

CORPORATE GOVERNANCE AND FIRM PERFORMANCE: EVIDENCE FROM VIETNAMESE LISTED COMPANIES

PHAM THI NGOC BICH¹ and NGUYEN DINH HOANG UYEN^{1,*}

¹University of Economics Ho Chi Minh City, Vietnam

*Corresponding author: hoanguyen@ueh.edu.vn

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ABSTRACT

The research aims to provide empirical evidence on the relationship between corporate governance and firm performance in Vietnam – a developing economy in Asia. It focuses on the corporate governance of Vietnamese listed companies with a data-set of five-year period from 2011 to 2015. Vietnamese listed companies are governed and controlled by two boards, Board of Directors and Supervisory Board. The research investigates the impacts of directors' and supervisors' characteristics and ownership structure on firm performance. The outcomes reveal that most governance mechanisms employed by Vietnamese listed companies were not effective and had no effect on the companies' performance, except for managerial ownership and Supervisory Board size. Specifically, management ownership and firm performance were negatively correlated. Additional analyses show a positive relationship between the number of supervisors and firm performance, which was measured by market-based measurement.

Keywords: Corporate governance; Firm performance

1. Introduction

Recently, corporate governance has acquired a great attention from academics, policy makers and practitioners. Companies that are perceived to have better corporate governance receive more trust from investors and usually enjoy a lower cost of capital and higher market valuation than others (Bai, Liu, Lu, Song, & Zhang, 2004). From a macroeconomic perspective, the Organization for Economic Co-operation and Development (2004) stated that corporate governance is critically important to a country's economic growth and stability, because it provides the credibility and confidence, which are fundamental to the efficiency and efficacy of capital markets. As a result, the research in the field of corporate governance has been increasing. In the same time, legal frameworks as well as good practices of corporate

governance have been enhanced in many countries.

Literature has been marked by many studies on the relationship between corporate governance and firm performance in both developed countries and developing nations. Nevertheless, there is little attention to the relationship between corporate governance and firm performance in Vietnam. Our research would provide a more comprehensive and reliable picture on the relationship of corporate governance and firm performance in Vietnamese listed companies. In addition, our research findings could provide more initiatives to listed companies in pursuing their objective regarding good corporate governance.

The study uses a data set of 146 listed companies in Ho Chi Minh Stock Exchange (HOSE) over a period from 2011 to 2015.

Financial information and non-financial information pertaining to the characteristics of board of directors, supervisory board, ownership structure and audit firm are obtained from annual reports which were hand collected from hsx.vn (HOSE's website), cafef.vn and cophieu68.vn. Firm performance is captured using return on total assets (ROA), return on total equity (ROE) and Tobin Q. Corporate governance is measured by size of board of directors, CEO duality, director's independence, managerial ownership, state ownership, supervisory board's size and independence and audit quality. Firm size and financial leverage are two control variables.

The study employs regression analysis to examine the relationship between corporate governance and firm performance in Vietnam. Because the data set used is a panel data, so we run 3 model Pooled OLS, FEM and REM, after that we use F test and Hausman test to choose the model which is the most explaining the relationship.

The report consists of five sections. In Section 2, Literature Review, we review the theoretical background as well as empirical literature on the relationship of corporate governance and firm performance. The particular characteristics of Vietnamese corporate governance structure and the research's hypothesis development are also explained in this section. Section 3 discusses the research design and methodology that explains how to collect and analyze the data to achieve the research's objectives. The research's findings are presented in the fourth section. In this part, a discussion of the research's results is also included. The final section summarizes the research's objectives, its results and contributions as well as its limitations and future research direction.

2. Literature review

2.1. Foundational theories and key governance models in the world

Although the literature covers a wide variety of theories underpinning the concept of

corporate governance, two mainly accepted theoretical foundations are agency theory and stakeholder theory. At the same time, there are two main models of corporate governance, namely one-tier and two-tier board models.

Agency theory and one-tier board model

The focus of agency theory is to deal with the conflicts in the relationship of shareholders and managers, which result from the separation of ownership from control in modern corporations (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976). In this theory, shareholders are referred to as 'the principal', and managers are assumed to be 'the agent'. From these studies, it can be understood that agency problems are likely costly and could harm a company's performance.

The one-tier board model was built upon the agency theory. The key feature of the one-tier model is the role of Board of Directors in controlling the managers' discretion (Bohinc, 2011; Nikolic & Erk, 2011). The board represents the shareholders in order to solve these agency conflicts which can arise between the shareholders and the managers.

