

## ĐẶC ĐIỂM HỘI ĐỒNG QUẢN TRỊ VÀ HIỆU QUẢ HOẠT ĐỘNG DOANH NGHIỆP: TÁC ĐỘNG ĐIỀU TIẾT CỦA SỞ HỮU GIA ĐÌNH

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### Tóm tắt

Nghiên cứu này kết hợp lý thuyết người đại diện và lý thuyết người quản lý để xem xét các mối quan hệ giữa đặc điểm của hội đồng quản trị (HDQT), sở hữu gia đình và hiệu quả hoạt động doanh nghiệp. Bốn đặc điểm của HDQT gồm: (1) quy mô HDQT, (2) tính độc lập của HDQT, (3) trình độ học vấn của HDQT, (4) tính kiêm nhiệm của Giám đốc điều hành; và hiệu quả hoạt động doanh nghiệp được đo bằng: (1) ROA, (2) ROE, (3) Tobin's Q, (4) Altman Z-score. Biến điều tiết sở hữu gia đình được đo như một biến nhị phân. Sử dụng phương pháp hồi quy bình phương nhỏ nhất tổng quát (GLS) trên 1.120 quan sát của 225 công ty niêm yết trên Sở Giao dịch Chứng khoán Thành phố Hồ Chí Minh (HOSE) tại Việt Nam từ 2015 đến 2019, nghiên cứu này chỉ ra một số mối quan hệ giữa các biến được nghiên cứu. Về quan hệ trực tiếp giữa các đặc điểm của HDQT và hiệu quả hoạt động, quy mô HDQT có ảnh hưởng tích cực, nhưng tính độc lập của hội đồng quản trị và tính kiêm nhiệm ảnh hưởng tiêu cực; trình độ học vấn không có tác động. Đối với tác động điều tiết, sở hữu gia đình có điều chỉnh tiêu cực tới ảnh hưởng của tính độc lập và trình độ học vấn của HDQT đối với hoạt động doanh nghiệp. Các phát hiện đưa ra nhiều đề xuất liên quan đến các thông lệ quản trị, cả ở cấp công ty và cấp chính sách.

**Từ khóa:** Đặc điểm hội đồng quản trị, quản trị công ty, sở hữu gia đình, hiệu quả hoạt động doanh nghiệp

### BOARD CHARACTERISTICS AND CORPORATE PERFORMANCE: MODERATING EFFECT OF FAMILY OWNERSHIP

#### Abstract

This study incorporates insights from agency theory and stewardship theory to examine the relationships among board characteristics, family ownership, and corporate performance. For this purpose, four board characteristics are chosen: (1) board size, (2) board independence, (3) board educational level, (4) CEO duality, and firm performance is measured by four proxies: (1) ROA, (2) ROE, (3) Tobin's Q, (4) Altman Z-score. The moderating variable family ownership is measured as a binary variable. Using the generalized least squares (GLS) regression method on 1,120 samples of 225 companies listed on Ho Chi Minh Stock Exchange (HOSE) in Vietnam from 2015 to 2019, the findings of this study indicate several relationships among the study variables. Regarding direct relationships between board characteristics and firm performance, board size shows a significant and positive effect, but board independence and CEO duality indicates negative influences on performance; board educational level is found to have no significant impact on performance. With respect to moderating effect, family ownership negatively moderates the effects of board independence and board educational level on firm performance. The findings provide multiple implications related to governance practices, both at the firm level and policy level.

**Keywords:** Board characteristics, corporate governance, family ownership, firm performance.

**JEL classification:** M; M2, M12

### 1. Introduction

Following the great financial fraud in big companies, like Enron, World Com, Cisco, etc., corporate governance has been indicated as one of the most important commerce terms and one of the most noticed issues by researchers in the 21st century (Royae & Dehkordi, 2013). Therefore, substantial attention has been put to the roles of the board of directors in strengthening corporate governance practices. The board plays a crucial role in corporate governance especially with respect to board characteristics. In other words, board characteristics are influential towards the effective implementation of corporate governance principles in organizations (Elad, Wong & Bongbee, 2018). Hence, research studying the characteristics of the board and firm performance has been done widely around the world.

