelberg et al., 1999). Lastly, Hermalin & Weisbach (2003), Harris & Raviv (2008), and Wintoki et al., (2012) presume that financial performance is naturally dynamically linked with CG, and the consequence of ignoring this possible dynamic characteristic of the CG - performance relationship may lead to “the endogeneity problem” (Wintoki et al., 2012). The purpose of IV or 2SLS is not to deal with such “dynamic endogeneity” (Nguyen et al., 2015). IV and 2SLS techniques address two other sources of endogeneity which are endogeneity caused by omitted variable bias and simultaneity bias (Nguyen et al., 2015). For these reasons, the IV or 2SLS approach appears to be inappropriate to investigate the firm financial performance - CG relationship.

Wintoki et al., (2012) suggest that the GMM technique is the most appropriate method to investigate the CG – firm performance relation. The GMM estimator can address the limitations of the OLS and FE methods as discussed above, and it employs “internal” instruments in the panel instead of external instruments such as the IV or 2SLS estimators. Wintoki et al., (2012, p.586) further explain that “past values of governance and performance can be used as instruments for current realizations of governance. This eliminates the need for external instruments”. Following the suggestions of Wintoki et al., (2012), we employ the GMM estimator in this study.

According to a number of researchers, the GMM technique is appropriate with panels where  $N > T$ , or “small T, large N” panels (Roodman, 2009a; Baum, 2006; Bond, 2002; and Baltagi, 2008). In this study, we analyze the relationship between CG and the financial performance of 412 Vietnamese non-financial listed firms (N) over 6 years (T). Our panel has  $N > T$ , therefore it is relevant when we employ the GMM technique.

GMM models may be either the difference-GMM or SYS-GMM. The Difference-GMM method was developed by Arrelano & Bond (1991), while the SYS-GMM was developed by Arrelano & Bover (1995) and Blundell & Bond (1998). We employ the SYS-GMM estimator in this study instead of the difference-GMM estimator for the following reasons. First, when the model variables are close to “random-walk”, the difference-GMM method works ineffectively due to past level as the instrument for the difference equation conveys insufficient information on future changes (Roodman, 2009a; Baum, 2006; and Bond, 2002). It has been widely known that variables in the financial field are possibly random-walk, therefore the SYS-GMM estimator appears to be a better choice. Second, according to Roodman



(2009a) and Baltagi (2008), the SYS-GMM estimator, in general, is more efficient than the difference-GMM estimator in terms of estimation efficiency because it improves precision and decreases finite sample bias. Unlike the difference-GMM, the SYS-GMM method involves time-invariant regressors (Roodman, 2009a). Lastly, the SYS-GMM estimator works more efficiently than the difference-GMM estimator with unbalanced panels (Roodman, 2009a). The panel data in this study is unbalanced, therefore we select the SYS-GMM approach.

According to Wintoki et al., (2012, p.588), the SYS-GMM estimator involves “two simultaneous equations, one in levels and the other in first differences, which are combined into a system of equations” as follows:

$$\begin{bmatrix} Y_{it} \\ \Delta Y_{it} \end{bmatrix} = \alpha + \theta \begin{bmatrix} Y_{it-1} \\ \Delta Y_{it-1} \end{bmatrix} + \beta \begin{bmatrix} X_{it} \\ \Delta X_{it} \end{bmatrix} + \gamma \begin{bmatrix} Z_{it} \\ \Delta Z_{it} \end{bmatrix} + \varepsilon_{it} \quad (3.10)$$

Where,

$Y$  is the performance variable.

$X$  is the governance variables which are treated as endogenous;

$Z$  is observable firm characteristics. They are treated as endogenous;

$\varepsilon_{it}$  is the idiosyncratic error term;

In the level equation, “lagged first differences” of independent variables are used as instruments. Conversely, for the equation in the first-differenced form, “lagged levels” of independent variables are used as instruments (Blundell & Bond, 1998; Antoniou, 2008; Wintoki et al., 2012). The SYS-GMM estimator enables researchers “to treat any of the variables in the system as endogenous” (Blundell & Bond, 1998).

In addition, we select two-step SYS-GMM instead of one-step SYS-GMM in this study because the two-step SYS-GMM estimator can produce robust outcomes in the presence of heteroscedasticity of the data (Roodman, 2009a). According to Baltagi (2008), the limitation of two-step in comparison with one-step is that it makes standard errors downwardly biased. Following previous empirical studies, we use “Windmeijer correction” to eliminate the limitation of the two-step SYS-GMM estimator to improve the accuracy in the estimation (Windmeijer, 2005; and Baltagi, 2008).

Based on Wintoki et al., (2012), this study treats lags of performance, board size, board gender diversity, board duality, board independence, insider ownership, ownership concentration, firm size, firm leverage, firm risk, the number of insiders owning shares, and firm profitability as endogenous

variables. Meanwhile, firm age, industry dummies and year dummies are treated as “strictly exogenous” variables.

I follow Wintoki et al., (2012) to employ the first lags of performance in our models and the third and fourth lags of level variables as instruments in the differenced equation.

Section (3.5) presents the pre-estimation tests including the Durbin-Wu-Hausman (DWH) test to test for the endogeneity of the endogenous regressors, the modified Wald test for “heteroscedasticity” and the Wooldridge test for “autocorrelation”. Section (3.6) discusses specification tests involving the Hansen-J test for “over-identifying restrictions” and the Arrelano and Bond test for “autocorrelation”. These pre-estimation and specification tests are performed to ensure the GMM method is appropriate for this study.

### **3.5 Pre-estimation tests**

#### **3.5.1 The Durbin-Wu-Hausman test for the endogeneity of the endogenous regressors**

The governance literature has shown that board structure, ownership and firm characteristics variables are potentially endogenous (Wintoki et al., 2012; Himmelberg et al., 1999; and Hermalin & Weisbach, 1998). Especially if the endogeneity issue comes from the effects of past values of firms’ financial performance, then the OLS or FE estimators cannot be selected as an estimation approach because they produce spurious results (Wintoki et al., 2012, Flannery & Hankins, 2013). However, before using the GMM technique, it is required to test whether the suspected endogenous variables are actually endogenous (Scholtz et al., 2010; Nguyen et al, 2015).

The DWH test is based on the levels of firms’ financial performance and the CG and control variables (Schultz et al., 2010). The instruments include one-year “lagged differences” of suspected endogenous explanatory and control variables. Based on Schultz et al., (2010), and Nguyen et al., (2015), except for three control variables such as firm age, year dummy and industry dummy variables which are included into the DWH test and treated as “strictly exogenous”, the present study treats all explanatory variables and the remaining control variables as endogenous.

The test statistic follows a Chi-square distribution. The “degrees of freedom” are equal to the number of “endogenous variables”. The null hypothesis under the DWH test is that suspected “endogenous variables” can be treated as “exogenous variables”. If the “null hypothesis” cannot be rejected, it is irrelevant to use the GMM technique. The test result justifies the use of the GMM method.

In this study, this test is carried out for equations (3.3) to (3.6).

### 3.5.2 The modified Wald test for heteroscedasticity and the Wooldridge test for autocorrelation

In case of the presence of “heteroscedasticity” and “autocorrelation”, the GMM approach works more efficiently than the FE estimator (Wooldridge, 2001). Although these tests are not decisive for the choice of the GMM estimator such as the DWH test, the results of these tests are supportive for the GMM approach selectors. In this study, for equations (3.3) to (3.6), we employ the modified Wald test to test for “heteroscedasticity” and the Wooldridge test for “autocorrelation”. The “null hypothesis” of the modified Wald test is that no “heteroscedasticity” is present in the study sample. The Wooldridge test for “serial correlation” is under the “null hypothesis” of non-autocorrelation of the data. Thus, if the p-values of these tests results are lower than 0.05, then the “null hypothesis” of these tests is rejected, meaning that “heteroscedasticity” and “serial correlation” are present in the data; hence the use of the GMM estimator instead of the FE estimator is the better option.

In addition to the DWH test for the endogeneity, the modified Wald test for “heteroscedasticity” and the Wooldridge test for “autocorrelation”, this study also considers the panel stationarity test. This is because in the field of economics and finance, time related or seasonal shocks in one time period may influence subsequent periods. In other words, the economic or finance variables may include deterministic components or close to random walk. Meanwhile, one basic assumption of the classical linear regression model is that current values of variables should be independent of their past values. The aim of testing for stationarity is to check whether the mean and variance of variables depend on time. If it is the case, then the panel is nonstationary which may lead to spurious regression results.

There are several stationarity tests such as “Levin, Lin and Chu (2002), Harris and Tzavalis (1999); Breitung (2000), Im, Pesaran and Shin (1997 and 2003), Maddala and Wu (1999), Hadri (2000), and Hadri and Larsson (2005)” (Hlouskova & Wagner, 2005, p.3). The null hypothesis of these tests states that “all panels contain a unit root”. If the null hypothesis is not rejected, then the panel is nonstationary.

While recognising the importance of “unit root tests” for panel data, the present study does not carry out unit root tests for several reasons. First, it is observed that the issue of stationarity is unlikely to arise if the number of time periods (T) is short i.e,  $T < 10$ . Many unit root tests have asymptotics of  $T \rightarrow \infty$  such as Breitung (2000), Choi (2001) (or Fisher-type test), Im, Pesaran and Shin (2003), and Hadri (2000) test. When T is short, the power of the unit root test may be reduced significantly (Hoang & Mcnown, 2006). The panel data of this study is short with  $T = 6$ , so the concern of the nonstationarity problem may be lessened and the the power of the unit root test may be reduced. Second, except for the Im, Pesaran and Shin test and the Fisher-type test that allow researchers to test for unit roots of unbalanced panels, most of the “unit root tests” are applied to only balanced panels i.e, Harris and

Tzavalis (1999), Breitung (2000), and Levin, Lin and Chu (2002) test. Since the panel data of this study is unbalanced panel, the Im, Pesaran and Shin (2003) test and the Fisher-type test are the possible options to test for unit roots. However, the software (in STATA) to run the Im, Pesaran and Shin test does not allow us to test for unit roots of unbalanced panel data with  $T < 10$ . Meanwhile, the Fisher-type test is under the asymptotics of  $T \rightarrow \infty$  and  $N \rightarrow$  finite or infinite. Our panel has  $T = 6$  year, so it seems to be inappropriate to rely on asymptotics of  $T \rightarrow \infty$  in the Fisher-type test. These may be the reasons it is difficult to find the “unit root test” result reported in CG - firm performance papers.

### **3.6 Specification tests**

Specification tests are crucial to check for the validity in using the GMM estimator. For equations (3.3) to (3.6), this study employs two common specification tests, including the Hansen-J test for “over-identifying restrictions” and the Arrelano and Bond test for “autocorrelation”.

#### **3.6.1 The Hansen-J test for over-identifying restrictions**

One characteristic of the GMM estimator is the use of many instruments. If the instruments are invalid, then the GMM estimator is inconsistent. The Hansen-J test for “over-identifying restrictions” is “the most standard test” to check whether the model is specified and the instruments used are valid (Baum, 2006).

The Hansen-J test is under “the null hypothesis” that the instruments are “valid instruments” i.e, “uncorrelated with the error term”. If the “null hypothesis” is rejected, then the specification of the model and the instruments are invalid. Conversely, the instruments are valid. The Hansen-J test follows a Chi-square distribution. The “degrees of freedom” are equal to “the difference between the number of moment conditions and the number of parameters” (Baum, 2006).

It should be noted that an alternative test for over-identifying restrictions is Sargan over-identifying restrictions. However, Roodman (2009b) suggests that the Sargan test is less robust than the Hansen-J test if there is autocorrelation and heteroscedasticity in the sample data. The efficiency of the Hansen-J test, nevertheless, would be reduced when there is instrument proliferation (too many instruments). In other words, enormous instruments may cause the Hansen-J test to be less powerful in testing the instruments’ invalidity (Roodman, 2009b). Following Wintoki et al., (2012), this study keeps the number of instruments reduced by using the command “collapse” in STATA. Thus, the use of the Hansen-J test for over-identifying restrictions is relevant.

Furthermore, the Hansen-J test also allows us to check whether any subset of instruments such as levels, differenced or IV are valid. The “null hypothesis” is that the instrument subset is exogenous i.e,

“uncorrelated with the error term”. The rejection of the “null hypothesis” means that “the subset of instruments” is endogenous.

For equations (3.3) to (3.6), the Hansen-J test is carried out.

### 3.6.2 The Arrelano and Bond test for autocorrelation

Another important condition to ensure the “validity of instruments” used in the GMM estimator is that there is no “autocorrelation” in the idiosyncratic disturbance  $\varepsilon_{it}$  (Roodman, 2009a).

The Arrelano and Bond test is designed to test for serial correlation in the idiosyncratic disturbance  $\varepsilon_{it}$ . According to the Arrelano and Bond test, in order to detect the serial correlation in the idiosyncratic disturbance  $\varepsilon_{it}$ , the Arrelano and Bond test checks for “autocorrelation” via the residual in differences  $\Delta\varepsilon_{it}$  ( $\Delta\varepsilon_{it} = \varepsilon_{it} - \varepsilon_{it-1}$ ).

Arrelano & Bond (1991) suggest that “the first-order serial correlation in differences AR(1) is likely to be present”. This is because  $\Delta\varepsilon_{it}$  would mathematically correlate with  $\Delta\varepsilon_{it-1}$  when both  $\Delta\varepsilon_{it}$  and  $\Delta\varepsilon_{it-1}$  have the shared term  $\varepsilon_{it-1}$ . Nevertheless, the evidence of autocorrelation in the AR(1) is uninformative (Roodman, 2009a).

$\Delta\varepsilon_{it}$  is likely to correlate with  $\Delta\varepsilon_{it-1}$ , but may be uncorrelated with  $\Delta\varepsilon_{it-k}$  for  $k \geq 2$  (Roodman, 2009a). Thus, instead of looking at the first-order autocorrelation in differences AR(1), researchers pay attention to the “second-order autocorrelation in differences” AR(2), in the sense that this would check for the serial correlation between  $\varepsilon_{it}$  in  $\Delta\varepsilon_{it}$  ( $\Delta\varepsilon_{it} = \varepsilon_{it} - \varepsilon_{it-1}$ ) and  $\varepsilon_{it-2}$  in  $\Delta\varepsilon_{it-2}$  ( $\Delta\varepsilon_{it-2} = \varepsilon_{it-1} - \varepsilon_{it-2}$ ) (Roodman, 2009a, p.119). More specifically, to detect serial correlation in levels of order n, the Arrelano and Bond test would check for serial correlation in differences of order n+1.

If there is no autocorrelation of order n, the lags of order n or higher are valid instruments in the GMM model. For example, if autocorrelation in the AR(1) is present, but the AR(2) is free of “autocorrelation”, then lags of order two, three or higher are valid instruments.

The “null hypothesis” is that there is no “autocorrelation” in the idiosyncratic disturbance  $\varepsilon_{it}$ . The p-value of the AR(2) test needs to be greater than 0.05. If this is the case that “the null hypothesis” cannot be rejected, then we can confirm that there is no autocorrelation and the lags used as instruments are appropriate. In this study, for equations (3.3) to (3.6), the Arrelano and Bond test is performed.

Following Nguyen et al., (2014), this study performs several robustness checks to test if the initial results produced from equation (3.3) to equation (3.6) are consistent with alternative variables. First, *EPS* which represents firm profitability is replaced by *ROA*. Second, this study controls for firm growth

opportunity (sale growth) instead of firm profitability and further controls for macroeconomic factors (*Infl*). Subsection 4.4.5 presents the results of the robustness check performed in this study.

### **3.7 Summary**

The dataset in this study is unbalanced panel data comprising 412 Vietnamese non-financial listed firms with 2,322 firm-year observations in 2010-2015. The study sample size is larger than previous studies for Vietnam's stock market that examine the relationship between board structure and ownership structure, two important features of CG, and the financial performance of non-financial listed firms in Vietnam.

This study uses Tobin's Q, the most commonly used "market-based measures", as firms' financial performance to examine their link with board structure (including board size, board gender diversity, board independence, and board duality), and insider ownership (the percentage of insider ownership), and ownership concentration (the percentage of blockholder ownership). The study employs firm size, firm leverage, firm age, firm risk, firm profitability, the number of insiders owning shares, industry dummies and year dummies as control variables.

In order to address the possible dynamic endogeneity problem when investigating the CG - financial performance relationship of Vietnamese non-financial listed firms, this study employs the two-step SYS-GMM estimator with four dynamic models from equations (3.3) to (3.6). To justify the use of the SYS-GMM technique, we use the DHW test for the endogeneity of regressors. As suggested by Wooldridge (2001), the SYS-GMM estimator works more efficiently than the FE estimator in the presence of heteroscedasticity and autocorrelation. This study conducts the modified Wald test for "heteroscedasticity" and the Wooldridge test for "autocorrelation" of the sample to ensure that the SYS-GMM estimator is the suitable technique for the study.

The tests that confirm the "validity of the GMM estimator" include (i) the Hansen-J test for "over-identifying restrictions" that checks for "the validity of instruments" and the specification of the model, and (ii) the Arrelano and Bond test for "autocorrelation".

## Chapter 4

### Empirical results

Chapter 4 presents the empirical results of the study. This chapter is structured as follows. Section 4.1 provides the data analysis which includes the descriptive statistics, correlation matrix, and multicollinearity diagnostic of the model variables. Section 4.2 presents the results of the pre-estimation tests of the study, including the DWH test for “endogeneity of the regressors”, the modified Wald test for “heteroscedasticity” and the Wooldridge test for “autocorrelation” of the data sample. Section 4.3 provides the results of the specification tests of the SYS-GMM estimator, including the Arrelano and Bond test for “autocorrelation” and the Hansen-J test for “over-identifying restrictions”. Section 4.4 presents the main empirical results of the study. Section 4.5 summarizes the chapter.