Stakeholder theory and two-tier board model

Stakeholder theory extends the boundary of accountability in agency theory. While agency theory highlights that the firm is accountable to its shareholders only (Jensen & Meckling, 1976), stakeholder theory emphasizes that firm has to discharge its accountability to all stakeholders rather than only shareholders (Freeman, 1984). Stakeholders represent any group or individual who can affect or is affected by the achievement of the firm's objectives. In other words, they have a stake in the firm along with shareholders, managers, employees, suppliers, customers, financiers, government and community.

The two-tier board model is based on stakeholder theory. The system relies on Supervisory Board, which usually consists

of shareholder representatives, employee representatives and creditor representatives. There are two boards in the corporate governance structure, namely the supervisory board and the management board; they are totally separate and independent (Douma, 1997; Millet-Reyes & Zhao, 2010). The supervisory board plays the role of governance. The management board performs management duties and is supervised by Supervisory Board.

According to Law on Enterprise (National Assembly of Vietnam, 2014), Vietnamese listed companies have two boards in their governance structure including the supervisory board and the board of directors. However, Vietnam did not adopt purely the two-tier board model; the governance system of Vietnamese listed companies employs the characteristics of both the one-tier and two-tier models. Vietnamese companies are actually monitored by both supervisory board and non-executive/outside directors. Owing to particular Vietnamese governance structure, this research will examine the impact of the characteristics of the supervisory board on firm performance in addition to the conventional governance mechanisms which also includes characteristics of the board of directors, ownership structure, and audit quality.

2.2. Empirical literature and Hypothesis development

The relationship of corporate governance and firm performance has been widely investigated in developed countries (Bauwhede, 2009; Sueyoshi, Goto, & Omi, 2010; Ward, Brown, & Rodriguez, 2009). In developing nations, researchers has gradually paid more attention to this topic, particularly in China (Shan & McIver, 2011). However, there is little research on the relationship between corporate governance and firm performance in Vietnam. Vo and Phan (2013) examined and confirmed the association between board characteristics and firm performance in Vietnamese listed companies. In addition, Vo and Nguyen (2014) investigated the relationship of board

characteristics, CEO's and Board's ownership and firm performance in Vietnam.

One key problem of the two studies is that they'd assumed Vietnamese governance structure was one-tier board model. As a result, the research investigated only the impact of Board of Directors on firm performance and forgot the role of Supervisory Board. As mentioned above, Vietnamese listed companies are monitored by both Supervisory Board and independent directors. Furthermore, although Vo and Nguyen (2014) took into account the impact of ownership structure on firm performance, they focused only on the managerial ownership. However, most Vietnamese listed companies were State-owned enterprises; the influence of the State on corporate governance is likely significant. Consequently, it is necessary to examine the impact of supervisory board member characteristics as well as State ownership on firm performance. It provides initiatives to conduct this research.

The research extends the understanding of corporate governance in Vietnam by investigating the impact of both the characteristic of board of directors and supervisory board on firm performance. Moreover, the relationship of ownership structure including managerial as well as State's share holdings is investigated in the research. Furthermore, the research also examines one key governance mechanism that have not been investigated yet, it is audit quality. In brief, the research would provide a more comprehensive and reliable picture on the relationship of corporate governance and firm performance in Vietnamese listed companies.

Together with the development of stock market in Vietnam, there are increasingly active and knowledgeable investors. Vietnamese listed companies have thus paid more attention to improving their corporate governance. Our research findings could provide more initiatives to listed companies in pursuing their objective regarding good corporate governance.

Board of Directors' characteristics and firm performance

Board size

Some researchers argued that larger board size implied the board possessed greater collective information as well as provided a lot of experienced and technical-skilled members who could support and improve monitoring ability (Mohapatra, 2017). However, Nguyen and his colleagues (2016) and Palaniappan (2017) suggested that larger boards might be less effective than small boards in monitoring management due to coordination problems and director free-riding. Vietnam likely meets the same problems of coordination and free-riding, so the hypothesis is constructed as below:

Hypothesis 1 (H1): There is negative association between board size and firm performance.