However, from previous studies, there are still contrasting and mixed conclusions (Adhikary & Le, 2014; Kiel & Nicholson, 2003; Vo & Phan, 2013; Yermack, 1996). These inconclusive results might occur because of the absence of moderator variables, such as family control (Makhlouf, Laili, Ramli, Al-Sufy & Basah, 2018). In Vietnam, the ownership structure plays a vital role (Phung & Hoang, 2013), especially, when the decision makers (managers and board of directors) themselves are the shareholders or have control (i.e. family control). Hence, in this study, family control is measured as ownership, since family members can enact their influence through involvement not only in their presence in the board, but also in their ownership, leading to substantial impact on the governance and the management of businesses.

From the above discussion, the objectives of the current study are: (1) to examine the direct relationships between four characteristics of board: board size, board independence, board educational level, CEO (chief executive officer) duality, and four dimensions of corporate performance, including return on assets (ROA), return on equity (ROE), Tobin's Q ratio and Z-score; and (2) to explore the moderating role of family ownership in the relationships between the mentioned board characteristics and performance variables.

This study is expected to have its importance both theoretically and practically. Theoretically, it would contribute to the literature beyond previous studies. Practically, this study can highlight the difference between the way family ownership and non-family ownership is governed, so different policy implications can be drawn. It is also expected that the conceptual model, methodology, and findings of this study can be used to help.

## 2. Literature review

### 2.1. Theories of corporate governance

The importance of corporate governance has been increasing, especially in terms of supervision

of the board. The studies related to corporate governance are mostly based on agency theory (Heenetigala & Armstrong, 2011). Stewardship theory, the opposite of agency theory, is also widely used in research concerning corporate governance. Hence, these two theories are the ground theories used in this study.

#### 2.1.1. Agency theory

Agency theory was first developed by Jensen and Meckling (1976). It revolves around the issue of the agency problem which is the problem between the principals (shareholders of company) and agents (managers of company). The principals delegate the work of running the business to the managers, who are agents of shareholders and expect the agents to act in the best interest of principals. However, the agent may be succumbed to self-interest, opportunistic behavior and fall short of expectations of the principal. Therefore, company value is considered to be maximized with optimum measures of supervision such as divided leadership, directors from outside and diversity of board (Heenetigala & Armstrong, 2011).

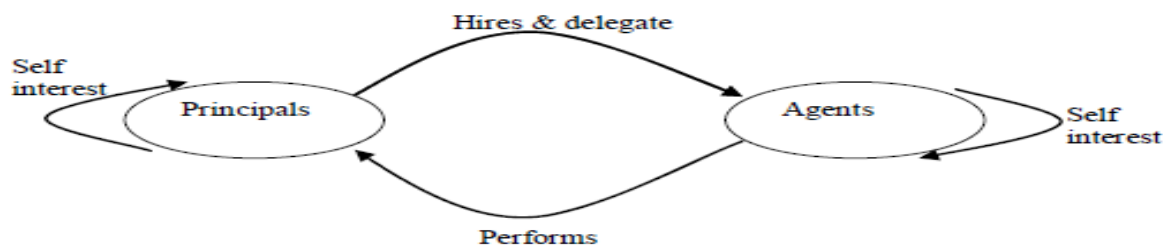


Figure 1. Agency theory model (Jensen & Meckling, 1976)

#### 2.1.2. Stewardship theory

Stewardship theory was introduced by Donaldson and Davis (1991) as a normative alternative to the agency theory. The executive manager, under stewardship theory, far from being an opportunistic shirker, essentially wants to do a good job. The theory argues for the possible alignment between the principals and agents which

is reflective of a psychological contract or a close relationship with agent behaving in a community-focused manner, directing trustworthy moral behavior towards the firms and its shareholders (Davis, Frankforter, Vollrath, & Hill, 2007). Thus, stewardship theory holds that there would be no inherent, general problem of executive motivation (Donaldson & Davis, 1991).