#### 4.1 Data analysis

##### 4.1.1 Descriptive statistics

Table 4.1 reports the descriptive statistics of the variables employed in this study. Tobin’s Q, which measures the financial performance of the non-financial listed firms of the sample data, ranges from the lowest value of 0.23 to the highest value of 5.84, with a mean value of 0.98 and a median value of 0.91. Both the mean and median values of Tobin’s Q are slightly lower than one, which means the market value is lower than the book value but very close to the book value of the non-financial listed stocks in the study period 2010-2015. The average Tobin’s Q of Vietnamese non-financial listed firms in this study is higher than the mean value of Tobin’s Q (0.85) reported by Nguyen et al., (2015) during the period 2008-2011. This is reasonable as it reflects the rise of the Vietnam stock market after the 2008 global financial crisis.

The average board size is approximately 5.5 members for the Vietnamese non-financial listed firms of the sample data. This value is considerably lower than other Asian countries, such as Singapore (7.30), Malaysia (8.13), India (8.75), China (9.10), Taiwan (10.58), and Thailand (10.68) reported by Van Essen, Oosterhout, & Carney (2012). The minimum and maximum values of board size are 3 and 11 members, respectively, indicating the Vietnamese non-financial listed firms strictly follow the requirement of the CG Code (2007) which requires that the BODs may have no fewer than three and no more than eleven members.

The mean ratio of female directors on the BODs is 12%, similar to the ratio reported by Nguyen et al., (2015). According to an ADB report titled “*Women’s leadership and corporate performance*” published in 2016, the average percentage of women on the BODs of the Vietnamese non-financial listed firms

in this study is lower than Australia (18.2%) and New Zealand (14.8%), but considerably greater than other Asian countries, such as India (5.2%), China (8.5%), South Korea (1.9%), Japan (2%), Malaysia (8.6%), and Singapore (8.2%).

The percentage of “non-executive directors” on the BODs accounts for 59% on average during the study period, which is higher than the ratio of 49% reported by Nguyen et al., (2015) for the Vietnamese non-financial listed firms in 2007-2010. The higher percentage of “non-executive directors” for the period 2010-2015 in comparison with the period 2008-2011 indicates that Vietnamese non-financial listed firms appear to actively react and increasingly follow the recent call for more independence on the board by the CG Code (2007). To encourage the independence of the board in Vietnamese listed firms, the CG Code (2007) requires that at least one third of the number of directors on the BODs should be “non-executive directors”. However, the minimum proportion of “non-executive directors” on the board observed in this study is zero, which means there are non-financial listed firms that fail to comply with the requirement of the CG Code (2007).

Duality leadership accounts for 35% among the Vietnamese non-financial listed firms, higher than the ratio of 32% reported by Nguyen et al., (2015) in their study period 2008-2011. This means the concentration of power in one person is not the most common practice among the Vietnamese non-financial listed firms when nearly two thirds (65%) of the Vietnamese non-financial listed firms select to separate their chairperson and CEO titles. More importantly, the duality ratio gradually decreases year by year from 41.6% in 2010 to 39.7% in 2011, 37.1% in 2012, 33.5% in 2013, 32.1% in 2014, and 29.5% in 2015. This reflects the trend of separating the chairman and CEO positions among the Vietnamese non-financial listed firms during this study period of 2010-2015 following the call of CG Code (2007) to split these two key titles to increase the “check and balance” system. In comparison with other Asian countries, the duality ratio in the Vietnamese non-financial listed firms is lower than Hong Kong (43%), similar to Singapore (34%), but slightly higher than India (32%), China (30%), Malaysia (29%) reported by Van Essen et al., (2012).

The mean percentage of insider ownership of the Vietnamese non-financial listed firms is 10%, lower than 30% in Singapore and 23% in Malaysia (Mak & Kusnadi, 2005), but slightly greater than 9.3% in China (Ruan, Tian, & Ma, 2011). The number of insiders owning shares of the non-financial listed firms is from 0 to 16 people. Meanwhile, the mean percentage of blockholder ownership of the Vietnamese non-financial listed firms is approximately 41%, slightly lower than the ratio of 44% reported by Nguyen et al., (2015) for the period 2008-2011. This ratio is considerably high in comparison with that of the U.S (11.7%) and the UK (7.5%) reported by Thomsen, Pedersen, & Kvist (2006), but considerably lower than Malaysia (47%) and Singapore (60%) reported by Mak & Kusnadi (2005). This indicates that in comparison with the U.S and the UK, the ownership concentration of the Vietnamese non-financial



listed firms is relatively high. However, the ownership concentration of the Vietnamese non-financial listed firms may not be as high as those in the Asian region. Blockholder ownership varies significantly among the Vietnamese non-financial listed firms, from 0% to 98%.

Firm size measured by “the market value of the firm’s equity” ranges from 3.8 billion (166 thousand USD) to 154,000 billion VND (6.73 billion USD) with a mean value of 816 billion VND (35.62 million USD) of our sample. According to the listing rules, to be eligible for listing the shares in the Vietnam stock exchange, one of the listing conditions is that a firm must have the book value of at least 10 billion VND. The minimum market value of equity of 3.8 billion VND in this study shows several non-financial listed firms with market values much lower than the minimum book value eligible for listing. The average firm leverage is equal to 0.52. This ratio shows that 52% of the total assets of the Vietnamese non-financial listed firms is financed by debt. Leverage ranges largely from 0% to 97%. “The standard deviation of daily stock returns” which represents the market risk has a mean value of 0.03. This means the average daily volatility of the listed stocks of our sample is 3%.

The profitability of Vietnamese non-financial listed firms measured by earning per share ratio (EPS) averages approximately 1,750 VND. The EPS ranges from a minimum value of -10,300 VND to a maximum value of 13,600 VND. The negative EPS value indicates several non-financial listed firms in the sample generate negative profits during the study period. The average age of Vietnamese non-financial listed firms is approximately 6 years. This is reasonable since the Vietnam stock market started its operation in 2000, only ten years before the study period.

**Table 4.1 Descriptive statistics of the variables used in the study**

<b>Variable</b>	<b>Obs.</b>	<b>Mean</b>	<b>Median</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
<i><b>Tobin’s Q</b></i>	2322	0.98	0.91	0.37	0.23	5.84
<i><b>Board size</b></i>	2322	5.47	5.00	1.08	3.00	11.00
<i><b>Percentage of female directors</b></i>	2322	0.12	0.00	0.15	0.00	0.71
<i><b>Percentage of non executive directors</b></i>	2322	0.59	0.60	0.18	0.00	100.00
<i><b>Board Duality</b></i>	2322	0.35	0.00	0.48	0.00	1.00
<i><b>Insider Ownership</b></i>	2320	0.10	0.04	0.14	0.00	0.96

<b>Blockholder Ownership</b>	2093	0.41	0.44	0.23	0.00	0.98
<b>No. of insiders owning shares</b>	2320	6.12	6.00	3.11	0.00	16.00
<b>Size (billion VND)</b>	2322	816.00	144.00	5,150	3.80	154,000
<b>Leverage</b>	2322	0.52	0.56	0.22	0.00	0.97
<b>StdDev</b>	2322	0.03	0.03	0.01	0.00	0.06
<b>Profitability (VND)</b>	2315	1739.40	1467.86	1970.48	-10334.06	13629.49
<b>Age</b>	2322	5.67	5.00	2.49	1.00	16.00

Source: Author's calculation

#### 4.1.2 Correlation matrix and multi-collinearity diagnostic

Table 4.2 shows the correlation matrix of variables of the study. The Table shows the correlation coefficients of the explanatory variables are less than 0.8, meaning there is no “multi-collinearity” problem among the regressors (Damodar, 2004; Gujarati, 2008).

Another check for “multi-collinearity” is the “variance inflation factors” (VIFs) of the explanatory variables used in equations (3.3) to (3.6). It is observed in Table 4.3 that all VIFs are “under the acceptable cut-off point of 10” recommended by Chatterjee & Hadi (2012), meaning the problem of multi-collinearity is not present in this study.

Table 4.2 Pair-wise correlation coefficients

	<i>BS</i>	<i>FD</i>	<i>NED</i>	<i>DUAL</i>	<i>INSDO</i>	<i>BLHO</i>	<i>NoInsd</i>	<i>Lev</i>	<i>Size</i>	<i>StdDev</i>	<i>Proft</i>	<i>ROA</i>	<i>Growth</i>	<i>InAge</i>
<i>BS</i>	1.00													
<i>FD</i>	0.05**	1.00												
<i>NED</i>	0.09***	-0.06***	1.00											
<i>DUAL</i>	0.00	0.07***	-0.37***	1.00										
<i>INSDO</i>	0.07***	0.10***	-0.07***	0.16***	1.00									
<i>BLHO</i>	-0.10***	-0.03*	0.04	-0.12***	-0.05**	1.00								
<i>NoInsd</i>	0.18***	-0.04*	0.06***	-0.00	0.28***	-0.02	1.00							
<i>Lev</i>	-0.00	-0.18***	-0.10***	-0.03	0.10***	0.03	0.13***	1.00						
<i>Size</i>	0.33***	0.06***	0.18***	-0.11***	-0.05**	0.11***	0.15***	-0.04**	1.00					
<i>StdDev</i>	-0.17***	-0.10***	-0.09***	0.09***	0.05**	-0.06***	-0.09***	0.16***	-0.48***	1.00				
<i>Proft</i>	0.04*	0.05**	-0.02	0.01	-0.09***	0.08***	0.03	-0.18***	0.35***	-0.27***	1.00			
<i>ROA</i>	0.05**	0.11***	0.02	0.02	-0.11***	0.05**	-0.02	-0.45***	0.31***	-0.29***	0.76***	1.00		
<i>Growth</i>	0.00	0.01	0.04*	-0.02	0.00	-0.04**	-0.05**	-0.01	0.03	0.07***	0.09***	0.13***	1.00	
<i>InAge</i>	0.07***	0.00	0.12***	-0.14***	-0.08***	0.07***	0.10***	-0.00	0.18***	-0.20***	-0.01	-0.08***	-0.02	1.00

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

**Table 4.3 Variance Inflation Factors (VIFs) of the explanatory variables**

<b>Variable</b>	<b>VIFs.</b>
<i>L.InQ</i>	1.40
<i>BS</i>	1.19
<i>FD</i>	1.08
<i>NED</i>	1.22
<i>DUAL</i>	1.21
<i>INSDO</i>	1.15
<i>BLHO</i>	1.07
<i>NoInsd</i>	1.17
<i>Size</i>	1.87
<i>Lev</i>	1.16
<i>StdDev</i>	1.37
<i>Proft</i>	1.35
<i>InAge</i>	1.11

Source: Author's Calculation

## **4.2 Pre-estimation Tests**

This section presents the results of the DWH test for the “endogeneity of the regressors”, the modified Wald test for “heteroscedasticity” and the Wooldridge test for “autocorrelation” of the sample. They are pre-estimation tests which confirm “the validity of the SYS-GMM estimator” employed in the present study.

### 4.2.1 The Durbin-Wu-Hausman test for the endogeneity of the regressors

As discussed in chapter 3, the “endogeneity of the regressors” is a matter of concern among scholars while examining the relationship between CG and firm financial performance (Wintoki et al., 2012; and Schultz al., 2010). The “endogeneity problem” occurs when “the explanatory variables correlate with the error term” in the model, resulting in bias and inconsistent estimates (Wooldridge, 2002). Schultz et al., (2010, p157) suggests that if the variables are “exogenous”, the OLS and FE estimators “will produce the parameter estimates that are more efficient than their dynamic GMM counterpart”. However, if the endogeneity of variables is present, the GMM approach is the more appropriate technique to overcome the “endogeneity problem” (Wintoki et al., 2012, Schultz al., 2010). Therefore, in order to justify the use of the GMM technique, it is important to ensure that the endogeneity of variables actually exists. This study conducts the DWH test to check for the presence of “the endogeneity of the regressors” of equations (3.3) to (3.6).

Table 4.4 shows the results of the DWH test. In all the four models, “the null hypothesis” is rejected at any significance levels. This means the suspected endogenous variables in the tests should be treated as endogenous. Hence, the DWH test results suggest that the GMM estimator is the appropriate technique for the present study.

**Table 4.4 The Durbin-Wu-Hausman (DWH) test for endogeneity of variables**

<i>Ho: Regressors are exogenous</i>				
	<b>Equation (3.3)</b>	<b>Equation (3.4)</b>	<b>Equation (3.5)</b>	<b>Equation (3.6)</b>
<b><math>\chi^2</math> statistic</b>	$\chi^2(9) = 31.46$	$\chi^2(9) = 34.99$	$\chi^2(9) = 33.68$	$\chi^2(12) = 37.78$
<b>P-Value</b>	0.0002	0.0001	0.0001	0.0002

Source: Author’s calculation

### 4.2.2 The modified Wald test for heteroscedasticity and the Wooldridge test for autocorrelation

Wooldridge (2002) suggests that in the presence of “heteroscedasticity” and “autocorrelation”, the GMM approach works more efficiently than the FE estimator. In this study, for equations (3.3) to (3.6), I carry out the modified Wald test to test for “heteroscedasticity” and the Wooldridge test for “autocorrelation” of our panel data.

Table 4.5 shows the results of the modified Wald test for “heteroscedasticity” and the Wooldridge test for “autocorrelation” of the sample data. The results indicate that for both the modified Wald test and Wooldridge test, “the null hypothesis” is rejected at a 1% level of significance which means heteroscedasticity and autocorrelation are present in the sample data. Therefore, according to Wooldridge (2001), the GMM technique is better than the FE estimator to estimate the relationship between CG and the firms’ financial performance in the presence of “heteroscedasticity” and “autocorrelation” of the data sample. In addition, according to Roodman (2009a), in the presence of “heteroscedasticity”, the two-step SYS-GMM with Winmeijer finite sample correction is more efficient than the one-step SYS-GMM. Hence, the two-step SYS-GMM is employed in this study.

**Table 4.5 The modified Wald test for heteroscedasticity and the Wooldridge test for autocorrelation**

	<b>Equation (3.3)</b>	<b>Equation (3.4)</b>	<b>Equation (3.5)</b>	<b>Equation (3.6)</b>
<i>Modified Wald test for heteroscedasticity (Ho: homoscedasticity)</i>				
<b><math>\chi^2</math> statistic</b>	$\chi^2(412)=6400000$	$\chi^2(412)=550000$	$\chi^2(412)=6500000$	$\chi^2(412)=930000$
<b>P-Value</b>	0.0000	0.0000	0.0000	0.0000
<i>Wooldridge test for autocorelation ( Ho: no autocorrelation)</i>				
<b>F statistic</b>	F(1, 410)=291.83	F(1, 410)= 284.55	F(1, 407)=186.32	F(1, 407)= 183.53
<b>P-Value</b>	0.0000	0.0000	0.0000	0.0000

Source: Author’s calculation

### 4.3 Specification Tests of the SYS-GMM estimator

This section presents the results of the specification tests of the SYS-GMM estimator for equations (3.3) to (3.6). The specification tests, including the Arrelano and Bond test for “autocorrelation” and the Hansen-J test for “over-identifying restrictions”, are vital to confirm “the validity of the SYS-GMM estimates” in this study.

Table 4.6 shows the specification tests of the SYS-GMM estimator. The AR(1) tests report z-statistics which are negative with p-value = 0.000 in equations (3.3) to (3.6), which means the serial correlation of the first-order in difference AR(1) is present as suggested by Arrelano & Bond (1991). Meanwhile,

the AR(2) test reveals the p-values are greater than 0.1 in equations (3.3) to (3.6) (p-values are 0.178, 0.182, 0.274, 0.123, respectively). This indicates that the “serial correlation in the second-order of the diosyncratic disturbance in differences” AR(2) is not present, thus there is no autocorrelation in the first-order in the levels of the diosyncratic disturbance. In addition, according to Roodman (2009b), lags of the order of two or higher in levels are valid to use as the instruments in the differenced equations. This study follows Wintoki et al., (2012) to use lags 3 and 4 of levels as the instruments in the “differenced equations”. The results of the AR(2) tests suggest that the lags of the order of 3 to 4 are valid instruments in equations (3.3) to (3.6).

The Hansen-J test results reported in Table 4.6 shows the J-statistics are 17.09 with p-value = 0.314 in equation (3.3), 12.35 with p-value = 0.653 in equation (3.4), 12.62 with p-value = 0.632 in equation (3.5), and 13.50 with p-value = 0.890 in equation (3.6). The p-values of the test for all equations are greater than 0.1, indicating that “the null hypothesis” of valid instruments cannot be rejected. In other words, all instruments as a group used in equations (3.3) to (3.6) are exogenous and valid and all the models are specified. Further, the Difference-in-Hansen test to check for “the exogeneity of instrument subsets” is also carried out in this study. The Difference-in-Hansen test results show all p-values of the test are larger than 0.1. This means all “instrument subsets” i.e, “GMM instruments” for levels and “IV instruments” are exogenous.

In addition, Roodman (2009b) suggested that in the SYS-GMM estimator, “the number of instruments” should be smaller than “the number of groups” (the number of listed firms in this study) to ensure that the SYS-GMM estimator works efficiently. Table 4.6 also reports “the number of groups” and “the number of instruments” and it shows “the number of instruments” is fewer than “the number of groups” in equations (3.3) to (3.6), thus the concern of too many instruments is not an issue in this study.

In conclusion, all the specification tests strongly provide support for the SYS-GMM estimator and verify the validity of instruments used in this study. Although this study reports the empirical results generated by the SYS-GMM technique as well as the OLS and FE estimators for comparison purposes, the results of the SYS-GMM estimator are the main focus of this study. Schultz et al., (2010, p.157) recommends that “in the presence of endogeneity, the OLS and fixed-effects panel estimation approaches will produce biased parameter estimates, while those of dynamic GMM panel models will be superior in terms of consistency”.