CEO duality

CEO duality refers to the situation in which a CEO is also the company's chairman. Beasley (1996) pointed out that the appointment of the CEO to the Chairman could lead to the concentration of power and possible conflicts of interests. Concentration of power in the hand of a CEO through duality may lead to opportunistic and inefficient behavior that reduces shareholder wealth (Jensen and Meckling, 1976). Therefore, advocates of agency theory argue for the independence in a company's leadership structure where there is a separation between the CEO and the chairman, which could ensure that the CEO runs the company in the shareholders' interests. In other words, CEO duality could lead to lower firm performance. In addition, Vo Hong Duc and Nguyen Minh Tri (2014) confirmed the negative association of CEO duality and firm performance in Vietnamese listed companies, thus the following hypothesis is made:

Hypothesis 2 (H2): There is negative relationship between CEO duality and firm performance

Board's Independence

Agency theorists support that non-

executive directors or outside directors contribute to monitor opportunistic behavior of executive directors (Jensen & Meckling (1976)). Additionally, according to Zahra & Pearce (1989); Fields and Keys (2003); Chancharat et al., (2012) and Nugroho and Eko (2011), the presence of non-executive directors in the board may improve the quality and deliberation of board decision-making process, ensuring that management is acting in the best interests of shareholders. Therefore, they believed that the independence of board enhances firm performance. The hypothesis was constructed as below:

Hypothesis 3 (H3): There is the positive relationship between the number of non-executive directors and firm performance.

Ownership structure and firm performance

Managerial ownership

Jensen and Meckling (1976) predicted that low levels of insider ownership imply poor alignment of interest between management and shareholders. Therefore, ownership of a firm's shares by management team is seen as a method to constrain some opportunistic behaviors of managers which may be harmful the interests of shareholders. However, some research conducted in developing countries showed a negative correlation between managerial ownership and firm performance due to principle – principle problems between more powerful shareholders and less powerful shareholders (Shan, 2013; Yang, Lin, & Yen, 2012). As Vietnam is also a developing country, the same relationship is expected.

Hypothesis 4 (H4): There is negative relationship between the proportion of shares held by management team and firm performance.

State's ownership

The State plays an important role in the Vietnamese economy. Thanks to privatization process, the State-owned enterprises have significantly been reduced. However, the State still holds a certain percentage of Vietnamese listed companies' shares. More importantly, the State has a power to intervene

to the company's operation that the other shareholders have not. Some research proved that the State ownership could result in a poor performance (Banca & Trento, 1997; Wei & Chen, 2009).

Hypothesis 5 (H5): There is negative relationship between the proportion of shares held by the State and firm performance.

Supervisory Board's characteristics and firm performance

In practice, the majority listed companies in Vietnam are governed by two boards, namely Board of Directors (board) and Supervisory Board. Basically, Supervisory Board has responsibility to monitor the board's activities (Bezemer, Peij, Kruijs, & Maassen, 2014; Nietsch, 2005). The research will focus on the relationship between the characteristics of Supervisory Board, including such as the size and the independence of Supervisory Board, and firm performance.

Supervisory Board's size

The size of supervisory board is gauged through the number of members. Although literature provides an extensive discussion of the audit committee/ supervisory board's size-firm performance relationship, the reported results are still inconclusive. However, some recent studies conducted in developing countries such as Ghabayen (2012), Mohd (2011), Nuryanah and Islam (2011) and Wei (2007) reported positive relationship between the size of Supervisory Board and firm performance. On the basis of these findings, the researcher formulates the following hypothesis:

Hypothesis 6 (H6): There is positive relationship between supervisory board size and firm performance

Independence of Supervisory Board

In practice, many members of the Supervisory Board of Vietnamese listed companies are their full-time employees. As a result, outside members may improve the independence of Supervisory Board, which in turn might result in a company's high

performance (Hu, Tam, & Tan, 2010). Therefore, the research proposes the following hypothesis:

Hypothesis 7 (H7): The proportion of outside supervisors on the supervisory board is positively related to firm performance.

Audit quality and firm performance

In the literature of corporate governance, external audit is considered as a watchdog of a company's shareholders. Thanks to its expertise and independence, external audit may well perform its role in controlling a company's managers. Dobre and Brad (2015) pointed out that audit quality has a statistically positive effect on firm performance. Francis & Yu (2009) have found that larger offices of Big 4 auditors have higher quality audits for SEC registrants due to greater in-house experience in administering such audits. The final hypothesis is thus constructed as follows:

Hypothesis 8 (H8): Audit quality (Big4 or non-Big4) is positively related to firm performance.