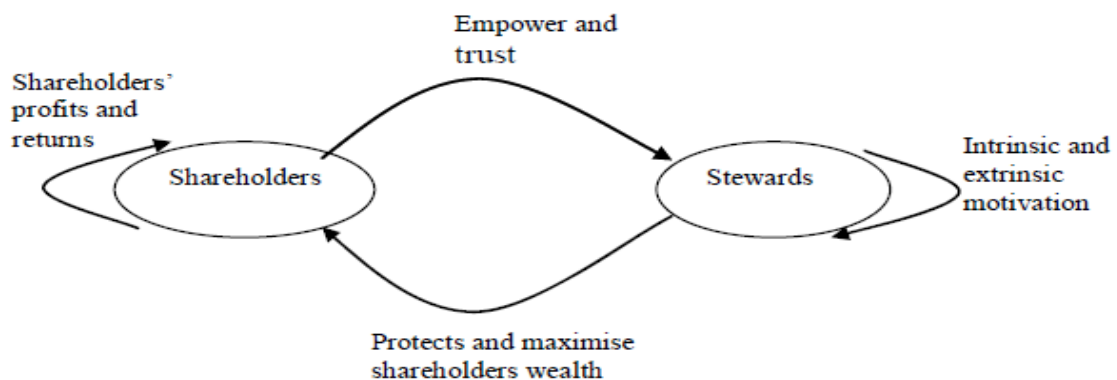


Figure 2. Stewardship theory model (Donaldson & Davis, 1991)

## 2.2. Hypotheses development

### 2.2.1. Influence of board size on corporate performance

For the relationship between the size of a board and a firm's performance, stewardship theory looks at positive aspects of small size of board which allows better interpersonal communication, more participation, and social cohesion among board members (Muth & Donaldson, 1998). Additionally, Yermack (1996) reported a strong inverse relationship between board size and firm performance.

Conversely, agency theory supports the proposition that larger board size gives a firm greater value. If the board size is large, CEO will find it difficult to build a consensus and this will bring more perspectives in firm's decision making. This reduction of the CEO's domination on the board leads to more effective monitoring of management (Fauzi & Locke, 2012). In addition, Kiel and Nicholson (2003) found a positive relationship between board size and firm performance in large Australian firms because the additional directors on the board should bring more skilled personnel to the firm.

Although there have been mixed results, it is possible that an inverted "U"-shaped relationship exists between the two variables (Kiel & Nicholson, 2003; Yermack, 1996). The positive effect of board size was found in Kiel and Nicholson (2003) where the board size's mean is 6.6, but the negative effect of board size was observed in Yermack (1996) where the figure is 12.3. Yermack (1996) suggested that the largest part of lost value occurs as boards grow from small to medium size. Kiel and Nicholson (2003); Jensen (1993) argued that the addition of directors adds to the skills mix and performance till it reaches a point where the adverse dynamics of a large board outweigh the additional benefits of a greater skills mix. Based on this idea and given the mean board size in this study (5.75, see table 2), it is expected that there is a positive relationship between board size and firm performance in Vietnam.

Given the findings of existing research, it is logical to posit the following hypothesis:

**Hypothesis 1.** Board size has a positive influence on firm performance.

### 2.2.2. Influence of board independence on corporate performance

There are mixed conclusions about the effect of board independence on corporate performance in different regions. The study in India showed that by having board independence did not guarantee to improve firm performance due to

poor monitoring roles of independent directors (Garg, 2007). A research was carried out by Abdullah (2004) in Malaysia also suggested no significant relationship between the variables.

However, many empirical studies have agreed on the importance of independent directors to the success of a firm. Some show evidences that the high number of independent directors on the board increase the company's financial performance. In addition, when a business environment worsens, firms with many independent directors have had lower probability of filing for bankruptcy (Daily, Dalton & Cannella, 2003). In contrast, the study of Kiel and Nicholson (2003) showed a negative relationship. The negative association may be due to high block holders' own, which makes non-executive directors become powerless in board discussion.