**Table 4.6 Specification Tests of the SYS-GMM estimator**

	Equation 3.3	Equation 3.4	Equation 3.5	Equation 3.6
<i>Arrelano and Bond test for autocorrelation</i>				
<b>AR(1) in first differences</b>	z = -4.96	z = -4.44	z = -4.79	z = -4.97
<b>(p-value)</b>	p-value=0.000	p-value=0.000	p-value=0.000	p-value=0.000
<b>AR(2) in first differences</b>	z = -1.35	z = -1.33	z = -1.09	z = -1.54
<b>(p-value)</b>	p-value=0.178	p-value=0.182	p-value=0.274	p-value=0.123
<i>Hansen-J test for over-identifying restrictions</i>				
<b>Hansen-J test for over-identifying restrictions</b>	$\chi^2(15)=17.09$ Prob> $\chi^2=0.314$	$\chi^2(15)=12.35$ Prob> $\chi^2=0.653$	$\chi^2(15)=12.62$ Prob> $\chi^2=0.632$	$\chi^2(21)=13.50$ Prob> $\chi^2=0.890$
<b>Difference-in-Hansen tests (p-value)</b>				
<b>-GMM instruments for levels</b>	0.699	0.647	0.695	0.905
<b>-IV</b>	0.151	0.521	0.461	0.668
<b>Number of groups</b>	412	412	412	412
<b>Number of instruments</b>	41	41	41	50

Source: Author's calculation

## 4.4 Empirical results

### 4.4.1 Impact of board structure on the financial performance of Vietnamese non-financial listed firms

The impact of board structure on the financial performance of Vietnamese non-financial listed firms is reported in Table 4.7. Columns (2), (3), and (4) in Table 4.7 provide the results obtained from dynamic equation (3.3) using the OLS, FE and SYS-GMM estimators, respectively.

The *F* statistic of the overall significance test in all the three estimators is significant at the 1% level. This shows strong evidence of rejecting the null hypothesis of jointly-equal-to-zero of all estimated



coefficients. In other words, equation (3.3) provides a better fit than the equation with constant only or it indicates the overall significance of our equation (3.3) (Hill, Griffiths, & Lim, 2011).

The result shows  $R^2$  is 0.714 in the OLS estimator and 0.665 in the FE estimator. The  $R^2$  indicates the explanatory power of the empirical models. In comparison with previous studies in the governance literature (such as Wintoki et al., (2012), Schultz et al., (2010), Mak & Kusnadi (2005), and Demsetz & Villalonga (2001)), the value of  $R^2$  observed in this study is relatively high. Although the results obtained from the OLS and FE estimators are not the focus of this study, the high value of  $R^2$  indicates that there may be no problem with the selection of the independent variables in terms of explanatory power. For the SYS-GMM estimator, the  $R^2$  is not applicable.

The results from the dynamic OLS and FE estimators are reported to facilitate comparison in using the OLS and FE estimators to the SYS-GMM technique. Bond (2002) suggests that the comparison of estimates obtained from the SYS-GMM and those from the OLS and FE estimators should be made to discover possible biases in estimations. Specifically, Bond (2002) suggests that the estimated coefficients of the “lagged dependent variable” from the SYS-GMM estimator should be higher than those obtained from the FE estimator, but lower than those obtained from the OLS estimator. This is explained by Nickell (1981) that the OLS estimator generates upward bias and inconsistency in estimates under the first-order autocorrelation AR(1) since the “lagged dependent variable” is correlated with the specific firm fixed effects contained in the error term of equation (3.3). The FE estimator, meanwhile, would produce downward bias and inconsistency in estimates (Nickell, 1981). Bond (2002) suggests that in order to confirm the SYS-GMM as a reasonably applied estimation, the SYS-GMM estimator needs to generate the estimated coefficient of the “lagged dependent variable” in the range of the upper bound produced by the OLS estimator and lower bound produced by the FE estimator. Nguyen et al.,(2015) further suggest that this comparison of estimates is helpful to identify whether the SYS-GMM is well-specified.

Table 4.7 indicates that the estimated coefficient of the lagged dependent variable ( $L.lnQ$ ) is significant at the 1% level in all the three estimators, indicating the use of the dynamic equation to examine the CG - financial performance relationship is appropriate as suggested by Wintoki et al., (2012). In other words, it confirms that “past performance is significant in explaining current performance, suggestive of the presence of dynamic endogeneity” (Schultz et al., 2010, p. 160). More importantly, the estimated coefficient of  $L.lnQ$  obtained from the SYS-GMM estimator is 0.439 ( $\theta = 0.439$ ), ranged between the upper bound produced by the OLS estimator ( $\theta = 0.688$ ) and the lower bound produced by the FE estimator ( $\theta = 0.082$ ) as expected. According to Bond (2002), this indicates that the SYS-GMM seems to be a reasonably applied estimator in this study. According to Schultz et al., (2010, p.

157), the “OLS and FE panel estimation will produce biased parameter estimates in the presence of dynamic endogeneity”. Thus, the results generated from the OLS and FE estimators will not be interpreted in this study.

Column (4) in Table 4.7 reports the estimated coefficients of board structure using the SYS-GMM estimator. The percentage of “non-executive directors” (*NED*) and duality (*DUAL*) significantly and negatively influence the financial performance of Vietnamese non-financial listed firms. Specifically, *NED* is negatively related to *lnQ* (estimated coefficient  $\beta_3 = -0.591$ , t-value = -3.04) and significant at the 1% level. Meanwhile, *lnQ* is negatively affected by *DUAL* (estimated coefficient  $\beta_4 = -0.140$ , t-value = -1.79) and significant at the 10% level. However, board size (*BS*) and board gender diversity (*FD*) have no effects on the firms’ financial performance. Specifically, *BS* is insignificant and positively related to *lnQ* (estimated coefficient  $\beta_1 = 0.021$ , t-value = 0.08). *FD* is insignificant but negatively related to *lnQ* (estimated coefficient  $\beta_2 = -0.054$ , t-value = -0.22).

Interestingly, *DUAL* is significant and negatively influences *lnQ* in the SYS-GMM and FE estimators, but it is significant and positively relates to *lnQ* in the OLS estimator. Meanwhile, *NED* is negatively related to *lnQ* in all the three estimators, but only significant in the SYS-GMM estimator. This is because the estimates of the OLS estimator are biased due to the endogeneity problem. Specifically, the simultaneity endogeneity is not addressed by the OLS estimator. In addition, “unobserved heterogeneity endogeneity” caused by the correlation between both the firms’ financial performance and governance variables and unobservable firm specific components is not addressed by the OLS estimator (Wintoki et al., 2012; Roberts & Whited, 2013). Furthermore, the OLS estimates are “biased and inconsistent” when the “lagged dependent variable” (*L.lnQ*) is included in equation (3.3) as suggested by Wooldridge (2002). In the FE estimator, although unobservable firm specific components are eliminated, the dynamic endogeneity caused by the correlation between the “lagged dependent variable” (*L.lnQ*) and the error term is still unresolved (Bond, 2002). Therefore, the FE estimator still produces biased results. The sign of the estimated coefficients of *BS* or *FD* changes as I move from the OLS and FE estimators to the SYS-GMM estimator. This change of the sign of the estimated coefficients while moving from the OLS and FE estimators to the GMM estimator is termed by Wintoki et al., (2012) as “sign flip”. Wintoki et al., (2012, p.596) suggest that this sign flip “illustrates the bias that may arise from ignoring both unobservable heterogeneity and dynamic relationship” between governance and firm performance.

The result produced by the SYS-GMM estimator shows that *lnQ* is negatively related to *NED* (estimated coefficient  $\beta_3 = -0.591$ , t-value = -3.04) and significant at the 1% level. This result supports my hypothesis (3), that the percentage of “non-executive directors” as the proxy for board independence

negatively influences the financial performance of Vietnamese non-financial listed firms. The coefficient  $\beta_3 = -0.591$  implies that if the proportion of non-executive directors increases by one percent point, then Tobin's Q will decrease by 0.59 percent on average, *ceteris paribus*. This finding is consistent with Ammari et al., (2014) and Aroara & Sharma (2016). Employing the SYS-GMM estimator, both Ammari et al., (2014) and Aroara & Sharma (2016) find that Tobin's Q is negatively affected by board independence in French and Indian firms, respectively. Our finding is also consistent with the findings of several previous studies based on Vietnam's data. For example, Adhikary & Le (2014) study 58 large firms listed on the HSX over the period 2007-2009 and report an adverse correlation between board independence and the firms' performance measured by ROE and ROA. Similarly, To (2011) analyses the 100 largest firms in the year 2009 and find an inverse effect of board independence on Tobin's Q. Dao & Hoang (2014) examine 30 listed firms of VNindex 30 in the year 2012 and suggest that board independence adversely influences the firms' performance measured by ROE. The negative effect of board independence on firm performance may be explained by the limited pool of "independent directors" available in developing countries (Aroara & Sharma, 2016; Nguyen et al., 2014). For Vietnamese firms, due to the limited source of "independent director" candidates, it is difficult for listed firms to select appropriate people to contribute effectively as their "independent directors". Meanwhile, the firms need to bear the costs of hiring them. Therefore, the efficiency of board independence may not be able to offset the cost of having them as "non-executive directors" in Vietnamese listed firms. In addition, according to Haniffa and Hudaib (2006), in a majority of emerging countries, the appointment of "independent directors" is made for political connections, and for relationship consolidation, instead of the expertise contributions. This view is also shared by Flanagan (1982) who indicates that even in the U.S, 80% of independent director candidates before being appointed as "independent directors", are known by the CEO or "inside directors" of the firms. This implies that the independence of "independent directors" may be a significant problem. As a consequence, the firms' performance may not rely much on the participation of "the independent directors" on the board.

Column (4) in Table 4.7 shows that  $\ln Q$  is negatively affected by  $DUAL$  (estimated coefficient  $\beta_4 = -0.140$ , t-value = -1.79) and significant at the 10% level. This result is consistent with the findings of Ammari et al., (2014), Benjamin & Ehikioya (2009) and Chang (2004) in the French, Nigerian and Malaysian stock markets, respectively. This result is also consistent with Dao & Hoang (2014) who find that the separation between the CEO and chairman positions leads to better financial performance measured by ROA for Vietnamese listed firms in VNindex 30. This study follows the explanation of Fama & Jensen (1983) and Jensen (1993) who suggest that duality may decrease the monitoring of the board over the managers of the firms and the split may facilitate the effectiveness of the "check

and balance” system by the board and CEO of Vietnamese non-financial listed firms, leading to better financial performance.

**Table 4.7 Impact of board structure on the financial performance of Vietnamese non-financial listed firms**

Dependent variable: Tobin’s Q [lnQ]			
(1)	(2)	(3)	(4)
	OLS	Fixed Effects	SYS-GMM
<i>L.InQ</i>	<b>0.688***</b> (42.12)	<b>0.082***</b> (4.47)	<b>0.439***</b> (4.46)
<i>BS</i>	-0.011 (-0.50)	-0.038 (-1.33)	0.021 (0.08)
<i>FD</i>	0.031 (1.20)	0.043 (1.14)	-0.054 (-0.22)
<i>NED</i>	-0.004 (-0.17)	-0.040 (-1.52)	<b>-0.591***</b> (-3.04)
<i>DUAL</i>	<b>0.016*</b> (1.96)	<b>-0.029***</b> (-2.84)	<b>-0.140*</b> (-1.79)
<i>Size</i>	<b>0.035***</b> (10.57)	<b>0.295***</b> (36.40)	<b>0.099**</b> (2.39)
<i>Lev</i>	<b>0.078***</b> (4.38)	<b>0.470***</b> (13.16)	<b>0.275**</b> (1.98)
<i>StdDev</i>	<b>1.263**</b> (2.32)	0.823 (1.63)	5.893 (1.08)
<i>Proft</i>	<b>2.16e-05***</b> (10.34)	-3.40e-06 (-1.47)	<b>4.34e-05*</b> (1.95)
<i>InAge</i>	-0.014 (-1.23)	-0.012 (-0.36)	<b>-0.060*</b> (-1.89)
<i>Industry Dummies</i>	Yes	No	Yes
<i>Year Dummies</i>	Yes	Yes	Yes
<b>Number of obs.</b>	1,905	1,905	1,905
<b>Number of groups</b>		412	412

<b>Number of instruments</b>			41
<b>R<sup>2</sup></b>	0.714	0.665	
<b>F statistic</b>	F(22,1882)=213.64 Prob > F = 0.000	F(14,1479)=209.47 Prob > F = 0.000	F(25,411)=22.95 Prob > F = 0.000
<b>AR(1) (p-value)</b>			0.000
<b>AR(2) (p-value)</b>			0.178
<b>Hansen-J test of over-identification (p-value)</b>			0.314

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Note: t-statistic in parentheses. \*\*\*, \*\*, \* significant at the 1%, 5%, and 10% levels, respectively.

#### 4.4.2 Impact of insider ownership on the financial performance of Vietnamese non-financial listed firms

Table 4.8 presents the impact of insider ownership on the financial performance of Vietnamese non-financial listed firms. Columns (2), (3), and (4) in Table 4.8 provide the results produced by the dynamic equation (3.4) using the OLS, FE and SYS-GMM estimators, respectively.

Similarly to equation (3.3), the *F* statistic of the overall significance test in all the three estimators is significant at the 1% level. This shows strong evidence of the overall significance of equation (3.4) (Hill et al., 2011).

Columns (2) and (3) in Table 4.8 indicate that  $R^2$  is 0.715 in the OLS estimator and 0.666 in the FE estimator. Similarly to equation (3.3), the relatively high value of  $R^2$  compared to previous studies in the governance literature indicates the explanatory power of equation (3.4) is relatively good in the OLS and FE estimators.

Similarly to equation (3.3), Table 4.8 shows the estimated coefficient of “the lagged dependent variable” ( $L.lnQ$ ) is significant at the 1% level in all three estimators. This supports the suggestion of Wintoki et al., (2012) and Schultz et al., (2010) of a dynamic relationship between CG and financial performance. The estimated coefficient of  $L.lnQ$  obtained from the SYS-GMM estimator is 0.428 ( $\theta = 0.428$ ), which is lower than those yielded by the OLS estimator ( $\theta = 0.690$ ) and higher than those generated by the FE estimator ( $\theta = 0.082$ ) as expected. This indicates the SYS-GMM is a reasonably applied estimator in this study as recommended by Bond (2002).

Regarding the estimated coefficients of  $INSDO$  and  $INSDO^2$ , the results obtained from all three estimators including the OLS, FE and SYS-GMM show the relation between insider ownership and the financial performance of non-financial listed firms is an inverted U-shape. In all the three estimators, the estimated coefficient of  $INSDO$  ( $\beta_1$ ) is significantly positive and the estimated coefficient of  $INSDO^2$  ( $\beta_2$ ) is significantly negative. Specifically, the OLS estimator,  $\beta_1$  (0.128) with a t-value of 1.72, is significant at the 10% level, and  $\beta_2$  (-0.311) with a t-value of -2.21, is significant at the 5% level. The FE estimator,  $\beta_1$  (0.290) with a t-value of 3.32, is significant at the 1% level, and  $\beta_2$  (-0.312) with a t-value of -2.05, is significant at the 5% level. In the SYS-GMM estimator,  $\beta_1$  (1.100) with a t-value of 1.76, is significant at the 10% level and  $\beta_2$  (-1.792) with a t-value of -2.12, is significant at the 5% level. The result from all the three estimators supports hypothesis (5), that the relationship between insider ownership and the financial performance of Vietnamese non-financial listed firms is an inverted U-shape. In this study, the coefficient estimates of  $INSDO$  and  $INSDO^2$  of all the three estimators indicate that both “convergence of interest and entrenchment hypotheses” of insider ownership are established. The financial performance increases at the low level of insider ownership to a certain point, after that the financial performance decreases. This result is consistent with the findings of Stulz (1988), McConnell & Seraes (1990), Hermalin & Weisbach (1991), and Han & Suk (1998). This supports the arguments of Stulz (1988), McConnell & Seraes (1990), and Han & Suk (1998) that at the low level of insider ownership, the interest of managers and officers of the firms is aligned with the interest of the shareholders. However, when the insiders have shareholdings that are high enough, they appear to become entrenched. The turning point, at which the financial performance starts to decrease, is calculated by the following equation:

$$\text{turning point} = -\beta_1/2 * \beta_2 \quad (4.1)$$

Based on equation (4.1), for the SYS-GMM estimator, the turning point is 30% ( $= -\beta_1/2 * \beta_2 = 1.100/(-2) * (-1.792) = 30$ ), which means  $\ln Q$  is positively linked with insider ownership up to the point of 30% of insider ownership. As insider ownership is over 30%,  $\ln Q$  becomes negatively related with insider ownership.

In equation (3.4),  $NED$  is included as a control variable to control for the effect of board structure on financial performance. Column (4) in Table 4.8 shows that similar to equation (3.3),  $NED$  is still significant and negatively impacts  $\ln Q$ . The coefficient of the number of insiders ( $NoInsd$ ) is negative but insignificantly related to  $\ln Q$ . The control variables such as firm size ( $Size$ ), firm leverage ( $Lev$ ), and firm profitability ( $Proft$ ), which are significant and positively associated with  $\ln Q$  in equation (3.3), are still significant and positively related to  $\ln Q$  in equation (3.4).  $StdDev$ , similar to equation (3.3), is

positive but insignificantly associated with  $\ln Q$ . Meanwhile, firm age ( $\ln Age$ ) is still negative but insignificantly related to  $\ln Q$ .