3. Data and Methodology

3.1. Data - Sample collection

This study used a data set of 146 listed companies in Ho Chi Minh Stock Exchange (HOSE) in the period 2011-2015. The initial sample was 304 firms listed as the industry-categorized-list in the HOSE's website, however, banks, insurance companies and other financial institutions were excluded as the preparation of their financial statements is different. Plus, those firms which missing financial or governance information were also excluded (we collected all data by hand via some websites such as cafef.com or cophieu68.com and companies' website, some companies have not published their reports in these websites or in their reports some non-financial information was lost, therefore the size of sample was reduced). After these exclusions were made, the sample of study was limited to 146 firms with total 730 firm-year observations.

3.2. Measurement of variables

3.2.1. Firm performance - Dependent variable

Firm performance is captured using return

on total assets (ROA), return on total equity (ROE) and Tobin Q. In this work, the ROA and ROE, the accounting-based measures, are used because they relate directly to management's ability to efficiently utilize corporate assets and equity indicates what management has accomplished with the given resources. Additionally, accounting estimation is directly concerned with profitability and firm's survival. In this study, ROA and ROE are calculated by the ratio between net income and total assets (ROA) and total stockholder's equity (ROE). The total asset and total stockholder's equity are estimated by average of beginning and ending figures in a financial year. These ratios are used to measure firm performance in studies by (Leora F. Klapper, 2004), Bhagat and (Bolton, 2008). The use of both accounting and market measures of firm performance will enforce the result of the study.

3.2.2. Corporate governance variables – Independent variables

This research will extend the understanding of corporate governance in Vietnam by investigating the impact of both Board of Directors, Supervisory Board and Audit quality on firm performance, therefore, in the main regression model, there are eight variables pertaining to corporate governance characteristics including Board size (BSZ), CEO duality (DUAL), Board independence (BNED), ownership structure (SD and SS), Supervisory Board size (SSZ), Independence of Supervisory Board (SNED) and Audit quality (AUD).

Board size (BSZ) is considered as an important role on firm performance (Bolton, 2008). In emerging countries, according to Malaysian Code of Corporate Governance 2000, the optimal size of Board of Directors should be determined by the whole board to ensure that there are enough members to discharge responsibilities and perform various functions (Rashidah Abdul Rahman, 2006). While, in corporate governance regulation at Vietnam, Ministry of Finance regulates

in Circular 121/2012/TT-BTC mentioned specifically that the number of Board should be at least three and maximum is eleven members. In this study, the size of Directors board, which mentioned in hypothesis H1 is measured by the total number of members in the board. According to H1, it is believed that large board size will constrain firm performance, thus predicted sign is negative.

CEO duality (DUAL) presented when the CEO is also the Chairman. This is the most common dependent variables used in many studies which research in this fields such as Paula (1991), Boyd (1995), Baliga (1996). In this work, CEO duality is a dummy variable which first taking the value of 1 if CEO served as the chairman of board and 0 otherwise. Following hypothesis H2, predicted sign is negative.

Board's independence (BNED) is considered as one of factors affecting the efficiency and effectiveness of board.

Based on the rule of Vietnam Ministry of Finance in circular 121/2012/TT-BTC, structure of Board of Directors should be maintained the balance between executive directors and non-executive directors, particularly, at least 1/3 of total members on the board are non-executive directors.¹

In our study, the independent level of board is measured by the number of non-executive directors divided by total number of board members. As mentioned in hypothesis H3, it is believed that the large proportion of non-executive directors may improve the quality and deliberation of board decision-making process, therefore, lead to the higher firm performance. The authors predicted that this relation might be positive correlation.

Ownership structure is also considered as critical factor having significant influence on firm performance. According to the circular 52/2012/TT-BTC of Ministry of Finance of Vietnam which providing guidelines for financial disclosure in stock market, a shareholder with 5% voting right in

a public company is considered as significant shareholder. In this study, ownership structure includes managerial ownership (SD), which is measured as the percentage of shares held by Management Team and related parties,² and State ownership (SS), which is measured by the proportion of shares held by State.

According to H4, it is believed that there is positive relationship between the proportion of shares held by management team and firm performance while there is negative relationship between the proportion of shares held by the State and firm performance (H5).

Supervisory board’s size (SSZ) is measured by the total number of members in the Supervisory Board. Based on the results of recent studies, it is believed that there is no relationship between supervisory board size and firm performance.

Independence of Supervisory Board (SNED) is also considered as the characteristics of corporate governance which have affected on firm performance. An supervisory board that is comprised of more number of non-executive directors is deemed more independent than one that has more executive directors (Mohd Mohid Rahmat, 2009). The independent level is measured by the proportion of outside supervisors on the supervisory board.

Following hypothesis H7, predicted sign of this variable is positive.