In Vietnam, many studies have found positive effect on performance variables: ROA, ROE, Tobin's Q (Adhikary & Le, 2014), Z-score (Vo & Nguyen, 2014). Moreover, according to article 134 of the Enterprise Law 2014 applied in Vietnam, at least 20% of the members of the board of directors must be independent. This suggests that the Government of Vietnam also believes in the potential benefits that the independence of the board can bring for firms.

Based on the aforementioned discussion, this study proposes the following hypothesis:

**Hypothesis 2.** Board independence has a positive influence on firm performance.

### 2.2.3. Influence of board educational level on corporate performance

Research studies on the professional expertise of directors has been limited to date. A study that explored the relationship between board diversity and firm performance for European companies (listed in Italy, France, Germany, Spain and United Kingdom), with different elements of diversity, both demographic/social (gender, age and nationality diversity) and cognitive/professional (diversity in directors' experience and education) considered, did not find a significant relationship between board professional diversity, or board educational level (calculated by the percentage of graduated directors) and ROA, although the coefficient in the regression model was positive (Ciavarella, 2017).

In Asia, analyzing the top 100 Sri Lankan companies listed on Colombo Stock Exchange, Somathilake (2018) identified a positive significant relationship between the proportion of directors with Master of Science or Master of Business Administration and ROA. The study recommended that when firms hire directors, they

should consider their education backgrounds and they should choose those with high qualification. Besides, organizations were suggested to implement encouragement activities to get their directors to study and acquire higher degrees and deeper theoretical knowledge. In Indonesia, a positive effect of educational level and firm performance was also discovered (Darmadi, 2013). The two-tier system adopted by the country's Corporate Law, meaning there are two separate boards of directors that govern a company – board of commissioners (supervisory board) and board of management, has been typical for Indonesian firms. Darmadi (2013) found that the proportion of commissioners having postgraduate degrees and degrees from prestigious universities had marginally significant impacts on ROA; and, the influence of postgraduate degrees on held by board of management members on Tobin's Q was significant and positive.

The following hypothesis is formulated based on the previous findings:

**Hypothesis 3.** Board educational level has a positive influence on firm performance.

#### 2.2.4. *Influence of CEO duality on corporate performance*

Conflicting results have been drawn when examining the impact of CEO duality on performance variables. The direction and magnitude of CEO duality – performance relationship was tested in study of Boyd (1995). He used contingency model and presented that the CEO duality has highly positive association with performance in low munificent and high complex environment. Based on the study of Boyd (1995), using a huge database of over 11,000 Swedish firms from the year 2005 to 2009, Mohammadi, Basir & Lööf (2015) also suggested that the positive impact of CEO duality increases by firm performance measured by ROA.

On the contrary, CEO duality has been proven to have negative effect. Dogan (2013) examined the relationship for a sample of 204 listed firms on Istanbul Stock Exchange (ISE) between the years 2009 and 2010 in Turkey. ROA, ROE and Tobin's Q were used as financial performance measures, and the results showed that CEO duality had a negative impact on the firm performance, consistent with the agency theory. More interestingly, the direction of impact of CEO duality on corporate performance can be contrasting when using different dependent variables.

In Vietnam, many studies have suggested that companies having the CEO concurrently

holding the position of chairman of the board of directors will be more effective. The studies of Vo and Phan (2013), and Vo and Nguyen (2014) identified a significant and positive relationship between duality and firm performance measured by ROA. These results supported the stewardship theory in which the concentration of power for the CEO in the board of directors will give the CEO a high self-determination, forming a clear and decisive leadership style, and thus creates better value and better company performance.