**Table 4.8 Impact of insider ownership on the financial performance of Vietnamese non-financial listed firms**

Dependent variable: Tobin's Q [ $\ln Q$ ]			
(1)	(2) OLS	(3) Fixed Effects	(4) SYS-GMM
<i>L.lnQ</i>	<b>0.690***</b> (42.32)	<b>0.082***</b> (4.45)	<b>0.428***</b> (4.06)
<i>INSDO</i>	<b>0.128*</b> (1.72)	<b>0.290***</b> (3.32)	<b>1.100*</b> (1.76)
<i>INSDO</i> <sup>2</sup>	<b>-0.311**</b> (-2.21)	<b>-0.312**</b> (-2.05)	<b>-1.792**</b> (-2.12)
<i>NED</i>	-0.021 (-1.02)	-0.009 (-0.35)	<b>-0.389**</b> (-2.18)
<i>Size</i>	<b>0.037***</b> (11.36)	<b>0.297***</b> (36.50)	<b>0.130***</b> (2.82)
<i>Lev</i>	<b>0.081***</b> (4.49)	<b>0.448***</b> (12.63)	<b>0.326**</b> (2.22)
<i>StdDev</i>	<b>1.211**</b> (2.23)	<b>0.973*</b> (1.94)	6.691 (1.03)
<i>Proft</i>	<b>2.13e-05***</b> (10.24)	<b>-3.95e-06*</b> (-1.71)	<b>4.06e-05**</b> (2.03)
<i>NoInsd</i>	<b>-0.003**</b> (-2.15)	<b>-0.003**</b> (-2.22)	-0.017 (-1.46)
<i>lnAge</i>	<b>-0.020*</b> (-1.71)	-0.022 (-0.67)	-0.037 (-1.13)
<i>Industry Dummies</i>	Yes	No	Yes
<i>Year Dummies</i>	Yes	Yes	Yes
<b>Number of obs.</b>	1,904	1,904	1,904
<b>Number of groups</b>		412	412

<b>R<sup>2</sup></b>	0.715	0.666	
<b>F statistic</b>	F(22,1881)=214.08 Prob > F = 0.000	F(14,1478)=210.07 Prob > F = 0.000	F(25,411)=32.91 Prob > F = 0.000
<b>Number of instruments</b>			41
<b>AR(1) (p-value)</b>			0.000
<b>AR(2) (p-value)</b>			0.182
<b>Hansen-J test of over-identification (p-value)</b>			0.653

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Note: t-statistic in parentheses. \*\*\*, \*\*, \* significant at the 1%, 5%, and 10% levels, respectively.

#### 4.4.3 Impact of ownership concentration on the financial performance of Vietnamese non-financial listed firms

Table 4.9 presents the effects of ownership concentration on the financial performance of Vietnamese non-financial listed firms. Columns (2), (3), and (4) in Table 4.9 report the results generated by equation (3.5) using the OLS, FE and SYS-GMM estimators, respectively.

Similarly to equations (3.3) and (3.4), the *F* statistic in all the three estimators is significant at the 1% level, indicating strong evidence of the overall significance of equation (3.5).

Columns (2) and (3) in Table 4.9 show that  $R^2$  is 0.715 in the OLS estimator and 0.662 in the FE estimator, indicating the explanatory power of equation (3.5) is relatively good in both the OLS and FE estimators compared to previous studies in the governance literature.

The estimated coefficient of the “lagged dependent variable” ( $L.InQ$ ) is significant at the 1% level in all the three estimators, confirming the dynamic relationship between CG and financial performance. As expected, the estimated coefficient of  $L.InQ$  obtained by using the SYS-GMM estimator is 0.393 ( $\theta = 0.393$ ), which is lower than 0.689 ( $\theta = 0.689$ ) produced by the OLS estimator and higher than 0.082 ( $\theta = 0.082$ ) generated by the FE estimator. This indicates that the SYS-GMM is a reasonable estimator in this study.

Regarding the estimated coefficients of  $BLHO$ ,  $BLHO^2$  and  $BLHO^3$ , the results obtained by the OLS estimator in column (2) in Table 4.9 show the cubic relation between ownership concentration and the firms’ performance. The estimated coefficients  $\beta_1$  and  $\beta_3$  are significantly positive, while  $\beta_2$  is



significantly negative. Specifically,  $\beta_1$  (0.309) with a t-value of 2.62, is significant at the 1% level,  $\beta_2$  (-0.826) with a t-value of -2.46, is significant at the 5% level, and  $\beta_3$  (0.640) with a t-value of 2.41, is significant at the 5% level. When I move from the OLS estimator to the FE estimator as shown in column (3) in Table 4.9,  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  do not change their signs but they become insignificant. This is because the dynamic endogeneity is not controlled in the FE estimator. When employing the SYS-GMM estimator which allows for controlling the dynamic endogeneity, the estimated coefficients of  $BLHO$ ,  $BLHO^2$ , and  $BLHO^3$  in column (4) in Table 4.9 show the cubic relationship between ownership concentration and the financial performance. Specifically,  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are 2.314 (with a t-value of 2.17), -6.427 (with a t-value of -2.44), and 4.928 (with a t-value of 2.40), respectively, are significant at the 5% level. The result produced by the SYS-GMM estimator supports hypothesis (6), that there is a cubic relationship between ownership concentration and the financial performance of Vietnamese non-financial listed firms. The firms' financial performance increases at low and high levels of ownership concentration and decreases at the intermediate level of ownership concentration. The finding of this study is consistent with the findings of De Miguel et al., (2004) and Thomsen & Pedersen (2000) who find both convergence and expropriation effects of ownership concentration on firms' financial performance. These studies find the financial performance increases at the low level and decreases at the high level of ownership concentration (an inverted U-shaped relationship), but this study finds that the financial performance increases at the low level and then starts to decrease until the level of ownership concentration reaches a certain point, at which the financial performance starts to increase again (a cubic relationship). The turning points are calculated as follows:

$$\text{The first turning point} = \frac{-2\beta_2 - \sqrt{4\beta_2^2 - 12\beta_1\beta_3}}{6\beta_3} \quad (4.2)$$

$$\text{The second turning point} = \frac{-2\beta_2 + \sqrt{4\beta_2^2 - 12\beta_1\beta_3}}{6\beta_3} \quad (4.3)$$

Based on equations (4.2) and (4.3), for the SYS-GMM estimator, I calculate the first and second turning points as 25% and 61%, respectively. This means  $\ln Q$  is positively linked with the percentage of blockholder ownership if the percentage of blockholder ownership is lower than 25% or higher than 61%. If the percentage of blockholder ownership ranges from 25% to 61%,  $\ln Q$  is negatively associated with the percentage of blockholder ownership. At the low level of blockholder ownership (lower than 25% ownership), the convergence effect prevails as the interest of the blockholders is aligned with the shareholders. Blockholders, who have stronger incentives to monitor firms (Holderness, 2003) and have more information and power to monitor management (Shleifer & Vishny, 1997), would contribute to ensure the managers pursue the shareholders' benefit. Therefore, the financial

performance increases with the increase in blockholder ownership. If the blockholder ownership is over 25%, the expropriation effect of blockholder ownership on the firms' financial performance prevails. The firms' financial performance decreases since blockholders are likely to follow their own goals and expropriate the minority shareholders' benefit (Fama & Jensen, 1983; and Morck et al., 1988). However, if blockholder ownership reaches 61%, the firms' financial performance increases again as blockholder ownership increases. This may be because in Vietnam, the State remains a large blockholder in many previously State-owned firms. The firms with large State ownership often enjoy a number of benefits, such as access to preferential loans, and access to changes in the industry development policies. Therefore, their competitiveness is higher than other firms and gives them advantages in making profits.

Column (4) in Table 4.9 shows that similarly to equations (3.3) and (3.4), *NED* as a control variable is still significant and negatively associated with *lnQ*. Firm size (*Size*), firm leverage (*Lev*), and firm profitability (*Proft*) which are significant and positively associated with *lnQ* in equations (3.3) and (3.4), are still significant and positively related to *lnQ* in equation (3.5). *StdDev* and *lnAge* are insignificant but positively and negatively associated with *lnQ*, respectively.

**Table 4.9 Impact of ownership concentration on the financial performance of Vietnamese non-financial listed firms**

Dependent variable: Tobin's Q [lnQ]			
(1)	(2)	(3)	(4)
	OLS	Fixed Effects	SYS-GMM
<i>L.lnQ</i>	<b>0.689***</b> (41.98)	<b>0.082***</b> (4.44)	<b>0.393***</b> (3.88)
<i>BLHO</i>	<b>0.309***</b> (2.62)	0.089 (0.83)	<b>2.314**</b> (2.17)
<i>BLHO</i> <sup>2</sup>	<b>-0.826**</b> (-2.46)	-0.377 (-1.21)	<b>-6.427**</b> (-2.44)
<i>BLHO</i> <sup>3</sup>	<b>0.640**</b> (2.41)	0.364 (1.48)	<b>4.928**</b> (2.40)
<i>NED</i>	-0.026 (-1.21)	-0.019 (-0.72)	<b>-0.589***</b> (-3.26)
<i>Size</i>	<b>0.035***</b> (11.05)	<b>0.291***</b> (35.93)	<b>0.096***</b> (2.70)

<i>Lev</i>	<b>0.065***</b> (3.66)	<b>0.461***</b> (12.83)	<b>0.314**</b> (2.02)
<i>StdDev</i>	<b>1.330**</b> (2.42)	<b>0.972*</b> (1.92)	5.649 (0.82)
<i>Proft</i>	<b>2.13e-05***</b> (10.23)	-3.46e-06 (-1.49)	<b>4.86e-05**</b> (2.34)
<i>InAge</i>	-0.016 (-1.40)	-0.012 (-0.36)	-0.021 (-0.65)
<i>Industry Dummies</i>	Yes	No	Yes
<i>Year Dummies</i>	Yes	Yes	Yes
<b>Number of obs.</b>	1,890	1,890	1,890
<b>Number of stocks</b>	412	412	412
<b>R<sup>2</sup></b>	0.715	0.662	
<b>F statistic</b>	F(22,1867)=212.69 Prob > F = 0.000	F(14,1464)=204.35 Prob > F = 0.000	F(25,411)=4.87 Prob > F = 0.000
<b>Number of instruments</b>			41
<b>AR(1) (<i>p</i>-value)</b>			0.000
<b>AR(2) (<i>p</i>-value)</b>			0.274
<b>Hansen-J test of over-identification (<i>p</i>-value)</b>			0.632

Note: t-statistic in parentheses. \*\*\*, \*\*, \* significant at the 1%, 5%, and 10% levels, respectively.

#### 4.4.4 Impact of insider ownership and ownership concentration on the financial performance of Vietnamese non-financial listed firms

With regards to the ownership structure variables, insider and blockholder ownership are included in one unified model to investigate the effect of one factor while controlling the impact of the other factor on firms' financial performance. Table 4.10 shows the impact of *INSDO* and *BLHO* on *InQ* with the other factors controlled for. Columns (2), (3), and (4) in Table 4.10 provide the results from equation (3.6) using the OLS, FE and SYS-GMM estimators, respectively.

Similarly to equations (3.3), (3.4), and (3.5), the  $F$  statistic in all three estimators is significant at the 1% level, indicating the overall significance of equation (3.6). The  $R^2$  in the OLS and FE estimators are 0.716 and 0.665, respectively, showing the relatively good explanatory power of equation (3.6) in the OLS and FE estimators.

The estimated coefficient of “the lagged dependent variable” ( $L.InQ$ ) is significant at the 1% level in all the three estimators, thus the relationship between CG and financial performance is dynamic. As expected, the estimated coefficient of  $L.InQ$  obtained from the SYS-GMM estimator is 0.438 ( $\theta = 0.438$ ), which is lower than 0.689 ( $\theta = 0.689$ ) produced by the OLS estimator and higher than 0.081 ( $\theta = 0.081$ ) generated by the FE estimator. This indicates that the SYS-GMM is a reasonable estimator in this study.

Regarding insider ownership, similarly to equation (3.4), the relationship between  $INSDO$  and  $InQ$  is an inverted U-shape in all the three estimators when we control for blockholder ownership. Column (4) in Table 4.10 reports the results obtained from the SYS-GMM estimator. The turning point is around 30%, relatively equal to those produced by equation (3.4) reported in subsection 4.4.2. The significance levels of  $INSDO$  and  $INSDO^2$  are improved from 10% and 5% in equation (3.4) to 5% and 1% in equation (3.6), respectively.

Table 4.10 also indicates that while controlling for  $INSDO$ , the relationship between  $BLHO$  and  $InQ$  is a cubic relationship using the OLS and SYS-GMM estimators, which is similar to equation (3.5). The coefficients of  $BLHO$ ,  $BLHO^2$  and  $BLHO^3$  are significant at the 5% level. The turning points are 26% and 59%, relatively similar to equation (3.5) except for the second turning point (59%) which is lower than 61% in equation (3.5). This means controlling for insider ownership in equation (3.6) might be necessary since both insider and blockholder ownerships do impact  $InQ$ .

In equation (3.6), column (4) in Table 4.10 shows the signs of the other parameters are unchanged compared to equations (3.3), (3.4) and (3.5).  $NED$  is significant and negatively associated with  $InQ$ , similarly to equations (3.3), (3.4), and (3.5). Firm size ( $Size$ ) and firm profitability ( $Proft$ ), significant and positively associated with  $InQ$  in equations (3.3) to (3.5), are still significant and positively related to  $InQ$  in equation (3.6).  $Lev$  and  $StdDev$  are insignificant and positively related to  $InQ$ , and  $InAge$  and  $NoInsd$  are insignificant but negatively associated with  $InQ$ .

**Table 4.10 Impact of insider ownership and ownership concentration on the financial performance of Vietnamese non-financial listed firms**

Dependent variable: Tobin's Q [lnQ]			
(1)	(2) OLS	(3) Fixed Effects	(4) SYS-GMM
<i>L.lnQ</i>	<b>0.689***</b> (42.01)	<b>0.081***</b> (4.36)	<b>0.438***</b> (4.38)
<i>INSDO</i>	<b>0.154**</b> (1.97)	<b>0.317***</b> (3.62)	<b>1.319**</b> (2.56)
<i>INSDO</i> <sup>2</sup>	<b>-0.375**</b> (-2.55)	<b>-0.351**</b> (-2.30)	<b>-2.167***</b> (-2.99)
<i>BLHO</i>	<b>0.303**</b> (2.54)	0.085 (0.80)	<b>1.839**</b> (1.97)
<i>BLHO</i> <sup>2</sup>	<b>-0.795**</b> (-2.34)	-0.363 (-1.18)	<b>-5.046**</b> (-2.12)
<i>BLHO</i> <sup>3</sup>	<b>0.621**</b> (2.31)	0.350 (1.43)	<b>3.943**</b> (2.04)
<i>NED</i>	-0.027 (-1.30)	-0.007 (-0.27)	<b>-0.434***</b> (-2.61)
<i>Size</i>	<b>0.037***</b> (11.43)	<b>0.295***</b> (36.26)	<b>0.120***</b> (3.50)
<i>Lev</i>	<b>0.073***</b> (4.04)	<b>0.453***</b> (12.63)	0.251 (1.58)
<i>StdDev</i>	<b>1.257**</b> (2.30)	<b>0.983*</b> (1.95)	6.376 (1.22)
<i>Proft</i>	<b>2.09e-05***</b> (10.01)	<b>-4.01e-06*</b> (-1.73)	<b>3.68e-05*</b> (1.94)
<i>NoInsd</i>	<b>-0.025*</b> (-1.81)	<b>-0.003**</b> (-2.45)	-0.013 (-1.07)
<i>InAge</i>	-0.019 (-1.61)	-0.020 (-0.58)	-0.005 (-0.15)
<i>Industry Dummies</i>	Yes	No	Yes
<i>Year Dummies</i>	Yes	Yes	Yes

<b>Number of obs.</b>	1,889	1,889	1,889
<b>Number of groups</b>		412	412
<b>R<sup>2</sup></b>	0.716	0.665	
<b>F statistic</b>	F(25,1863)=188.20 Prob > F = 0.000	F(17,1460)=171.33 Prob > F = 0.000	F(28,411)=54.23 Prob > F = 0.000
<b>Number of instruments</b>			50
<b>AR(1) (p-value)</b>			0.000
<b>AR(2) (p-value)</b>			0.123
<b>Hansen-J test of over-identification (p-value)</b>			0.890

Note: Standard errors in parentheses. \*\*\*, \*\*, \* significant at the 1%, 5%, and 10% levels, respectively.

#### 4.4.5 Robustness check

To check the robustness of the results obtained from equations (3.3) to (3.6) (see Tables (4.7) to (4.10)), this study employs the SYS-GMM estimator, using ROA as the alternative for EPS to represent firm profitability in equations (3.3) to (3.6). Table 4.11 shows the relationship between all the dependent variables (*BS*, *FD*, *NED*, *DUAL*, *INSDO* and *BLHO*) and *lnQ* remain unchanged from equations (3.3) to (3.6). Specifically, *BS* and *FD* have no effects on *lnQ*. Meanwhile, *NED* and *DUAL* negatively impact *lnQ*. The relationship between insider ownership and *lnQ* is an inverted U-shape, while blockholder ownership and *lnQ* form a cubic relationship.