The last variable is **audit quality (AUD)**. In theory, external audit is considered as a watchdog of a company’s shareholders; therefore, it is believed that the quality of external audit affect on firm performance. In this study, this variable is a dummy variable which taking the value of 0 if the company’ audit firm is Big4 firms (including KPMG, PwC, EY, and Deloitte) and 1 otherwise. It is believed that audit quality will increase firm performance.

3.2.3. *Control variables*

Firm size (FSIZE) and financial leverage (LEV) effect are considered as the factors determined the relationship between corporate governance and firm performance (Zahra and Pearce (1989), Vo and Nguyen (2014)); therefore, we used them as control variables.

The log of total assets is also included in order to control the size of firm (FSIZE) as some prior research studies found that there is an effect to firm performance. Besides that, Joh (2003) believed that Financial Leverage (LEV) which is calculated by long-term debt divide total equity impact on firm performance.

The table 1 summarizes all variables measurement used in the study.

Table 1

A summary of variables used

Variables	Definition	Measurement	Predicted sign
Dependent variables			
ROA	Return on asset	$\frac{\text{Earnings after tax}}{\text{Total asset}}$	
ROE	Return on equity	$\frac{\text{Earnings after tax}}{\text{Total equity}}$	
Q	Tobin’s Q	$\frac{\text{Total asset} + \text{market value of equity} - \text{book value of equity} - \text{deferred taxes}}{\text{Total assets}}$	

Variables	Definition	Measurement	Predicted sign
Independent variables			
BSZ	Board size	The total number of board members	-
DUAL	CEO Duality	Coded 1 if CEO is also the chairman of the board of directors; otherwise, the value is 0.	-
BNED	Board's Independence	The number of non-executive directors divided by total number of board members	+
SD	Managerial ownership	The proportion of shares held by Management Team and related parties	-
SS	State ownership	The proportion of shares held by the State	-
SSZ	Supervisory board's size	The total number of members in the Supervisory board	+
SNED	Independence of Supervisory Board	The proportion of outside supervisors on the supervisory board	+
AUD	Audit quality	Coded 0 if the company' audit firm is Big4 firms (including KPMG, PwC, EY and Deloitte) and 1 otherwise.	-
Control variable			
FSIZE	Firm size	Log (Total asset)	
LEV	Financial Leverage	Long term debt/ Total assets	

3.3. Regression Equations

The study firstly ran FEM and REM models and after that used Hausman test to choose the right model to regress the relationship between corporate governance and firm performance. Besides, we used robust test to detect heteroskedasticity and auto-correlation.

Firstly, we ran 3 models below to test the relationship of corporate governance and firm performance measured by accounting-based and market-based proxies.

There are three equations as below:

Equation 1 (E1)

$$ROA_{i,t} = \alpha_0 + \alpha_1 BSZ_{i,t} + \alpha_2 DUAL_{i,t} + \alpha_3 BNED_{i,t} + \alpha_4 SD_{i,t} + \alpha_5 SS_{i,t} + \alpha_6 SSZ_{i,t} + \alpha_7 SNED_{i,t} + \alpha_8 AUD_{i,t} + \alpha_9 FSIZE_{i,t} + \alpha_{10} LEV_{i,t} + \varepsilon_{i,t} \quad (E1)$$

Equation 2 (E2)

$$ROE_{i,t} = \alpha_0 + \alpha_1 BSZ_{i,t} + \alpha_2 DUAL_{i,t} + \alpha_3$$

$$BNED_{i,t} + \alpha_4 SD_{i,t} + \alpha_5 SS_{i,t} + \alpha_6 SSZ_{i,t} + \alpha_7 SNED_{i,t} + \alpha_8 AUD_{i,t} + \alpha_9 FSIZE_{i,t} + \alpha_{10} LEV_{i,t} + \varepsilon_{i,t} \quad (E2)$$

Equation 3 (E3)

$$Tobin Q_{i,t} = \alpha_0 + \alpha_1 BSZ_{i,t} + \alpha_2 DUAL_{i,t} + \alpha_3 BNED_{i,t} + \alpha_4 SD_{i,t} + \alpha_5 SS_{i,t} + \alpha_6 SSZ_{i,t} + \alpha_7 SNED_{i,t} + \alpha_8 AUD_{i,t} + \alpha_9 FSIZE_{i,t} + \alpha_{10} LEV_{i,t} + \varepsilon_{i,t} \quad (E3)$$

where $ROA_{i,t}$, $ROE_{i,t}$, $Q_{i,t}$ indicate firm performance indicators (FP), $BSZ_{i,t}$, $DUAL_{i,t}$, $BNED_{i,t}$, $SD_{i,t}$, $SS_{i,t}$, $SSZ_{i,t}$, $SNED_{i,t}$, $AUD_{i,t}$ are a vector of corporate governance variables and $FSIZE_{i,t}$, $LEV_{i,t}$ are a vector of control variables for firm i at time t . α_0 and α_1 to α_{10} are intercept and parameters to be estimated, respectively. $\varepsilon_{i,t}$ is the error term.