From the previous discussion, the following hypothesis is tested:

**Hypothesis 4.** CEO duality has a positive influence on firm performance.

#### 2.4.5. *Moderating roles of family ownership*

In terms of moderating effect, few studies depend on the family control, or family ownership, as a moderating variable. With regard to family control (proportion of members of one family or relatives in the board of directors), on a panel data set drawn from Jordan firms from 2009 to 2013, Makhoulf, Laili, Ramli, Al-Sufy and Basah (2018) found that there was a significant negative influence of family control on the relationship between the effectiveness of the board of directors and firm performance, specifically market-based variable Tobin's Q, but insignificant effect with accounting variable ROA. They assumed that the families' members use their positions to benefit their own interests, and ignore the firm's interests, which leads to agency problem. Their study suggested that future studies should use other measurements for family control such as family ownership (percentage of shares). Further, the differences of effect with two dependent variables are because of their respective advantages and disadvantages; therefore, it is necessary to incorporate both in research (Makhoulf, Laili, Ramli, Al-Sufy & Basah, 2018).

Up to now, the corporate governance legal framework has been fully compliant with the requirements and governance principles of the world. However, with many Vietnamese companies, corporate governance is still limited and weak (Nguyen & Vo, 2015). These weak applications of corporate governance can make family effect adversely influences the impact of governance on firm performance.

From the above discussion, the following hypotheses are proposed:

**Hypothesis 5a.** Family ownership negatively moderates the influence of board size on firm performance.

**Hypothesis 5b.** Family ownership negatively moderates the influence of board independence on firm performance.

**Hypothesis 5c.** Family ownership negatively moderates the influence of board educational level on firm performance.

**Hypothesis 5d.** Family ownership negatively moderates the influence of CEO duality on firm performance.

The proposed hypotheses are illustrated in the figure 3.

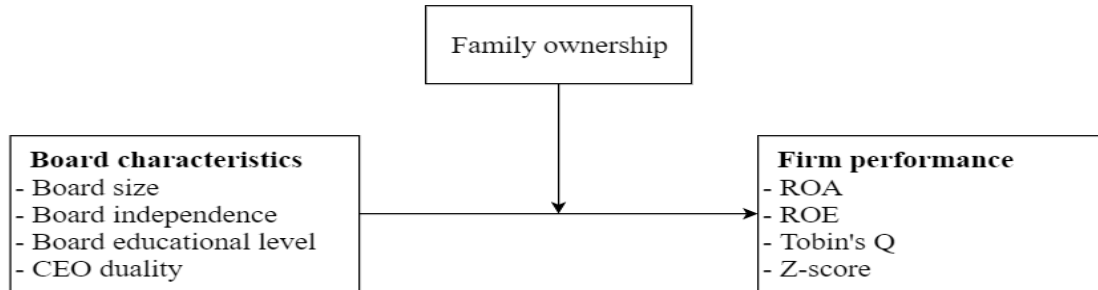


Figure 3. Proposed model showing relationships among the study variables

Based on previous studies, firm size and leverage are often included in the models as control variables, so they are adopted in this study. For leverage, debt ratio (liabilities over assets) is selected since it is a popular financial ratio and it is not complex to collect information and calculate. The debt ratio is also used in the study of Makhoulf, Laili, Ramli, Al-Sufy and Basah (2018).

### 3. Methodology

#### 3.1. Data collection

Data are collected at the firm level from the data set of HOSE from 2015-2019. The data sample does not include banks, financial

companies, insurance firms and investment funds due to significant difference of the capital structures and operations' requirements. Because there is fragment of this public data set, it is necessary to use several other sources which are publicly available such as firms' annual reports, corporate governance reports and the firms' information on two websites - cafe.vn and vietstock.vn. After eliminating outliers, the final data set remains at 1,120 samples of 225 firms.

#### 3.2. Measurement

Variables and their measurement are summarized in Table 1 below.