**Table 4.11 Robustness check of the SYS-GMM estimator using ROA as the alternative measure for EPS to represent firm profitability**

Dependent variable: Tobin's Q [ <i>lnQ</i> ]				
(1)	(2) Equation (3.3)	(3) Equation (3.4)	(4) Equation (3.5)	(5) Equation (3.6)
<i>L.lnQ</i>	<b>0.467***</b> (4.84)	<b>0.459***</b> (4.63)	<b>0.461***</b> (4.89)	<b>0.472***</b> (5.08)

<i>BS</i>	0.020 (0.08)			
<i>FD</i>	-0.075 (-0.30)			
<i>NED</i>	<b>-0.552***</b> (-2.97)	<b>-0.377**</b> (-2.24)	<b>-0.513***</b> (-3.06)	<b>-0.417***</b> (-2.66)
<i>DUAL</i>	<b>-0.129*</b> (-1.69)			
<i>INSDO</i>		<b>1.135*</b> (1.82)		<b>1.221**</b> (2.31)
<i>INSDO</i> <sup>2</sup>		<b>-1.829*</b> (-1.94)		<b>-1.889**</b> (-2.22)
<i>BLHO</i>			<b>1.989*</b> (1.91)	<b>1.741*</b> (1.96)
<i>BLHO</i> <sup>2</sup>			<b>-4.966*</b> (-1.87)	<b>-4.493*</b> (-1.86)
<i>BLHO</i> <sup>3</sup>			<b>3.521*</b> (1.68)	<b>3.322*</b> (1.70)
<i>Size</i>	<b>0.109**</b> (2.57)	<b>0.149***</b> (3.55)	<b>0.122***</b> (3.63)	<b>0.142***</b> (4.39)
<i>Lev</i>	0.194 (1.30)	<b>0.299*</b> (1.85)	0.173 (1.11)	0.178 (1.09)
<i>StdDev</i>	-0.212 (-0.04)	5.807 (0.87)	3.484 (0.54)	5.494 (1.03)
<i>Proft</i>	0.052 (0.10)	0.579 (0.90)	0.094 (0.18)	0.227 (0.48)
<i>NoInsd</i>		-0.015 (-1.24)		-0.011 (-1.04)
<i>InAge</i>	<b>-0.077**</b> (-2.21)	-0.040 (-1.22)	-0.032 (-1.06)	-0.014 (-0.42)
<i>Industry Dummies</i>	Yes	Yes	Yes	Yes
<i>Year Dummies</i>	Yes	Yes	Yes	Yes

<b>Number of obs.</b>	1,905	1,904	1,890	1,889
<b>Number of groups</b>	412	412	412	412
<b>F statistic</b>	F(25,411)=36.97 Prob > F = 0.000	F(25,411)=46.11 Prob > F = 0.000	F(25,411)=51.75 Prob > F = 0.000	F(28,411)=40.89 Prob > F = 0.000
<b>Number of instruments</b>	41	41	41	50
<b>AR(1) (p-value)</b>	0.000	0.000	0.000	0.000
<b>AR(2) (p-value)</b>	0.363	0.369	0.398	0.224
<b>Hansen-J test of over-identification (p-value)</b>	0.360	0.626	0.709	0.937

Note: Standard errors in parentheses. \*\*\*, \*\*, \* significant at the 1%, 5%, and 10% levels, respectively. From equations (3.3) to (3.6), ROA is used as the alternative measure for EPS to represent firm profitability. The SYS-GMM is used in all equations.

To check the robustness of the results, this study employs firm growth opportunity measured by annual net sale growth (*Growth*) of non-financial listed firms as the alternative for firm profitability. In addition, I include inflation rate (*Infl*) in equations (3.3) to (3.6) to control for macroeconomic factors on the financial performance of Vietnamese non-financial listed firms. Table 4.12 shows the results remain consistent in all equations.

**Table 4.12 Robustness check with the SYS-GMM estimator when controlling firm growth opportunity and macroeconomic factors**

Dependent variable: Tobin's Q [lnQ]				
(1)	(2) Equation (3.3)	(3) Equation (3.4)	(4) Equation (3.5)	(5) Equation (3.6)
<i>L.lnQ</i>	<b>0.487***</b> (5.12)	<b>0.473***</b> (4.79)	<b>0.419***</b> (4.33)	<b>0.453***</b> (4.86)
<i>BS</i>	0.121 (0.48)			
<i>FD</i>	-0.074 (-0.32)			



<i>NED</i>	<b>-0.586***</b> (-3.27)	<b>-0.375**</b> (-2.24)	<b>-0.582***</b> (-3.52)	<b>-0.469***</b> (-3.13)
<i>DUAL</i>	<b>-0.151**</b> (-2.03)			
<i>INSDO</i>		<b>1.218*</b> (1.76)		<b>1.506***</b> (2.63)
<i>INSDO</i> <sup>2</sup>		<b>-1.890*</b> (-1.85)		<b>-2.320**</b> (-2.57)
<i>BLHO</i>			<b>2.205**</b> (2.25)	<b>2.228**</b> (2.44)
<i>BLHO</i> <sup>2</sup>			<b>-6.316**</b> (-2.32)	<b>-6.040**</b> (-2.42)
<i>BLHO</i> <sup>3</sup>			<b>5.025**</b> (2.26)	<b>4.668**</b> (2.29)
<i>Size</i>	<b>0.097***</b> (2.03)	<b>0.144***</b> (3.55)	<b>0.107***</b> (3.62)	<b>0.137***</b> (4.51)
<i>Lev</i>	0.172 (1.22)	0.171 (1.17)	0.182 (1.36)	0.111 (0.80)
<i>StdDev</i>	-0.849 (-0.22)	2.828 (0.54)	-2.071 (-0.44)	2.344 (0.56)
<i>Growth</i>	0.005 (0.37)	-0.006 (-0.37)	-0.008 (-0.57)	-0.008 (-0.61)
<i>NoInsd</i>		-0.010 (-0.89)		-0.009 (-0.86)
<i>InAge</i>	<b>-0.074**</b> (-2.37)	-0.040 (-1.27)	-0.043 (-1.52)	-0.010 (-0.32)
<i>Infl</i>	<b>-0.100***</b> (-3.46)	<b>-0.147***</b> (-3.60)	<b>-0.107***</b> (-3.38)	<b>-0.144***</b> (-4.76)
<i>Industry Dummies</i>	Yes	Yes	Yes	Yes
<i>Year Dummies</i>	Yes	Yes	Yes	Yes
<b>Number of obs.</b>	1,895	1,894	1,880	1,879
<b>Number of groups</b>	412	412	412	412

<b>F statistic</b>	F(26,411)=34.97 Prob > F = 0.000	F(26,411)=39.65 Prob > F = 0.000	F(26,411)=35.92 Prob > F = 0.000	F(29,411)=34.05 Prob > F = 0.000
<b>Number of instruments</b>	41	41	41	50
<b>AR(1) (p-value)</b>	0.000	0.000	0.000	0.000
<b>AR(2) (p-value)</b>	0.281	0.420	0.397	0.202
<b>Hansen-J test of over-identification (p-value)</b>	0.380	0.543	0.660	0.972

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Note: Standard errors in parentheses. \*\*\*, \*\*, \* significant at the 1%, 5%, and 10% levels, respectively. Following equations (3.3) to (3.6), firm growth opportunity measured by annual net sale growth (denoted as *Growth*) is used as the alternative measure for firm profitability. The SYS-GMM is used in all equations.

## 4.5 Summary

Chapter 4 addresses the six research questions of the study. Employing the OLS, FE estimators and especially the SYS-GMM method allows me to address the dynamic endogeneity issue of the CG - firm performance relationship. This study shows that CG does impact the financial performance of Vietnamese non-financial listed firms measured by Tobin's Q.

Specifically, board independence and board duality negatively influence Tobin's Q of Vietnamese non-financial listed firms. Meanwhile, board size and board gender diversity are among the board structure variables which have no effects on the financial performance of Vietnamese non-financial listed firms.

Regarding the impact of insider ownership on the financial performance of Vietnamese non-financial listed firms, this study finds both "convergence of interest and entrenchment hypotheses" of insider ownership. Specifically, the relationship between insider ownership and the financial performance is an inverted U-shape, which implies that the financial performance increases to a peak as insider ownership reaches 30% and then decreases with the increase in insider ownership.

This study also finds a cubic relationship between ownership concentration and the financial performance of Vietnamese non-financial listed firms, thus the financial performance increases at low and high levels of ownership concentration and decreases at the intermediate level of ownership concentration. These results remain unchanged as I include insider and blockholder ownership in one unified model. Further, to check for the robustness of the empirical results, this study uses the alternative measure for profitability (ROA). Furthermore, I control for firm growth opportunities

measured by annual net sale growth (*Growth*) as the alternative for firm profitability, and include the inflation rate (*Infl*) to control for macroeconomic factors. The robustness check also produces consistent results of the relationship between the board structure as well as ownership structure variables and the financial performance of Vietnamese non-financial listed firms.

## Chapter 5

### Conclusions

Chapter 5 presents the conclusions of the study. Section 5.1 provides the main findings of the relationship between CG and the financial performance of Vietnamese non-financial listed firms. Section 5.2 discusses the study's contributions to the CG literature. Section 5.3 presents the implications of the study for policymakers and Vietnamese non-financial listed firms. Section 5.4 discusses the limitations of the study and recommendations for future research. Section 5.5 summarises the chapter.

#### 5.1 Main findings of the study

The present study examines the relationship between CG including board structure, insider ownership, and ownership concentration and the financial performance of Vietnamese non-financial listed firms. This study employs *board size*, *board gender diversity*, *board independence*, *board duality*, *insider ownership*, and *blockholder ownership* to analyse their effects on the financial performance measured by *Tobin's Q* (the dependent variable). In addition, the study uses *firm size*, *firm leverage*, *firm risk*, *firm profitability*, *number of insiders*, *firm age*, *industry dummies*, and *year dummies* as the control variables. To examine the unbalanced panel data consisting of 2,322 firm-year observations of 412 Vietnamese non-financial listed firms during 2010-2015, the study employs the SYS-GMM estimator as the main estimation technique to control for the "endogeneity problem". Similarly, the traditional OLS and FE estimators are used for comparison purposes. After the endogeneity issue is controlled using the SYS-GMM estimator, the study finds that board size and board gender diversity have no relation with the firms' performance, but board independence, board duality, insider ownership, and ownership concentration do impact the financial performance of Vietnamese non-financial listed firms.

##### 5.1.1 Relationship between board structure and the financial performance of Vietnamese non-financial listed firms

This study focuses on examining the impacts of four major attributes of board structure including board size, board gender diversity, board independence, and board duality on the financial performance of Vietnamese non-financial listed firms (objectives 1 to 4).

The empirical result shows no statistically significant relationship between board size and the financial performance of Vietnamese non-financial listed firms, similar to the findings of Okiro (2006) and

Schultz et al., (2010). This means the financial performance of Vietnamese non-financial listed firms does not depend on whether board size is large or small. Therefore, board size is not an efficient governance mechanism for Vietnamese non-financial listed firms. Similarly, consistent with Rose (2007), Smith, Smith, & Verner (2006), and Randoy et al., (2006), this study finds no evidence of the relation between a higher proportion of female members on the boardroom and better financial performance of Vietnamese non-financial listed firms. Although in some countries such as the U.S (Erhardt et al., 2003; and Carter et al., 2003), Spain (Campbell & Mínguez-Vera, 2008), and Malaysia (Julizaerma & Sori, 2012), increasing the representation of female directors might improve the firms' performance, thereby promoting good governance mechanisms, the appointment of more female directors to the board might not be an efficient governance mechanism for Vietnamese non-financial listed firms. Campbell & Mínguez-Vera (2008) suggest that the difference in estimation methodologies, sample timeline, and country context are among the reasons empirical results varied across studies. Although Vietnam has attained significant achievements in improving gender equality recently, its culture is still influenced by Confucian gender philosophies in which men are traditionally considered as being superior to women (Nguyen et al., 2015). Hence, the voices and contributions to the firms' performance of female directors might be still limited. Therefore, a higher percentage of female members on boards is not necessarily associated with improved financial performance of Vietnamese non-financial listed firms.

The empirical result on the impact of “non-executive directors” on the BODs on the firms' performance shows that a higher percentage of “non-executive members” negatively influences the financial performance of Vietnamese non-financial listed firms. This result is similar to the findings of Ammari et al., (2014), Aroara & Sharma (2016), Adhikary & Le (2014), To (2011), and Dao & Hoang (2014). The improvement of board independence (Higgs Report, 2003; and Holmstrom & Kaplan, 2003) facilitates the board decision-making, thereby enhancing the firms' performance, but the effectiveness of this governance mechanism is subject to other underlying factors, such as the supply of “non-executive independent directors” or the approaches by which non-financial listed firms appoint their “non-executive directors”. Specifically, the effectiveness and independence of “independent directors” may become an issue hindering the improvement of the firms' performance in many cases, such as the limited source of “independent directors” in developing countries (Aroara & Sharma, 2016; Nguyen et al., 2014), or the lack of finance-related expertise of independent directors (Park & Shin, 2004), or the appointment of “independent directors” due to political reasons or relationship consolidation instead of significant competence offered by independent directors (Haniffa & Hudaib, 2006), or the appointment of “outside directors” based on previously established relationships between the director candidates and CEOs or “insider directors” of the firms (Flanagan,

1982). The result is similar to Mak & Kusnady's (2005) findings who recognise the importance of a governance structure that follows the CG code, but suggest that such a governance structure does not ensure its effectiveness in practice.

Regarding the effects of board duality on the firms' performance, the study supports the agency theory (Fama & Jensen, 1983; Jensen, 1993) that the separation of the CEO and chairperson leads to the improved financial performance of Vietnamese non-financial listed firms. The split of the CEO and chairman positions probably helps to limit the concentration of power in one person, which enables the CEOs to abuse their dominant power to pursue their own interests instead of maximising the firms' wealth (Krause et al., 2013), or reduce the effectiveness of the monitoring function of the board over the CEOs (Fama & Jensen, 1983; Jensen, 1993). In other words, "the separation of the CEO and chairman positions" formulates the "check and balance" system that works effectively for Vietnamese non-financial listed firms.

### **5.1.2 Relationship between insider ownership and the financial performance of Vietnamese non-financial listed firms**

Research objective 5 assesses the impacts of insider ownership on the financial performance of Vietnamese non-financial listed firms. The result shows that the relationship between insider ownership and the financial performance exhibits an inverted U-shape. Specifically, when insiders own less than 30% of the firms' shares, insider ownership positively influences firm performance. As insiders' proportion of shares is over 30%, insider ownership negatively impacts the financial performance of Vietnamese non-financial listed firms.

The inverted U-shaped relationship between insider ownership and the financial performance of Vietnamese non-financial listed firms established in this study confirms the findings of Stulz (1998), McConnell & Seraes (1990), Hermalin & Weisbach (1991), and Han & Suk (1998). This result supports both "the convergence of interests and the entrenchment hypotheses" of insider ownership. At the low level of insider ownership, the interests of insiders are aligned with those of shareholders and of other stakeholders which drive the insiders to pursue the goal of maximizing firms' values. Nevertheless, as the ownership of insiders is above a certain threshold point that enables the insiders to possess sufficient voting power, the insiders may prioritize themselves or become entrenched rather than following the best interests of the firms (Stulz, 1988; McConnell & Seraes, 1990; and Han & Suk, 1998). The result indicates that in a developing country like Vietnam where the legal and regulatory framework to protect "the interests of shareholders and other stakeholders" is at an early stage of development (IFC, 2011; World Bank, 2007), and the information asymmetry is of a high level (Jiang & Kim, 2004), the insiders who own a large proportion of shares may exploit their power and

firm specific information to pursue their own interests, thus resulting in a reduced firm performance. This is in line with the suggestion of Fama & Jensen (1983) that within the environment of high information asymmetry, managers are able to follow the objectives different from maximising firms' values.

### **5.1.3 Relationship between ownership concentration and the financial performance of Vietnamese non-financial listed firms**

Regarding the effects of ownership concentration (measured by blockholder ownership) on the financial performance of Vietnamese non-financial listed firms (objective 6), the empirical result shows that the relation between ownership concentration and the financial performance is a cubic. Specifically, at a low level (less than 25%) and a high level of ownership concentration (more than 61%), the firms' financial performance is positively related to ownership concentration. However, at the middle level of ownership concentration (from 25% to 61%), the financial performance is negatively linked with ownership concentration.

This empirical result shows the presence of both "convergence and expropriation effects of ownership concentration" on the non-financial firms' performance, which confirms the findings of De Miguel et al., (2004) and Thomsen & Pedersen (2000). These studies document an inverted U-shaped relationship between ownership concentration and the non-financial firms' performance, which implies the non-financial firms' financial performance increases at a low level and decreases at a high level of ownership concentration. Interestingly, this study result shows the non-financial firms' financial performance and ownership concentration form a cubic relation. This means when the non-financial firms' financial performance increases at a low level and decreases at a middle level of ownership concentration and when ownership concentration reaches to a certain point high enough (61%), the non-financial firms' financial performance starts to increase again with the increase in ownership concentration.

The convergence effect prevails at the low level of ownership concentration (less than 25%) as the benefits of blockholders and shareholders are related. Thus, the blockholders play an important role in supervising managers' opportunistic behaviour, resulting in better non-financial firms' performance. When blockholder ownership is over 25%, the expropriation effect prevails. The blockholders might act toward their own objectives and expropriate the benefits of minority shareholders, hence decreasing the non-financial firms' performance (Fama & Jensen, 1983). Nevertheless, when the blockholders own a significant proportion of shares (61%), their interests and shareholders' interests appear to be closely incorporated again, thus motivating them to play an active role in monitoring managers' misconduct, and driving them to exploit all of their resources and

networks to maximise the firms' values. In Vietnam, the State is still the blockholder or controlling shareholder in many previously State-owned firms (World Bank, 2013b). As the State is both the policy maker as well as the controlling shareholder of many firms, the high State-owned firms benefit from accessing development policies initiatives and orientations or unrevealed State's strategies, and enjoying the special privilege or subsidy of the State, such as preferential loans from State banks that other firms cannot access. Hence, firms with large State ownership often have more advantages compared to other firms, which allows the high State-owned firms to outperform others. Furthermore, when ownership concentration is significant, the shares in public hands will be limited. In a newly established stock market like Vietnam, the prices of these stocks could be affected by "law of supply and demand", which may lead to the rise in prices and higher Tobin's Q of the stocks.

## **5.2 Contributions of the study to the governance literature**

The present study contributes to the CG literature in several ways.

Firstly, this study is among the first studies that comprehensively examine the relationship between both board and ownership structures, two important features of CG, and the financial performance of non-financial listed firms in a developing country like Vietnam, where the stock market started operation in 2000 and the Code of CG applied to listed firms in 2007. Most of the previous research in the CG field is conducted in developed countries (i.e., the U.S, the UK and Europe). Compared to developing countries, these countries have several differences in macro and micro economic environments including the development of the stock market, institutional characteristics, ownership structure, and culture. Therefore, it is necessary to re-examine the findings and implications of previous studies in the context of developing countries under communist regime such as Vietnam. This helps to answer the question of whether "one size fits all" CG mechanism exists across countries with different institutional environment.