4. Data analysis and discussion

4.1. Descriptive statistics

Table 2 provides the descriptive statistics for

variables in three models. Panel A reports about the financial variables used in the calculation of firm performance, while panel B shows the descriptive statistics including mean, standard

deviation, minimum, median and maximum for each continuous variables in the main regression models. In addition, Panel C displays the summary of dummy regression variables.

Table 2

Descriptive statistics

Panel A: Financial variables

	N	Mean	Std. Deviation	Minimum	Maximum
ROA %	730	5.71	6.8	-15.9	39.27
ROE %	730	10.27	11.78	-60.45	55.24
Tobin's Q	730	0.99	0.43	0.35	5.84

Panel B: Continuous regression variable

	N	Mean	Std. Deviation	Minimum	Maximum
BSZ	730	5.71	1.21	3	11
BNED%	730	0.60	0.19	11.11	100
SD %	730	9.75	15.13	0	77.6
SS%	730	21.08	24.55	0	79.69
SSZ	730	3.05	0.35	2	5
SNED %	730	83.59	30.78	0	100
FSIZE	730	12.08	0.52	11.11	14.16
LEV	730	0.11	0.14	0	0.67

Panel C: Dummy regression variable

	Obs	Percentage
DUAL	730	27.53%
AUD	730	29.45%

In the panel A, ROA has a mean value of 5.71 % with standard deviation of 6.8%, while these figures of ROE are 10.27 % and 11.78% for mean and standard deviation respectively. Tobin's Q ratio presents average nearly 1 with standard deviation of 0.43.

In terms of the continuous variables in the regression model related to corporate governance characteristics, panel B reports detail six variables including the number of members in the board, the proportion of non-

executive directors in the board of directors, the proportion of shares held by Management Team and related parties, the percentage of shares held by the State, the number of Supervisory Board's members, the proportion of outside members in Supervisory board and two control variables. Regarding board size, the number of total members in listed companies in Vietnam ranges from three to eleven, it aligns in the regulation mentioned in the Circular 121/2012/TT-BTC of Ministry of

Finance which rules that the number of board’s members should be at least three and the maximum is eleven members. While, the number of supervisors ranges from 2 to 5 with the average of 3.04. In addition, panel B indicates that the mean of percentage of outside members in Supervisory board is 83.59% with standard deviation of 30.78%.

Panel C presents that 27.53 % of firms in which CEO is also the chairman of board. This proportion is quite low in comparison with

66.9% of the sample of Malaysian and Singapore of Bradbury et al. (2006). Besides, it is reported that only 29.45% of research firms were audited by Big Four firms.

4.2. Regressions results and Discussion

Table 3 below shows the test results for two most moderate problems in OLS regression models: heteroskedasticity and serial correlation. Panel A indicates that the all models contain heteroskedasticity because the Prob. Chi-Square is 0.000.

Table 3

Test of heteroskedasticity and autocorrelation

Panel A: Breusch- Pagan/ Cook- Weisberg test for heteroskedasticity

	Equation 1	Equation 2	Equation 3
Chi-square	604.23	306.42	586.92
Prob> Chi-square	0.0000	0.0000	0.0000

Panel B provides the information about correlations between dependent and independent variables in the main regression model. The highest correlation of the

independent variable is -0.467 via the relationship between Audit quality and Firm size. Therefore, it means that there is not the existence of multicollinearity in this model.