Table 1: Measurement of variables

No.	Variables	Measurements	References
<b>Independent variables: Board of directors' characteristics</b>			
1	BSIZE	The number of directors on the board	Adhikary and Le (2014); Vo and Nguyen (2014); Vo and Phan (2013)
2	BIND	The number of outside directors classified as "independent directors" scaled by board size	Adhikary and Le (2014); Kiel and Nicholson (2003); Vo and Phan (2013)
3	BEDU	The number of board members that have postgraduate degrees (at least Master degree) divided by board size	Ciavarella (2017); Darmadi (2013); Somathilake (2018)
4	CDUAL	Binary variable, equals "1" if the chairman also holds CEO position, and "0" if there is separation of ownership and management	Abdullah (2004); Dogan (2013); Vo and Phan (2013)
<b>Dependent variables: Firm performance</b>			
5	ROA	ROA = (Net income)/(Total assets)	Abdullah (2004); Ciavarella (2017); Dogan (2013); Vo and Nguyen (2014)
6	ROE	ROE = (Net income)/(Total equity)	Abdullah (2004); Dogan (2013); Ciavarella (2017); Vo and Nguyen (2014)
7	Tobin's Q	Q = (Market capitalization) / (Book value of equity) Market capitalization = EPS x P/E x number of total outstanding shares. Z = 1.2X <sub>1</sub> + 1.4X <sub>2</sub> + 3.3X <sub>3</sub> + 0.6X <sub>4</sub> + 0.999X <sub>5</sub> (X <sub>1</sub> = Working capital/Total assets; X <sub>2</sub> = Retained earnings/Total assets;	Dogan (2013); Fauzi and Locke (2012)
8	Z-score	X <sub>3</sub> = Earnings before interest and taxes/Total assets; X <sub>4</sub> = Market capitalization/Total liabilities; and X <sub>5</sub> = Sales/Total assets)	Altman (1968); Vo and Nguyen (2014)

**Table 1: Measurement of variables**

<b>Moderating variable: Family ownership</b>			
9	FOWN	Binary variable, equals “1” for family firms, and “0” for non-family firms. A family business is the company that one family’s members have a minimum ownership stake of 20%. The presence of family members is considered in both the board of directors and the board of managers or chief accountant. In addition, family relationship is considered in several generations. It means that distant relatives such as the grandmother or grandfather, father or mother, siblings or half-siblings, aunt or uncle, niece or nephew, and cousins should be considered in a family.	Atilgan (2019); Banalieva and Eddleston (2011); La Porta, Lopez de Silanes and Shleifer (1999)
<b>Control variables</b>			
10	FSIZE	The natural log of the book value of total assets	Adkihary and Le (2014); Makhlouf, Laili, Ramli, Al-Sufy and Basah (2018)
11	LEV	Total liabilities / Total assets	Makhlouf, Laili, Ramli, Al-Sufy and Basah (2018)

### 3.3. Data analysis

In order to find the relationship between board structure and firm performance and the moderating role of family ownership, the following regression models are used.

**Model 1:** Testing the direct relationship between board characteristics and corporate performance variables.

$$(1) \text{Performance}_{it} = \alpha_0 + \alpha_1 \text{BSIZE}_{it} + \alpha_2 \text{BIND}_{it} + \alpha_3 \text{BEDU}_{it} + \alpha_4 \text{CDUAL}_{it} + (\text{control variables}) + u_{it}$$

**Model 2:** Testing the effect of moderator on the relationship between variables.

$$(2) \text{Performance}_{it} = \alpha_0 + \alpha_1 \text{BSIZE}_{it} + \alpha_2 \text{BIND}_{it} + \alpha_3 \text{BEDU}_{it} + \alpha_4 \text{CDUAL}_{it} + (\text{control variables}) + \beta_1 \text{FOWN}_{it} + \beta_2 \text{BSIZE}_{it} * \text{FOWN}_{it} + \beta_3 \text{BIND}_{it} * \text{FOWN}_{it} + \beta_4 \text{BEDU}_{it} * \text{FOWN}_{it} + \beta_5 \text{CDUAL}_{it} * \text{FOWN}_{it} + u_{it}$$

Using Stata statistical software, this study uses panel data approach, which allows the

unobservable heterogeneity for each observation in the sample to be eliminated and multicollinearity among variables to be decreased. There are three regression models used to analyze the panel data set to choose: fixed effect model (FEM), random effect model (REM), and generalized least squares (GLS) model. To choose the optimal model, three tests are used: Hausman test (to choose between FEM and REM), heteroskedasticity tests, and Wooldridge test (autocorrelation test).

## 4. Results

### 4.1. Descriptive analysis

Table 2 shows the descriptive analysis about the variables of study including number of observations, mean, standard deviation, max value and min value of variables.