Prior to this study, there has been a limited number of studies investigating the relationship between CG and the financial performance of Vietnamese non-financial listed firms. To the best of our knowledge, there is no prior study that examines comprehensively the relationship between both board and ownership structures (including insider and blockholder ownership) and the financial performance of Vietnamese non-financial listed firms. This study, therefore contributes to the governance literature by enriching and expanding the understanding as well as the findings of the effects of CG features on financial performance in developing countries with a newly established stock market and an early developed CG framework, such as Vietnam.



Secondly, employing the SYS-GMM method to examine the relationship between CG and firm performance to address the dynamic endogeneity problem, this study produces reliable outcomes of the impacts of the board and ownership structures on the financial performance of Vietnamese non-financial listed firms. It becomes more important when previous studies in Vietnam using the traditional OLS and FE estimation methods produce inconclusive results, probably due to inappropriate estimation techniques. As suggested by Wintoki et al., (2012), because of the dynamic relationship between CG and firm performance, studies that fail to control for the “dynamic endogeneity” when past performance influences both current performance and governance may produce “biased and inconsistent results”. As a result, the implications of the studies that fail to address the endogeneity issue may be inadequate and inefficient. To solve the “dynamic endogeneity problem”, Wintoki et al., (2012) recommend that the SYS-GMM estimator is the most appropriate estimation method in CG research. This is because the SYS-GMM estimator “can overcome the estimations problems introduced by unobservable heteroscedasticity, simultaneity, and dynamic endogeneity, and produce unbiased and consistent estimates by employing valid internal instruments during estimation” (Schultz et al., 2010, p.146). Wintoki et al., (2012, p.596) further emphasise that “the system GMM model enables us to estimate the governance/performance relation while including both past performance and fixed-effects to account for the dynamic aspects of the governance/performance relation and time-invariant unobservable heterogeneity, respectively”. Taking into consideration the importance of addressing the endogeneity problem, this study employs the SYS-GMM estimator to examine the relationship between CG and the financial performance of Vietnamese non-financial listed firms.

Thirdly, the present study sample is considerably larger than samples of previous studies using Vietnam data. Ammari et al., (2014, p.581) suggest that “the large sample data provides flexibility in using and reliably interpreting the results from different panel data estimation techniques including system GMM”. Previous studies that used a small sample size may not be able to produce more comprehensive and reliable outcomes (Nguyen et al., 2015). In addition, “the power of the specification tests is weaker in smaller samples” using the SYS-GMM estimator (Wintoki et al., 2012, p.591). Therefore, the large sample size of this study compared to the previous governance studies using Vietnam data allows me to conduct the specification tests with confidence, and generate more comprehensive and reliable outcomes through the estimation procedure.

### **5.3 Implications**

The findings have several practical implications as follows.

The CG framework of Vietnamese listed firms is at an early developmental stage (World Bank, 2007). The findings of the impacts of board structure on the financial performance of Vietnamese non-financial listed firms show that good CG practices (i.e, the more women or “non-executive directors” on the BODs) which have become sound governance mechanisms in several countries may be ineffective in Vietnam. This indicates that there is no “one size fits all” governance structure for all countries. Filatotchev, Jackson, & Nakajima (2013) suggest that the efficiency of CG mechanisms is influenced by institutional characteristics, such as the legal system, rule and regulation framework. Therefore, Vietnam’s policy makers should adopt good governance practices with comprehensive reforms in the related legal system, rule and regulation framework, shareholder and other stakeholder protection mechanisms, and administrative procedures. These legal reforms result in an improvement in Vietnam’s institutional characteristics, thereby facilitating the implementation of sound CG practices efficiently. In addition, policymakers should strengthen information disclosure regimes applied to board members, managers, and blockholders along with improved accounting and auditing standards to enhance transparency, lessen the information asymmetry, thereby reducing opportunistic behaviour of managers and officers of non-financial listed firms. Besides, the punishment of misconduct on information disclosure should be reinforced to discipline the stock market and the compliance with information disclosure regimes of non-financial listed firms. The equitisation process should also be accelerated to reduce “the presence of the State as a controlling shareholder” in non-financial listed firms, thereby building and developing a business environment in which all non-financial listed firms are equally treated.

The study result shows that board size does not impact the financial performance of Vietnamese non-financial listed firms. Each Vietnamese non-financial listed firm, hence, should decide the appropriate board size based on particular characteristics. Similarly, there is no significant evidence of any influence of greater board gender diversity on the financial performance of Vietnamese non-financial listed firms. This indicates that it is still too early to follow countries such as Norway, Germany, and Spain to consider legal changes that set mandatory quotas of female directors on the BODs of Vietnamese non-financial listed firms. In addition, the study result suggests that the appointment of female members to the BODs should be encouraged to promote “gender equality” in Vietnam, rather than for improving the financial performance of Vietnamese non-financial listed firms.

The study result shows that the separation between the CEO and chairman on the board leads to better financial performance of the Vietnamese non-financial listed firms, which means this is an effective CG mechanism to improve the firms’ performance. Therefore, Vietnamese non-financial

listed firms should consider separating these two titles following the encouragement of the CG Code (2012).

The study result indicates the higher proportion of non-executives negatively affects the firms' financial performance. This does not imply non-financial listed firms should not follow the governance practice to improve board independence by appointing non-executive or independent directors to their boards. This suggests that non-financial listed firms should be cautious when appointing non-executives or independent directors by selecting competent and appropriate people to their boards to enhance board decision-making processes, thereby improving the firms' performance. More importantly, policymakers should find possible solutions to increase the pool and quality of independent directors and director candidates to improve the manager labour market. Specifically, policymakers should consider establishing education centres to train and update in the latest development and expertise of good CG practices and securities market for directors, managers or director candidates to provide sufficient and qualified independent directors for Vietnamese non-financial listed firms.

Furthermore, the findings on the relationship between the board structure and the financial performance of Vietnamese non-financial listed firms in this study confirm the "one size fits all" approach may not work effectively in Vietnam. Therefore, when considering the amendment or supplement of the CG Code in the future, policymakers should adopt a "comply or explain" approach. This provides Vietnamese non-financial listed firms with the flexibility in choosing either to comply with good CG principles of the Code or explain the reasons why they do not follow some principles.

In addition, due to the high level of information asymmetry, a weak legal system and regulatory framework in Vietnam, ownership structure should be considered as "an effective CG mechanism" to mitigate "the agency problem" and to protect "minority shareholders and other stakeholders". The result of the study shows the firms' performance is maximised when insider ownership reaches 30%. The descriptive statistics in Table 4.1 reveal the average insider ownership in Vietnamese non-financial listed firms is 10%, which means there is plenty of room to increase insider ownership to the optimal point of 30%. Therefore, non-financial listed firms should consider executive share-options to increase their proportion of shares to 30%. These schemes are designed to offer managers and senior officers of a firm the opportunities to purchase the firm's shares at a preferential fixed price at a later time, thus helping to closely align the interests of managers with those of shareholders and other stakeholders, and providing incentives for managers to improve the firm's performance.

## 5.4 Limitations and recommendations for future studies

Like any studies, the present study does contain limitations. Many of these limitations may provide useful suggestions for subsequent research.

This study only focuses on the impacts of four common features of board structure, including board size, board gender diversity, board independence, and board duality, on firms' performance. However, there are other features of board structure that could influence firms' performance, but not incorporated in our research framework. For examples, future studies may investigate the impacts of board committees (i.e, remuneration committee, audit committee, and nomination committee), board education, board experience, board age, board nationality on firms' performance if the data is available.

Regarding the ownership structure – firms' performance relationship, this study examines the impacts of only insider and blockholder ownerships on the financial performance of Vietnamese non-financial listed firms. However, state ownership, foreign ownership, institutional ownership and family ownership are also popular in Vietnam. Future research may explore the impacts of these types of ownership on firms' performance in Vietnam.

Apart from the impacts of board and ownership structures on firms' financial performance, there are several governance features that may interest future researchers. For instance, the influence of board activities (i.e board meeting frequency) and board remuneration on firms' performance could be possible governance features that subsequent studies could take into consideration to further investigate the relationship.

Secondly, the board structure data in this study is obtained from relevant annual reports, financial reports and CG reports of Vietnamese non-financial listed firms. In Vietnam, the stock market is newly established and as the rules and regulations for the stock market's operation are recently issued and gradually developed, many non-financial listed firms fail to sufficiently disclose these reports. The non-financial listed firms chosen for this study might probably be the firms with higher levels of transparency, management and efficiency, which possibly cause sample selection bias (Nguyen et al., 2015).

Thirdly, due to the unavailability of the data of the Vietnam stock market before 2010, this study uses the data only from 2010 to 2015. A longer time series study would probably facilitate analysing the relationship between CG and firm performance in a more inclusive manner. In addition, Wintoki et al., (2012, p.591) suggest that board structure variables are highly persistent which "reduces the power

of any data estimator". To address this issue, Wintoki et al., (2012) propose using "two-year interval data" instead of annual data, which would help to mitigate serial correlation of the error term. However, adopting two-year intervals is impossible for this study since I employ the data of only six years. Hence, to solve the issue of the highly persistent nature of governance variables, future studies could extend the study period using yearly data or two-year interval data.

Fourthly, the scope of the present study is the CG – financial performance relationship of only Vietnamese non-financial listed firms. Thus, the study's outcomes might be valid within Vietnamese non-financial listed firms. Black, De Carvalho, Khanna, Kim, & Yurtoglu (2014) suggest that single-country studies enable deep analysis but probably lack generalisability. Therefore, generalisation of this study's results should be cautious. Thus, future studies could consider including additional countries in the dataset.

This study employs Tobin's Q as a "market-based measure" for firm financial performance of Vietnamese non-financial listed firms. The "market-based measure" such as Tobin's Q enables researchers to overcome possible measurement errors arising from firm specific reporting errors or possible managerial manipulation as discussed in Chapter 3. Although Tobin's Q is recognised as "the most commonly used measure" of firm financial performance in the research world (Al-Matari et al., 2014; Nguyen et al., 2014), like any other measures, Tobin's Q is also subject to measurement errors. These measurement errors may derive from its approximately constructed equation (Knock et al., 1991), or the possibility that Tobin's Q may not be perfect to reflect the relationships the study investigates (Nguyen et al., 2014). Therefore, future research may consider other measures of financial performance, such as stock returns, or returns and revenues on employees ratios when the data (such as dividend ratio and the number of employees) is available.

Lastly, this study focuses on non-financial listed firms in the two stock exchanges of Vietnam. It is a common practice to exclude the financial and banking sectors from the sample because of the differences in operational activities, CG regulations and accounting standards between the financial and banking sectors and other sectors (Adams & Mehran, 2011; Fama & French, 1992; Yermak, 1996; Rose, 2007; and Schultz et al., 2010). However, there is a shortage of research examining CG issues in the financial and banking sectors in Vietnam. It becomes more important as many listed banks are previously state owned banks with large capitalisation and they play a very important role in Vietnam's economy (World Bank, 2013b). Issues on CG, including the CG - firm performance relationship in the financial and banking sectors should be taken into consideration in future research. Furthermore, in Vietnam, there is another stock market named UPCOM which provides the platform for trading the stocks of unlisted firms. Although UPCOM is newly established in 2009, this stock market has

developed rapidly in terms of the number of listed firms and market capitalisation. Specifically, at the end of 2017, UPCOM is the trading platform for the stocks of 700 firms with a market capitalisation of 719.45 trillion VND<sup>8</sup> and most of them are young or newly equitised state owned firms. Since the data of this market is limited, there is a lack of studies investigating CG issues of UPCOM's firms. Future research could explore CG issues of this market as more data becomes available.

## 5.5 Summary

This chapter provides the summary, contributions and implications of the findings of this study. The study investigates the relationship between both board and ownership structures and the financial performance of Vietnamese non-financial listed firms. The study finds that except for board size and board gender diversity which have no effects on the firms' performance, the other governance attributes do impact the financial performance of Vietnamese non-financial listed firms. Specifically, board independence and board duality negatively affect the firms' performance; the relationship between insider ownership and the firms' performance is an inverted U-shape, while that between ownership concentration and the firms' performance is cubic. These results support the suggestion that the effectiveness of a governance structure is influenced by the institutional characteristics in which the firms operate.

The study contributes to the extant governance literature in several ways: employing the most robust techniques (the SYS-GMM estimator) to control for the "endogeneity issue"; broadening the understanding of the impacts of both board and ownership structures on the performance of non-financial listed firms in a communist developing country like Vietnam where the stock market and governance framework are recently established; providing more reliable pre-estimation tests' results, and generating more comprehensive estimations' outcomes based on a larger data sample with 412 non-financial listed firms and 2,322 firm-year observations compared to previous governance studies based on Vietnamese data. This study also provides several important implications for policymakers and non-financial listed firms in Vietnam.

Like any studies, this study contains some limitations (i.e, short time series, limited generalisability by using a single-country dataset, and only non-financial listed firms in the dataset). Future research could extend the time-series period and include additional countries in the dataset. In addition, the governance issues of the financial and banking sectors and UPCOM's firms and more CG features could be taken into consideration in future studies.

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<sup>8</sup> See the webpage of Hanoi Stock Exchange on January, 5<sup>th</sup> 2018

## References

- Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94, 291-309.
- Adams, R., & Mehran, H. (2003). Is Corporate Governance Different for Bank Holding Companies? *Economic Policy Review*, 9, 123-142.
- Adams, R. B., & Mehran, H. (2011). Bank board structure and performance: evidence for large bank holding companies. *Journal of Financial Intermediation*, 21, 243-267.
- ADB. (2014). Asean Corporate Governance Scorecard: Country Reports and Assessments 2013-2014.
- Adhikary, B. K., & Le, H. G. H. (2014). Board Structure and Firm Performance in Emerging Economies: Evidence from Vietnam. *Ruhuna Journal of Management and Finance*, 1(1).
- Al-Matari, E. M., Al-Swidi, A. K., & Fadzi, F. H. (2014). The measurements of Firm Performance's Dimensions. *Asian Journal of Finance & Accounting*, 6 (1), 24-49.
- Agrawal, A., & Knoeber, C. R. (1996). Firm Performance and Mechanisms to Control Agency Problems between Managers and Shareholders. *Journal of Financial and Quantitative Analysis*, 31(3), 377-397.
- Ahern, K. R., & Dittmar, A. K. (2012). The changing of the boards: The impact of firm valuation on mandated female board representation. *The Quarterly Journal of Economics*, 127, 137–197.
- Ahrens, T., Filatotchev, I., & Thomsen, S. (2011). The research frontier in corporate governance. *Journal of Management & Governance*, 15(3), 311-325.
- Akbar, S., Poletti-Hughes, J., El-Faitouri, R., & Shah, S. Z. A. (2016). More on the Relationship between Corporate Governance and Firm Performance in the UK: Evidence from the Application of Generalized Method of Moments Estimation. *Research in International Business and Finance*, 38, 417–429.
- Ameer, R., Ramli, F., & Zakaria, H. (2010). A new perspective on board composition and firm performance in an emerging market. *Corporate Governance*, 10(5), 647 – 661.
- Ammari, A., Ayed, N. B., & Ellouze, A. (2016). The interaction between board independence and CEO entrenchment on Tobin's Q. *International Journal of Business & Economic Strategy*, 4, 1-13.
- Ammari, A., Kadria, M., & Ellouze, A. (2014). Board structure and firm performance: Evidence from French firms listed in SBF 120. *International Journal of Economics and Financial*, 4(3), 580-590.
- Ang, J. S., Cole, R. A., & Lin, J. W. (2000). Agency costs and ownership structure. *Journal of Finance*, 55, 81-106.
- Antoniou, A., Guney, Y., & Paudyal, K. (2008). The determinants of capital structure: Capital market-oriented versus bank-oriented institutions. *Journal of Financial and Quantitative Analysis*, 43(1), 59-92.
- Arellano, M., & Bond, S. R. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58, 277-297.

- Arellano, M., & Bover, O. (1995). Another look at the instrumental-variable estimation of error-components models. *Journal of Econometrics*, 68, 29-52.
- Arora, A., & Sharma, C. (2016). Corporate governance and firm performance in developing countries: Evidence from India. *Corporate Governance International Journal of Business in Society*, 16(2), 420-435.
- Baltagi, B.H. (2008). *Econometric Analysis of Panel Data*. John Wiley and Sons, 4<sup>th</sup> edition.
- Barrese, J., Lai, G., & Scordis, N. (2007). Ownership Concentration and Governance in the U.S. Insurance Industry. *Journal of Insurance Issues*, 30(1), 175–190.
- Baum, F. C. (2007). *An Introduction to Modern Econometrics Using Stata*. Texas: Stata Press.
- Baysinger, B. D., & Hoskisson, R. E. (1990). Board composition and strategic control: The effect on corporate governance. *Academy of Management Review*, 15, 72-87.
- Bayyurt, N. (2007). The performance of Turkish manufacturing firms in stable and unstable economic periods. *South East European Journal of Economics and Business*, 2(2), 43-52.
- Benjamin, I., & Ehikioya, I. (2009). Corporate governance structure and firm performance in developing economies: evidence from Nigeria. *Corporate Governance: The international journal of business in society*, 9(3), 231-243.
- Berle, A. A., & Means, G. C. (1932). *The Modern Corporation and Private Property*, Macmillan, New York.
- Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. *Journal of Corporate Finance*, 14, 257-273.
- Bilimoria, D. & Wheeler, J. V. (2000). *Women corporate directors: Current research and future directions*. In M. J. Davidson & R. J. Burke (Eds.). *Women in management: Current research issues*, Vol. II. London: Paul Chapman Publishers.
- Black, B. S., De Carvalho, A. G., Khanna, V., Kim, W., & Yurtoglu, B. (2014). Methods for multicountry studies of corporate governance: Evidence from the BRIKT countries. *Journal of Econometrics*, 183(2), 230-240.
- Black, B.S., Jang, H., & Kim, W. (2006). Does Corporate Governance Predict Firms' Market Values? Evidence from Korea. *The Journal of Law, Economics, & Organization*, 22(2), 366-413.
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87, 115-143.
- Bond, S. R. (2002). Dynamic panel data models: a guide to micro data methods and practice. *Portuguese economic journal*, 1(2), 141-162.
- Boone, A. L., Field, L. C., Karpoff, J. M., & Raheja, C. G. (2007). The determinants of corporate board size and composition: An empirical analysis. *Journal of Financial Economics*, 85, 65-101.
- Bowman, E. H., & Helfat, C. E. (2001). Does corporate strategy matter? *Strategic Management Journal*, 22(1), 1-23.