Panel B: Pearson correlation matrix of variables in three regression models

	1	2	3	4	5	6	7	8	9	10	11	12	13
(1)ROA	1												
(2)ROE	-	1											
(3)Q	-	-	1										
(4)BSZ	.003	.050	.091	1									
(5)DUAL	-.042	-.054	-.014	-.078	1								
(6)BNED	.029	.002	.041	.043	-.308	1							
(7) SD	-.176	-.158	-.063	.027	.343	-.145	1						
(8) SS	.037	.055	.033	-.130	-.220	-.096	-.307	1					
(9)SSZ	.059	.108	.234	.387	-.078	.074	-.004	.069	1				
(10)SNED	-.099	-.133	-.021	.032	-.023	.109	-.058	-.068	.010	1			
(11) AUD	-.019	-.010	-.173	-.140	.142	-.100	.047	-.034	-.191	-.080	1		
(12)FSIZE	-.121	-.021	.232	.315	-.058	-.046	.119	.056	.325	.071	.467	1	
(13) LEV	-.264	-.187	-.023	.213	-.064	-.105	.063	.121	.121	-.015	-.096	.432	1

(Extracted from Stata v12)

The results in regression model indicate that the linear equation E1, E2 and E3 is relevant and proper for studying the relationship between corporate governance (particularly board of directors, supervisory board characteristics and audit quality) and firm performance (which is measured by ROA,

ROE and Tobin’s Q) as Sig. Value = .000. We ran 3 model Pooled OLS, FEM REM, after that we used F test and Hausman test to choose the most appropriate model. The results show that REM seems to be more appropriate for E1 and E2 and FEM for E3.

Table 4

F test and Hausman test result

<i>Panel A: F Test</i>	Equation 1	Equation 2	Equation 3
Prob>F	0.0002	0.0047	0.0000
	Denied Ho	Denied Ho	Denied Ho
	Choose FEM	Choose FEM	Choose FEM
<i>Panel B: Hausman test</i>	Equation 1	Equation 2	Equation 3
Chi-square	7.15	12.09	41.58
Prob> Chi-square	0.7112	0.2793	0.0000
	Accepted Ho	Accepted Ho	Denied Ho
	Choose REM	Choose REM	Choose FEM

Table 5 shows the correlation among three models in which firm performance is measured by ROA, ROE and Tobin’s Q.

Table 5

Result by using REM and FEM

Model	ROA (E1)- REM		ROE (E2)- REM		Tobin’s Q (E3)- FEM	
	Coefficients	p> z	Coefficients	p> z	Coefficients	p> t
(Constant)	.029	.078	-.276	.134	-5.88	.000
BSZ	.0001	.953	.0001	.974	-.010	.531
DUAL	-.004	.511	-.007	.530	-.087	.036
BNED	-.031	.018	-.038	.149	-.183	.038
SD	-.065	.004	-.112	.008	-.328	.066
SS	-.002	.926	-.003	.932	-.147	.433
SSZ	.012	.099	.029	.044	.183	.000
SNED	-.013	.293	-.046	.030	.239	.055
AUD	-.001	.876	.005	.710	-.195	.000
FSIZE	.004	.678	.032	.039	.549	.000
LEV	-.123	.000	-.190	.000	-.056	.724

(Summarized by the authors)

4.2.1. *Impact of the Characteristics of Board of Directors on firm performance*

In terms of the relationship between Board of Directors' characteristics and firm performance, this study fails to find the evidence to support the relationship between Board size and firm performance in all three measures of firm performance. This finding is consistent with the conclusion of Vo Hong Duc & Nguyen Minh Tri (2014) when they conducted the research with the data of listed Vietnamese companies from 2008 to 2012. Furthermore, we also fail to provide a significant evidence to support the association between CEO duality, Board independence with firm performance that measured by accounting-based or market-based proxies.

Overall, the Board of Directors' attributes including Board size, Board duality and Board independence do not likely affect firm performance. It is seemingly contradictory to the so-called good practices of corporate governance around the world. However, it is well supported by empirical research, particularly for emerging economies in Asia (see van Essen et al (2012), Goh et al (2014)).

4.2.2. *Impact of Ownership Structure on firm performance*

Model 1 and 3 indicate that managerial ownership has negative relationship with firm performance when the former is calculated by the proportion of shares held by Management Team and the latter are measured by ROA and Tobin's Q. Particularly, the negative coefficients are significant with p-value are .003 and .008 (< 0.05). It means that when the percentage of shares owned by Management Team and by their related persons increases, the firm's performance likely decreases. The negative relationship between management ownership and firm performance found in the study is similar to the research on corporate governance in non-Anglo-American countries like Vietnam (Kumar & Zattoni, 2015). It is explained by the principal-principal conflicts

between dominant large shareholders-management and small shareholders—the other shareholders.

Meanwhile, the findings of the study fail to provide persuadable evidence of relationship between State Ownership and Firm performance. It may be assumed that the State does not likely intervene in the operations of Vietnamese listed companies. In other words, the existence of the State does not likely affect firm performance.