**Table 2: Descriptive analysis**

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	1,120	5.623	5.587	-14.49	29.9
ROE	1,120	10.463	12.973	-187.47	68.73
TobinsQ	1,120	1.129	0.769	0.1	4.91
Zscore	1,120	2.821	2.388	-0.43	25.68
BSIZE	1,120	5.751	1.308	3	11
BIND	1,120	0.217	0.184	0	0.83
BEDU	1,120	0.280	0.250	0	1
CDUAL	1,120	0.248	0.432	0	1
FOWN	1,120	0.197	0.398	0	1
FOWN (%)	1,120	10.317	16.027	0	80.76
FSIZE	1,120	28.201	1.267	25.58	33.63
LEV	1,120	0.484	0.199	0.03	0.97

In terms of performance, both ROA and ROE’s means suggesting that the majority of firms’ performance is good. For Tobin’s Q, the

mean around 1.13 is also considered as good performance, and it may indicate that the stock is overvalued. Z-score presents acceptable

performance in Vietnamese listed firms on HOSE; it averages 2.82 which is in the high-end of the grey zone from 1.8 to 2.99.

Regarding the board characteristics, board size in Vietnamese listed firms on HOSE' ranges from 3 to 11 directors, with 6 in average, suggesting that most firms have sufficient directors. Moreover, the low representation of independent directors and highly educated directors suggests that the involvement of them is still uncommon in Vietnamese listed firms. Similarly, CEO duality is not too popular as well, with around 24.82% of firms in average have duality of CEO and chairman positions.

With respect to moderating variable, approximately 19.73% of firms that have a family owning at least 20% of total outstanding shares. The average ownership of a dominated family is 10.32%. In the study of Nguyen and Vo (2019) which studied 315 HOSE companies from 2013 to 2017, family ownership averaged at around 4.8%

which is only a half of the number in the current study. These suggest that family ownership in a company has increased over time.

Concerning control variables, the mean value of leverage is 0.48, indicating that most of the firms' assets are financed quite well-balanced through equity and liabilities.

#### 4.2. Diagnostic tests

##### 4.2.1. Correlation matrix and variance inflation factor (VIF)

Table 3. shows the correlation among variables, in which, there is no significant relationship among independent variables. The maximum coefficient of correlation matrix is 0.112 via relationship between board size and board independence. In addition, the VIF factor (Variance Inflation Factor) is also presented in Table 3. In general, the VIF factors are smaller than 10 and the maximum value is 1.41. It means that the model does not contain multicollinearity.

**Table 3: Correlation matrix among variables**

	ROA	ROE	TobinsQ	Zscore	BSIZE	BIND	BEDU	CDUAL	FOWN	FSIZE	LEV	VIF
ROA	1											
ROE	0.752	1										
TobinsQ	0.518	0.372	1									
Zscore	0.639	0.326	0.485	1								
BSIZE	0.050	0.075	0.150	-0.041	1							1.16
BIND	-0.005	-0.022	-0.044	0.027	0.112	1						1.04
BEDU	0.066	0.026	0.111	0.051	0.063	0.013	1					1.17
CDUAL	-0.047	-0.037	-0.032	-0.032	-0.064	0.142	-0.083	1				1.13
FOWN	-0.032	0.027	-0.048	-0.058	0.043	0.051	-0.154	0.297	1			1.15
FSIZE	-0.109	-0.007	0.125	-0.254	0.339	0.024	0.281	-0.038	0.073	1		1.41
LEV	-0.413	-0.090	-0.048	-0.565	0.03	-0.075	-0.109	0.029	0.132	0.300	1	1.18

##### 4.2.2. Choosing the appropriate regression model for panel data

Table 4. shows the three tests to choose between FEM, REM, and GLS. At first, Hausman test is conducted for 8 models, and 6 models (1, 2, 4, 5, 6, 8) have p-value > 0.05 which indicates that the REM should be used instead of FEM, and 2 models (3, 7) have p-value < 0.05 which indicates that the FEM is more appropriate.