- Bozec, R. (2005). Boards of directors, market discipline and firm performance. *Journal of Business Finance & Accounting*, 32, 1921-1960.
- Brickley, J., Lease, R., & Smith, C. (1988). Ownership structure and voting on anti takeover amendments. *Journal of Financial Economics*, 20, 243-277.
- Brickley, J. A., Coles, J. L., & Jarrell, G. (1997). Leadership structure: Separating the CEO and Chairman of the Board. *Journal of Corporate Finance*, 3(3), 189-220. doi:[http://dx.doi.org/10.1016/S0929-1199\(96\)00013-2](http://dx.doi.org/10.1016/S0929-1199(96)00013-2)
- Bui, X. H., & Nunoi, C. (2008). Corporate governance in Vietnam: A system in transition. *Hitotsubashi Journal of Commerce and Management*, 42(1), 45-66.
- Cadbury, A. (1992). *Report of the Committee on the financial aspects of Corporate Governance*. Gee Publishing, London.
- Campbell, K., & Miguez-Vera, A. (2008). Gender Diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, 83(3), 435-451.
- Carter, D. A., Simkins, B. J., & Simpson, W. G. (2010). The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. *Corporate Governance: An International Review*, 396-414.
- Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity and firm value. *Financial Review*, 38(1), 33-53.
- Chaddad, F. R., & Mondelli, M. P. (2013). Sources of Firm Performance Differences in the U.S Food Economy. *Journal of Agricultural Economics*, 64(2), 382-404.
- Chang, A. L. A. (2004). The Impact of Corporate Governance Practices on Firm's Financial Performance: Evidence from Malaysian Companies. *ASEAN Economic Bulletin*, 21(3), 308-318.
- Chatterjee, S., & Hadi, A. S. (2012). *Regression analysis by example*. New Jersey, USA: John Wiley & Sons.
- Chen, C., Lin, J., & Yi, B. (2008). CEO duality and firm performance: an endogeneity issue. *Corporate Ownership and Control*, 6(1), 58-64.
- Cho, D. S., & Kim, J. (2003). Determinants in introduction of outside directors in Korean companies. *Journal of International and Area Studies*, 10(1), 1-20.
- Choi, J. J., Park, S. W., & Yoo, S. S. (2007). The value of outside Directors: Evidence from Corporate Governance Reform in Korea. *The Journal of Financial and Quantitative Analysis*, 42(4), 941-962.
- Christopher, P. (2004). Corporate governance and the role of non-executive directors in large UK companies: an empirical study. *Corporate Governance: The international journal of business in society*, 4(2), 52 - 63.
- Chung, K., & Pruitt, S. W. (1994). A simple approximation of Tobin's q. *Financial Management*, 23, 70-74.

- Chung, K. H., & Pruitt, S. W. (1996). Executive Ownership, Corporate Value and Executive Compensation: A Unifying Framework. *Journal of Banking and Finance*, 20, 1135-1159.
- Claessens, S., & Yurtoglu, B. B. (2013). Corporate governance in emerging markets: A survey. *Emerging Markets Review*, 15, 1-33. doi:<http://dx.doi.org/10.1016/j.ememar.2012.03.002>
- Canyon, M., & Peck, S. (1998). Board size and corporate performance: evidence from European countries. *European Journal of Finance*, 4, 291-304.
- Cox, J. T. H., & Blake, S. (1991). Managing Cultural Diversity: Implications for organizational competitiveness. *Academy of Management Executive*, 5, 45-58.
- Daily, C., Dalton, D., & Cannella Jr., A. (2003). Corporate Governance: Decades of Dialogue & Data. *Academy of Management Review*, 28 (3), 371-382.
- Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of directors and financial performance: a meta-analysis. *Acad.Manag.J*, 674-686.
- Dalton, D., & Dalton, C. (2005). Boards of Directors: Utilizing Empirical Evidence in Developing Practical Prescriptions. *British Journal of Management*, 16, 91-97.
- Dao, B., & Hoang, G. (2014). *VN30 Index: Corporate Governance and Performance Analysis*. <https://dx.doi.org/10.2139/ssrn.2543097>.
- Damodar, G. (2004). *Basic Econometrics* (4<sup>th</sup> ed.). New York, USA: The McGraw-Hill Companies.
- Darmadi, S. (2011). Board Diversity and Firm Performance: The Indonesian Evidence. *Corporate Ownership and Control*, 9(1), 524-539.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a Stewardship Theory of Management. *The Academy of Management Review*, 22(1), 20-47.
- De Miguel, A., Pindado, J., & De la Torre, C. (2004). Ownership structure and firm value: New evidence from Spain. *Strategic Management Journal*, 25(12), 1199-1207.
- Dehaene, A., De Vuyst, V., & Ooghe, H. (2001). Corporate Performance and Board Structure in Belgian Companies. *Long Range Planning*, 34(3), 383-398. doi:[http://dx.doi.org/10.1016/S0024-6301\(01\)00045-0](http://dx.doi.org/10.1016/S0024-6301(01)00045-0)
- Demsetz, H. (1983). The structure of ownership and the theory of the firm. *J.Law and Econ*, 26, 375-390.
- Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: causes and consequences. *Journal of Political Economy*, 93, 1155-1177.
- Demsetz, H., & Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance*, 7, 209-33.
- Dobbin, F., & Jung, J. (2011). Corporate Board Gender Diversity and Stock Performance: The Competence Gap or Institutional Investor Bias? *North Carolina Law Review*, 89(3), 809-838.
- Dodd-Frank Act. (2010). Dodd-Frank Wall Street Reform and Consumer Protection Act. (2010).

- Donaldson, L. (1985). *In Defence of Organizational Theory: A Reply to the Critics*: Cambridge University Press.
- Donaldson, L., & Davis, J. H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Aust.J.Manag*, 16(1), 49-65.
- Donaldson, L., & Davis, J. H. (1994). Board and Company Performance-Research Challenges the Conventional Wisdom. *Corporate Governance: An International Review*, 2(3), 151-160.
- Dwivedi, N., & Jain, A. K. (2005). Corporate Governance and Performance of Indian Firms: The Effect of Board Size and Ownership. *Employee Responsibilities and Rights Journal*, 17(3), 161-172.
- Earley, P. C., & Mosakowski, E. (2000). Creating hybrid team cultures: An empirical test of transitional team functioning. *Academy of Management Journal*, 43(1), 26-49.
- Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics*, 101(3), 621-640.
- Ehikioya, B. I. (2009). Corporate governance structure and firm performance in developing economies: evidence from Nigeria. *Corporate Governance*, 9(3), 231-243.
- Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *J.Financ.Econ*, 48(1), 35-54.
- Ellstrand, A. E., Tihanyi, L., & Johnson, J. L. (2002). Board Structure and International Political Risk. *The Academy of Management Journal*, 45(4), 769-777.
- El-Faitouri, R. (2014). Board of Directors and Tobin's Q: Evidence from UK Firms. *Journal of Finance and Accounting*, 2(4), 82-99.
- Epps, R. W., & Cereola, S. J. (2008). Do institutional Shareholders Services (ISS) Corporate Governance Ratings Reflect a Company's Operating Performance? *Critical Perspectives on Accounting*, 19, 1135-1148.
- Erhardt, L. N., Werbel, J. D., & Shrader, C. B. (2003). Board of Directors Diversity and Firm Financial Performance. *Corporate Governance: An International Review*, 11, 102-110.
- Fama, E. (1980). Agency problems and the theory of the firm. *Journal of Political Economics*, 88, 288-307.
- Fama, E. F., & French, K. R. (1992). The Cross-section of Expected Stock Returns. *Journal of Finance*, 47, 427-486.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *J.Law Econ*, 26(2), 301-325.
- Farrell, K. A., & Hersch, P. L. (2005). Additions to corporate boards: The effect of gender. *Journal of Corporate Finance*, 11, 85-106.
- Fauzi, F., & Locke, S. (2012). Board structure, ownership structure and firm performance: a study of New Zealand listed-firms. *Asian Academy of management Journal of accounting and finance*, 8(2), 43-67.

- Fenwick, G. D., & Neal, D. J. (2001). Effect of Gender Composition on Group Performance. *Gender, Work & Organization*, 8(2), 205-225.
- Fields, M. A., & Keys, P. K. (2003). The emergence of corporate governance from Wall St. to MainSt.: Outside directors, board diversity, earnings management, and managerial incentives to bear risk. *The Financial Review*, 38, 1-24.
- Finch, E. M., & Shivadasani, A. (2006). Are busy boards effective monitors? *The Journal of Finance*, 61(2), 689-724.
- Finkelstein, S., & D'Aveni, R. A. (1994). CEO duality as a double-edged sword: how boards of directors balance entrenchment avoidance and unity of command. *Acad Manage J*, 37(5), 1078-108.
- Firstenberg, P. B., & Malkiel, F. J. (1994). The twenty-first century boardroom: who will be in charge. *Sloan Management Review*, 36(1), 27-35.
- Flanagan, W. (1982). Board and Rooms. *Forbes Magazine*, New York, 219-222.
- Flannery, M.J., & Hankins, K.W. (2013). Estimating dynamic panel models in corporate finance. *Journal of Corporate Finance*, 19, 1-19.
- Filatotchev, I., Jackson, G., & Nakajima, C. (2013). Corporate governance and national institutions: A review and emerging research agenda. *Asia Pacific Journal of Management*, 30(4), 965-986.
- Francoeur, C., Labelle, R., & Sinclair-Desgagne, B. (2008). Gender diversity in corporate governance and top management. *Journal of Business Ethics*, 81(1), 83-95.
- Freeman, R. E. (1984). *Strategic Management: a Stakeholder Approach*, Pitman, Boston.
- Friedman, A. L & Miles, S. (2006). *Stakeholders: Theory and Practice*. Oxford University Press.
- FTSE Russell. (2017). *Industry Classification Benchmark (Equity)*, V2(3). Retrieved from [http://www.ftse.com/products/downloads/ICB\\_Rules.pdf](http://www.ftse.com/products/downloads/ICB_Rules.pdf).
- Gebba, T. R. (2015). Corporate governance mechanisms adopted by UAE National Commercial Banks. *Journal of Applied Finance & Banking*, 5(5), 23-61.
- Gedajlovic, E., & Shapiro, D. M. (2002). Ownership structure and firm profitability in Japan. *Academy of Management Journal*, 45, 565-75.
- Gibson, M., & Trond, R. (2013). Corporate governance and company performance across Sub-Saharan African countries. *Journal Of Economics and Business*, 70, 92-110.
- Gillan, S. L. (2006). Recent developments in corporate governance: An overview. *Journal of Corporate Finance*, 12(3), 381-402.
- Gill, A., & Mathur, N. (2011). Factors that Influence Financial Leverage of Canadian Firms. *Journal of Applied Finance and Banking*, 1(2), 19-37.
- Gompers, P. A., Ishii, J. L., & Metrick, A. (2003). Corporate Governance and Equity Prices. *Quarterly Journal of Economics*, 118(1), 107-155.

- Goodwin, J., & Seow, J. L. (2000). The influence of corporate governance mechanisms on the quality of financial reporting and auditing: perceptions of auditors and directors in Singapore. *Journal of Accounting and Finance*, 42(3), 195-224.
- Gregory-Smith, I., Main, B. G., & O'Reilly, C. A., III. (2014). Appointments, pay and performance in UK boardrooms by gender. *The Economic Journal*, 124, 109–128.
- Gujarati, D. N. (2008). *Basic Econometrics* (4th ed.). New Delhi: Tata McGraw-Hill.
- Guest, P. M. (2009). The impact of board size on firm performance: evidence from the UK. *European Journal of Finance*, 15, 385-404.
- Gull, S., Irshad, F., & Zaman, K. (2011). Factors Affecting Bank Profitability in Pakistan. *Romanian Econ. J*, 14(39), 61-87.
- Gurbuz, A. O., & Aybars, A. (2010). The impact of foreign ownership on firm performance, evidence from an emerging market: Turkey. *American Journal of Economics and Business Administration*, 2, 350–359.
- Hall, M., & Weiss, L. (1967). Firm and profitability. *The Review of Economics and Statistics*, 49(3), 319-331.
- Hambrick, D. C., Cho, T. S., & Chen, M. (1996). The Influence of Top Management Team Heterogeneity on Firms' Competitive Moves. *Administrative Science Quarterly*, 41, 659-685.
- Han, K. C., & Suk, D. Y. (1998). The effect of ownership structure on firm performance: additional evidence. *Review of Financial Economics*, 7(2), 143-155.
- Haniffa, R., & Hudaib, M. (2006). Corporate Governance Structure and Firm Performance of Malaysian Listed Companies. *Journal of Business Finance & Accounting*, 33(7-8), 1034-1062.
- Harris, M., & Raviv, A. (1991). The theory of capital structure. *Journal of Finance*, 46(1), 297-355.
- Harris, M., & Raviv, A. (2008). A theory of board control and size. *Rev.Financ.Stud*, 21(4), 1797-1832.
- Hermalin, B. E., & Weisbach, M. S. (1991). The Effects of Board Composition and Direct Incentives on Firm Performance. *Financial Management*, 20(4), 101-112.
- Hermalin, B. E., & Weisbach, M. S. (1998). Endogenously chosen boards of directors and their monitoring of the CEO. *The American Economic Review*, 88(1), 96-118.
- Hermalin, B. E., & Weisbach, M. S. (2003). Boards of Directors and Endogeneously Determined Institution: A survey of Economic Literature. *FRBNY Economic Policy Review*, 9, 7-26.
- Herzberg, F., Mausner, B., & Snyderman, B. (1959). *The motivation to work*. Wiley. New York.
- Higg Report. (2003). *Review of the role and effectiveness of non-executive directors 2003*.
- Hill, C. W. L., & Snell, S. A. (1989). Effects of ownership structure and control on corporate productivity. *Academy of Management Journal*, 32, 25-46.
- Hill, R. C., Griffiths, W. E., & Lim, G. C. (2011). *Principles of econometrics* (4th ed.): John Wiley & Sons, Inc.

- Hilman, A. J., & Dalziel, T. (2003). Board of Directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383-396.
- Himmelberg, C. P., Hubbard, R. G., & Palia, D. (1999). Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of financial economics*, 53(3), 353-384.
- Hlouskova, J., & Wagner, M. (2005). *The Performance of Panel Unit Root and Stationary Tests: Results from a Large Scale Simulation Study*. EUI Working Paper ECO No.2005/5, European University Institute.
- Hoang, N. T., & McNown, R. F. (2006). *Panel data unit roots tests using various estimation methods*. University of Colorado Working paper.
- Holderness, C. G. (2003). A survey of blockholders and corporate control. *Economic Policy Review-Federal Reserve Bank of New York*, 9(1), 51-63.
- Holderness, C. G. (2009). The Myth of Diffuse Ownership in the United States. *Review of Financial Studies*, 22, (4), 1377-1408.
- Holmstrom, B., & Kaplan, S. (2003). The state of U.S corporate governance: What's right and what's wrong? *Journal of Applied Corporate Finance*, 15, 8-20.
- Holtz-Eakin, D., Newey, W., & Rosen, H.S. (1988). Estimating vector autoregressions with panel data. *Econometrica*, 56, 1371-1396.
- IFC. (2011). *Vietnam Corporate Governance Project : Newsletter No.2*.
- IFC. (2015). *Corporate Governance in Vietnam: Success Stories*.
- Ingle, C. B., & Van der Walt, N. T. (2003). Board configuration: building better boards. *Corporate governance*, 3(4), 5-17.
- Islam, M. R., Khan, T. R., Choudhury, T. T., & Adnan, A. M. (2014). How earning per share (EPS) affects on share price and firm value. *European Journal of Business and Management*, 6, 97-108.
- Jackling, B., & Johl, S. (2009). Board Structure and Firm Performance: Evidence from India's Top Companies. *Corporate Governance: An International Review*, 17(4), 492-509.
- Jensen, M. (1993). The modern industrial revolution, exit and the failure of internal control systems. *Journal of Finance*, 48, 831-880.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: managerial behaviour, agency cost, and ownership structure. *J.Financ.Econ*, 3(5), 305-360.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*, LVIII(2), 319-333.
- Jensen, M. C., & Murphy, K. J. (1990). CEO Incentives-It's Not How Much You Pay, But How. *Harvard Business Review*, 3, 138-153.
- Jiang, L., & Kim, J. B. (2004). Foreign Equity Ownership and Information Asymmetry: Evidence from Japan. *Journal of International Financial Management*, 15, 185-211.