4.2.3. *Impact of the Characteristics of Supervisory Board on firm performance*

For Supervisory Board's size, there is the positive relationship between the number of supervisors and firm performance which is measured by Tobin's Q (with p-value = 0.000). It indicates that when the number of Supervisory Board members increases, the market firm performance will grow. It might be the case that investors believe that the existence of more members in Supervisory Board will lead to the increase in their monitoring role, therefore, firm performance will be improved.

Turning to the effect of out-side Supervisors in the firm performance of listed company, the study fails to find evidence to support the relationship between the percentage of outside members and firm performance for all three measurements. Actually, all Supervisory Board members are required to be outside according to the Enterprise Law 2014. Therefore, this finding could be understood in the case of Vietnam.

4.2.4. *Impact of Audit Quality on firm performance*

For audit quality perspective, there is the negative relationship between the quality of audit and firm performance which is measured by Tobin's Q (with p-value = 0.000). The relationship between the audit firm and firm performance of the company show that if the company is audited by Big4, the firm performance likely increases.

In summary, the outcomes reveal that

most of governance mechanisms used by Vietnamese listed companies are not effective and do not affect the companies' performance, except for managerial ownership structure, Supervisory Board size and Audit Quality. Specifically, management ownership and firm performance is negatively correlated. Additional analyses present the positive relationship between the number of supervisors and firm performance, which is measured by market-based measurement.

5. Conclusion

5.1. Conclusion and implications

The paper investigates the relationship between corporate governance and firm performance in Vietnamese listed companies with a new data-set of the five-year period 2011-2015. We study both internal governance mechanisms including Board of Directors, Supervisory Board, ownership structure and external governance mechanism including audit quality. Firm performance is measured by both accounting-base and market-based.

The main findings of the study indicate that most of governance mechanisms of Vietnamese listed companies are not effective and do not affect the companies' performance, except for managerial ownership structure, Supervisory Board size and Audit quality. Specifically, the proportion of shares held by Management Team and firm performance (which is measured by ROA and Tobin's Q) is negatively correlated. On the other hand, the empirical results of the study present the positive relationship between the number of supervisors and firm performance, which is measured by market-based measurement, Tobin's Q.

The research contributes to the governance research and practice in Vietnam as well as in other Asian emerging economies in several ways. First of all, the findings reveal that Vietnamese listed companies likely try to comply in appearance with the requirements on corporate governance regarding Board size,

CEO duality, and Board independence. As a result, it does not lead to any impact on the performance of Vietnamese listed companies. In addition, due to a weak investor protection by law, the expropriation of dominant shareholders, management, is serious, that results in a negative relationship between management ownership and firm performance.

Furthermore, the stock market pays attention to the role of supervisory board, which is a special governance mechanism of Vietnamese listed companies. Unlike other countries where one-tier or two-tier board model are employed, Vietnamese listed companies have both a Board of Directors with non-executive members and a Supervisory Board which is independent from the Management. The outcomes of the research extend the existing literature on corporate governance by providing evidence on the role of Supervisory Board in improving the performance of Vietnamese listed companies. Therefore, it is suggested that the policy-maker need to enhance the role of supervisory board in corporate governance to improve the performance of Vietnamese listed companies.

5.2. Limitations and Future research direction

There are some limitations in the study that provide initiatives for further research. We did not investigate the decision-making process, background and experience of both two boards including Board of Directors and Supervisory Board due to a lack of information available. When the study results reveal that there is no empirical evidence on the relationship of the characteristics of Board of Directors and firm performance, it is necessary to explore the reasons of such results by investigating deeply the Board's process and meetings. In addition, the board members' background and experience will contribute to explain their silence in the corporate governance's operation. Therefore, the future research will carry out to fill in such gaps

and uncover the reasons why there is no association between Board characteristics and firm performance in Vietnamese listed companies ■

Footnote:

¹Circular 121/2012/TT-BTC also stipulates that independent members must meet all the requirements as follows:

- i. They are non-executive members. The non-executive member is not director, vice-director, chief accountant or others who hold managerial positions, which are appointed by board of directors.
- ii. They are not members of the board, director, vice director of subsidiaries, cooperative companies, which are controlled by listed company.
- iii. They are not large shareholders or representatives and relatives of large shareholders.
- iv. They do not work for law consultancy or auditing firms of listed company in the most recent two years.
- v. They are not the suppliers or customers, which account for 30% of transaction values in the most recent two years.

² Related parties of Management Team are people who have close relationship with the members in Management Team. For example: Wife, Son, Daughter, Sister, and Brother.

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