- Jiang, G. H., Yue, H., & Zhao, L. K. (2009). A re-examination of China's share issue privatization. *Journal of Banking & Finance*, 33, 2322-2332.
- Julizaerma, M. K., & Sori, Z. M. (2012). Gender Diversity in the Boardroom and Firm Performance of Malaysian Public Listed Companies. *Procedia - Social and Behavioral Sciences*, 65, 1077 – 1085.
- Kang, H., Cheng, M., & Gray, S. J. (2007). Corporate Governance and Board Composition: diversity and independence of Australian boards. *Corporate Governance: An International Re-view*, 15(2), 194-207.
- Kapopoulos, P., & Lazaretou, S. (2007). Corporate ownership structure and firm performance: Evidence from Greek firms. *Corporate Governance: An International Review*, 15(2), 144-158.
- Kiel, G. C., & Nicholson, G. J. (2003). Board composition and corporate governance: how the Australian experience informs contrasting theories of corporate governance. *Corp.Gov*, 11(3), 189-205.
- Klapper, L. F., & Love, I. (2003). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, 10(5), 703-728. doi:[http://dx.doi.org/10.1016/S0929-1199\(03\)00046-4](http://dx.doi.org/10.1016/S0929-1199(03)00046-4)
- Klein, A. (1998). Firm Performance and Board Committee Structure. *Journal of Law and Economics*, 41(1), 275-304.
- Krause, R., Semadeni, M., & Cannella, A.A. (2013). CEO duality: A review and researd Agenda. *Journal of Management*, 40(1), 256-286.
- Krivogorsky, V. (2006). Ownership, board structure, and performance in continental Europe. *The International Journal of Accounting*, 41(2), 176-197. doi:<http://dx.doi.org/10.1016/j.intacc.2006.04.002>
- La Porta, R., & Vishney, R. W. (1997). Legal determinants of external finance. *Journal of Finance*, 52(3), 1131-1150.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer. (1999). Corporate Ownership Around the World. *The Journal of Finance*, 54(2), 471-517.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (2000). Investor protection and corporate governance. *J.Financ.Econ*, 58(1&2), 3-27.
- La Porta, R., Lopez-de-Silanes, F., & Vishny, R. W. (2002). Investor protection and corporate valuation. *Journal of Finance*, 57, 1147-1170. doi:[http://dx.doi.org/10.1016/S0304-405X\(00\)00065-9](http://dx.doi.org/10.1016/S0304-405X(00)00065-9)
- Lachenmaier, S., & Rottmann. (2007). *Effects of innovation on employment: a dynamic panel analysis*. CESIFO Working paper No.2015.
- Le, T. M., & Walker, G. (2008). Corporate governance of listed companies in Vietnam. *Bond Law Review*, 20(2), 1-80.
- Lehn, K., Sukesh, P., & Zhao, M. (2004). *Determinants of the size and structure of corporate boards: 1935-2000*. Working Paper, Katz Graduate School of Business.
- 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.

- Lemmon, M. L., & Lins, K. V. (2003). Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis. *Journal of Finance*, 58, 1445-1468.
- Lewellen, W. G., & Badrinath, S. G. (1997). On the measurement of Tobin's q. *Journal of Financial Economics*, 44, 77-122.
- Lipton, M., & Lorsch, J. W. (1992). A Modest Proposal for Improved Corporate Governance. *The Business Lawyer*, 48(1), 59-77.
- Litz, R. A., & Folker, C. A. (2002). When he and she sell seashells: Exploring the relationship between management team gender-balance and small firm performance. *Journal of Development*, 7(4), 341-359.
- Liu, Yu, Wei, Zuobao, Xie, & Feixue. (2014). Do women directors improve firm performance in China? *J. Corp. Financ*, 28, 169–184.
- Loderer, C., & Martin, K. (1997). Executive Stock Ownership and Performance: Tracking Faint Traces. *Journal of Financial Economics*, 45, 223–255.
- Loderer, C., & Waelchli, K. (2010). *Firm age and performance*. Working paper No.26450.
- Low, D., Roberts, H., & Whitting, R. (2015). Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal*, 35, Part A, 381-401.
- Mak, Y. T., & Kusnadi, Y. (2005). Size really matters: Further evidence on the negative relationship between board size and firm value. *Pacific-Basin Finance Journal*, 13(3), 301-318. doi:<http://dx.doi.org/10.1016/j.pacfin.2004.09.002>
- Mallin, C., Mullineux, A., & Wihlborg, C. (2005). The Financial Sector and Corporate Governance: the UK case. *Corporate Governance: An International Review*, 13(4), 532–541.
- March, J.G., & Simon, H.A. (1958). *Organizations*. Wiley, New York.
- Marinova, J., Plantenga, J., & Remery, C. (2010). *Gender Diversity and Firm Performance: Evidence from Dutch and Danish Boardrooms*. Utrecht: Tjalling C. Koopmans Research Institute.
- Mashayekhi, B., & Bazaz, M. S. (2008). Corporate Governance and Firm Performance in Iran. *Journal of Contemporary Accounting & Economics*, 4(2), 156-172. doi:[http://dx.doi.org/10.1016/S1815-5669\(10\)70033-3](http://dx.doi.org/10.1016/S1815-5669(10)70033-3)
- McClelland, D.C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.
- McConnell, J. J., & Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics*, 27(2), 595-612.
- Medland, D. (2004). *Small steps for womankind*. Corp. Board Memb. Eur. Winter
- Mlonzi, V. F., Kruger, J., & Nthoesane, M. G. (2011). Share price reaction to earnings announcement on the JSE-AltX: A test for market efficiency. *South African Business Review*, 15(3), 142-166.
- MOF. (2007). *The Code of corporate governance 2007* (Vol. 12/2007/QĐ-BTC). Hanoi, Vietnam: Socialist Republic of Vietnam Government Web Portal.



- Monks, R.A.G., & Minow, N. (1995). *Corporate Governance*, Blackwell, Cambridge, MA.
- Morck, R., Shleifer, A., & Vishney, R. W. (1988). Management ownership and market valuation: an empirical analysis. *Journal of Financial Economics*, 20(1), 293-315.
- Nath, S. D., Islam, S., & Saha, A. K.(2015). Corporate board structure and firm performance: The context of Pharmaceutical industry in Bangladesh. *International Journal of Economics and Finance*, 7(7), 106-115.
- Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica*, 49(6), 1417-1426.
- Nguyen, T., Locke, S., & Reddy, K. (2014). A dynamic estimation of governance structures and financial performance for Singaporean companies. *Economic Modelling*, 40(C), 1-11. doi:<http://dx.doi.org/10.1016/j.econmod.2014.03.013>
- Nguyen, T., Locke, S., & Reddy, K. (2015). Does boardroom gender diversity matter? Evidence from a transitional economy. *International Review of Economics & Finance*, 37(C), 184-202. doi:<http://dx.doi.org/10.1016/j.iref.2014.11.022>
- O'Connell, V., & Cramer, N. (2010). The relationship between firm performance and board characteristics in Ireland. *European Management Journal*, 28, 387-399.
- OECD. (2004). *Principles of Corporate Governance*.
- OECD. (2006). *Implementing the White Paper on corporate Governance in Asia*.
- OECD. (2015). *G20/OECD Principles of Corporate Governance*.
- Okiro, K. (2006). *The Relationship Between Board Size And Board Composition And Firm Performance: A Study Of Quoted Companies At The NSE*. University Of Nairobi.
- Park, K., & Jang, S. S. (2010). Insider ownership and firm performance: An examination of restaurant firms. *International Journal of Hospitality Management*, 29(3), 448–458.
- Park, Y. W., & Shin, H. H. (2004). Board composition and earnings management in Canada. *Journal of Corporate Finance*, 10, 431-457.
- Patton, A., & Verardo, M. (2010). *Does Beta Move with News? Firm-Specific Information Flows and Learning about Profitability*. Working paper.
- Pedersen, T., & Thomsen, S. (2003). Ownership Structure and Value of the Largest European Firms: The importance of Owner Identity. *Journal of Management & Governance*, 7(1), 27-55.
- Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organization: A Resource Dependence Perspective*: Stanford University Press.
- Pham, N., Oh, K. B., & Pech, R. (2015). Mergers and acquisitions: CEO duality, operating performance and stock returns in Vietnam. *Pacific-Basin Finance Journal* (0). doi:<http://dx.doi.org/10.1016/j.pacfin.2015.01.007>
- Phung, D.N. (2015). *Ownership structure, corporate diversification, and firm performance: A study of listed firms in Vietnam*. PhD Thesis, in Business Administration, University of Western Sydney, 1-116.

- Phung, D. N., & Le, T. P. V. (2013). Foreign ownership, capital structure and firm performance: empirical evidence from Vietnamese listed firms. *The IUP Journal of Corporate Governance*, 12, 40–58.
- Phung, D.N & Mishra, A.V (2016) Corporation Diversification and Firm Performance: Evidence from Vietnamese Listed Firms. *Australian Economic Papers*, 55(4), 386-408.
- Raheja, C. G. (2005). Determinants of Board Size and Composition: A Theory of Corporate Boards. *Journal of Financial and Quantitative Analysis*, 40(2), 283-306.
- Rahman, R. A., & Haniffa, R. (2005). The effect of role duality on corporate performance in Malaysia. *Corporate Ownership and Control*, 2(2), 40-47.
- Rajan, R., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, 53, 27-64.
- Randoy, T., Thomsen, S., & Oxelheim, L. (2006). *A Nordic Perspective on Corporate Board Diversity*. Oslo: Nordic Innovation centre.
- Rechner, P. L., & Dalton, D. R. (1991). CEO duality and organizational performance: A longitudinal analysis. *Strategic Management Journal*, 12(2), 155-160.
- Reddy, K., Locke, S., Scrimgeour, F., & Gunasekarage, A. (2008). Corporate governance practices of small cap companies and their financial performance: An empirical study in New Zealand. *International Journal of Business Governance and Ethics*, 4(1), 51-78.
- Reddy, K., Locke, S., & Scrimgeour, F. (2010). The efficacy of principle-based corporate governance practices and firm financial performance: An empirical investigation. *International Journal of Managerial Finance*, 6(3), 190-219.
- Rhode, D. L., & Packel, A. K. (2014). Diversity on Corporate Boards: How Much Difference Does Difference Make? *The Delaware Journal of Corporate Law*, 39, 377-426.
- Roberts, M. R., & Whited, T. M. (2013). *Endogeneity in Empirical Corporate Finance*. Handbook of the Economics of Finance.
- Rodriguez, M. A., Ricart, J. E., & Sanchez, P. (2002). Sustainable Development and the Sustainability of Competitive Advantage: A Dynamic and Sustainable View of the Firm. *Creativity and Innovation Management*, 11(3), 135-146.
- Roodman, D. (2009a). How to do xtabond2: An introduction to Difference and System GMM in Stata. *Stata Journal*, 9(1), 86-136.
- Roodman, D. (2009b). A note on the theme of too many instruments. *Oxford Bulletin of Economics and statistics*, 71(1), 135-158.
- Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review*, 15(2), 404-413.
- Rosenstein, S., & Wyatt, J. G. (1990). Outside directors, board independence, and shareholder wealth. *Journal of Financial Economics*, 26(2), 175-191. doi:[http://dx.doi.org/10.1016/0304-405X\(90\)90002-H](http://dx.doi.org/10.1016/0304-405X(90)90002-H)

- Rouf, M. A. (2011). The relationship between corporate governance and value of the firm in developing countries: Evidence from Bangladesh. *The International Journal of Applied Economics and Finance*, 5(3), 237-244.
- Ruan, W., Tian, G., & Ma, S. (2011). Managerial ownership, capital structure and firm value: Evidence from China's civilian-run Firms. *Australasian Accounting Business and Finance Journal*, 5(3), 73-92.
- Russell Reynolds Association. (2012). *Splitting the CEO and chairman roles-Yes or No?* Retrieved from <http://www.russellreynolds.com/newsroom/splitting-the-ceo-and-chairman-roles-yes-or-no>.
- Schultz, E. L., Tan, D. T., & Walsh, K. D. (2010). Endogeneity and the corporate governance-performance relation. *Australian Journal of Management*, 35(2), 145-163.
- Serrasqueiro, Z., & Nunes, M. P., (2012). Is age a determinant of financing decisions of SMEs? Empirical evidence using panel data models. *Entrepreneurship Theory & Practice*, 36, 611–887.
- Shah, S. Z. A., & Hussain, Z. (2012). Impact of Ownership Structure on Firm Performance Evidence from Non-Financial Listed Companies at Karachi Stock Exchange. *International Research Journal of Finance and Economics*, 84, 6–13.
- Shleifer, A., & Vishney, R. W. (1986). Large shareholders and corporate control. *J.Polit.Econ*, 94(3), 461-488.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *J.Financ*, 52(2), 737-783.
- Singh, V., & Vinnicombe, S. (2004). Why so few women directors in top UK boards? Evidence and theoretical explanations. *Corporate Governance: An International Review*, 12(4), 479-488.
- Smith, N., Smith, V., & Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish Firms. *International Journal of Productivity and Performance Management*, 55(7), 569-593.
- Srinidhi, B. I. N., Gul, F. A., & Tsui, J. (2011). Female Directors and Earnings Quality. *Contemporary Accounting Research*, 28(5), 1610-1644.
- Sternberg, R. J. (1998). A balance theory of wisdom. *Review of General Psychology*, 2(4), 347-365.
- Stulz, R. (1998). Managerial control of voting rights: Financing policies and the market for corporate control. *Journal of Financial Economics*, 20, 25-54.
- Terjesen, S., Couto, E. B., & Francisco, P. M. (2015). Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *J Manag Gov*, 1-37.
- Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and research agenda. *Corporate Governance: An International Review*, 17(3), 320–337.
- Thomsen, S., & Pedersen, T. (2000). Ownership structure and economic performance in the largest European companies. *Strategic Management Journal*, 21(6), 689-705.
- Thomsen, S., Pedersen, T., & Kvist, H. (2006). Blockholder ownership: effects on firm value in market and control based governance systems. *Journal of Corporate Finance*, 12, 246-269.

- Thompson, J.D., & McEwen, W.J. (1958). Organizational Goals and Environment: Goal Setting as an Interaction Process. *American Sociological Review*, 23(1), 23-31.
- To, D. (2011). *Corporate governance-empirical research on board size, board composition, board activity, ownership concentration and their effects on performance of Vietnamese listed companies*. MA Thesis, in Business Administration, University of Boras, 2-49.
- Tricker, R. I. (1984). *Corporate Governance – practices, procedures and powers in British companies and their boards of directors*. Gower Publishing Aldershot UK, and The Corporate Policy Group, Nuffield College, Oxford.
- Truong, Q., Swierczek, F. W., & Dang, T. K. C. (1998). Effective leadership in joint ventures in Vietnam: A cross-cultural perspective. *Journal of Organizational Change Management*, 11(4), 357-372.
- UNDP. (2010). *Power, voice and Rights: A turning point for gender equality in Asia and the Pacific 2010*.
- UNIDO. (2010). *Gender related obstacles to Vietnamese women entrepreneur*. Vienna: United Nations Industrial Organization.
- Vafeas, N., & Theodorou, E. (1998). The relationship between board structure and firm performance in the UK. *The British Accounting Review*, 30(4), 383-407. doi:<http://dx.doi.org/10.1006/bare.1998.0075>
- Van Essen, M., Oosterhout, J., & Carney, M. (2012). Corporate boards and the performance of Asian firms: A meta-analysis. *Asia Pacific Journal of Management*, 29(4), 873-905.
- Vidhan Goyal., & Chul W. Park, (2002). Board leadership structure and CEO turnover. *Journal of Corporate Finance*, 8(1), 49-66.
- Viet, P. H. (2013). Board Structure and Corporate Financial Performance: Empirical Evidence from Vietnam's Listed Firms. *The Bullentin of The Graduate School of Commerce, Waseda University*, 78, 205-231.
- Virtanen, A. (2012). Women on boards of listed companies: evidence from Finland. *Journal of Managing Governance*, 16, 571-593.
- Vo, D., & Phan, T. (2013). Corporate governance and firm performance: empirical evidence from Vietnam. *Journal of Financial Economics*, 78, 210-226.
- Walt, N., & Ingley, C. (2003). Board Dynamics and the Influence of Professional Background, Gender and Ethnic Diversity of Directors. *Corporate Governance: An International Review*, 11(3), 218-234.
- Wang, Y., & Clift, B. (2009). Is There A Business Case For Board Diversity? *Pacific Accounting Review*, 21(2), 88-193.
- Weisbach, M. S. (1988). Outside directors and CEO turnover. *Journal of Financial Economics*, 20, 431-460.
- Wheeler, D., & Maria, S. (1997). *The Stakeholder Corporation: A Blueprint for Maximizing Stakeholder Value*. Pitman. London.
- Williamson, O.E. (1985). *The Economic Institutions of Capitalism*, Free Press, New York.

- Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, 126(1), 25–51.
- Wintoki, M. B. (2007). *Endogeneity and the dynamics of corporate governance*. Working paper, University of Georgia.
- Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, 105(3), 581-606. doi:<http://dx.doi.org/10.1016/j.jfineco.2012.03.005>
- Wooldridge, J. M. (2001). Applications of generalized method of moments estimation. *The Journal of Economic Perspectives*, 15(4), 87-100.
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. Cambridge, MA: The MIT press.
- Woolbridge, Jeffrey M. (2012). *Introductory Econometrics: A Modern Approach*, 5<sup>th</sup> edition.
- World Bank. (2007). *Report on Observance of Standards and Codes (ROSC)-Corporate governance country assessment: Vietnam*.
- World Bank. (2013a). *Doing Business 2013: Smarter Regulation for Small and Medium- Size Enterprises*.
- World Bank. (2013b). *Report on Observance of Standards and Codes (ROSC)-Corporate governance country assessment: Vietnam*.
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *J.Financ.Econ*, 40(2), 185-211.
- Zahra, S. A., & Pearce II. J. A. (1989). Board of directors and corporate financial performance: A review and integrative model. *Journal of Management*, 15(2), 291-334.
- Zahra, S., & Stanton, W. (1988). The implications of board of directors' composition for corporate strategy and performance. *International Journal of Management Reviews*, 5, 229-237.
- Zajac, E. J., & Westphal, J. D. (1998). The symbolic Management of Stockholders: Corporate Governance Reforms and Shareholder Reactions. *Administrative Science Quarterly*, 43(1), 127-153.
- Zingales, L. (1998). Corporate Governance. *The New Palgrave Dictionary of Economics and the Law*. Macmillan, London.