Then, heteroskedasticity test is run. For 6 models that use REM (1, 2, 4, 5, 6, 8), Breusch and Pagan Lagrangian multiplier test is used, and for 2 models that use FEM (3, 7), Modified Wald test is used. There is heteroskedasticity problem in all 8 models.

Wooldridge test is conducted to check whether there is an autocorrelation issue in the data. The result shows that 6 models suffer from autocorrelation, where the p-value < 0.05 (1, 3, 4, 5, 7, 8), and 2 models have no autocorrelation, where the p-value > 0.05 (2, 6).

All 8 models have heteroskedasticity problem and 6 out of 8 models have autocorrelation problem. Therefore, GLS is a more appropriate model to be used, since GLS is better suited when the model has heteroskedasticity and autocorrelation (Wooldridge, 2002).

**Table 4:** Choosing the appropriate regression model for panel data

		Hausman test (FEM or REM)	Heteroskedasticity test (Modified Wald test for FEM, Breusch and Pagan Lagrangian multiplier test for REM)	Autocorrelation test (Wooldridge test)
		Chi2 (Prob > chi2)	Chi2 (Prob > chi2)	Chi2 (Prob > chi2)
Model 1	ROA	9.36 (0.154)	782.71 (0.000)	40.639 (0.000)
	ROE	11.71 (0.069)	189.43 (0.000)	2.689 (0.102)
	TobinsQ	41.12 (0.000)	3.1e+06 (0.000)	58.248 (0.000)
	Zscore	3.93 (0.686)	1076.23 (0.000)	7.257 (0.008)
	FOWN, ROA	13.63 (0.254)	770.44 (0.000)	42.965 (0.000)
Model 2	FOWN, ROE	14.66 (0.199)	183.91 (0.000)	2.677 (0.103)
	FOWN, TobinsQ	55.46 (0.000)	9.8e+05 (0.000)	62.690 (0.000)
	FOWN, Zscore	10.60 (0.478)	1058.26 (0.000)	6.893 (0.009)

### 4.3. Generalized least squares (GLS) model results

#### 4.3.1. Direct influence of board characteristics on corporate performance

Table 5 summarizes the GLS regression results for model 1 which tests the direct relationship between board characteristics and performance variables. As observed from the

table, there is a positive relationship between board size and firm performance. In contrast, the effect of board independence and CEO duality is found to be negative on firm performance. For the relationship between board educational level and the performance of firms, there is no significant effect found.

**Table 5:** GLS model results for testing the direct relationship between board characteristics and corporate performance variables

	(1) ROA	(2) ROE	(3) TobinsQ	(4) Zscore
	Coefficient	Coefficient	Coefficient	Coefficient
BSIZE	0.264 ***	0.607 ***	0.0358 ***	0.0145
BIND	-0.0344	-1.754 **	-0.159 **	-0.202
BEDU	-0.0218	0.801	0.102	0.0679
CDUAL	-0.339 *	-0.741 **	-0.0275	-0.0051
FSIZE	-0.083	-0.154	0.00752	-0.212 ***
LEV	-11.66 ***	-4.153 ***	-0.158 **	-5.462 ***
Cons	11.96 ***	13.71 ***	0.610	11.04 ***

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

#### 4.3.1.1. Influence of board size on corporate performance

With regard to board size, its coefficient exhibits strongly significant and positive relationships with 3 performance variables ROA, ROE, and Tobin's Q which supports the agency theory that larger board size creates greater firm value. For the relationship between board size and Z-score, the model shows positive but insignificant relationship. Therefore, hypothesis 1 is partially supported. This can be explained that in Vietnam, the small board of directors tends to be dominated and manipulated by the management team. Due to the lack of control in a small board, the management team easily overtake at work and conceal material issues. Therefore, larger boards which can generally spend more time and experience are supposed to be better. Hence, Vietnamese listed companies with larger board size may reduce agency costs

and increase firms' profitability (Nguyen, Doan & Nguyen, 2020). Additionally, although some papers have argued that larger boards are ineffective due to the lack of coordination and free-rider problems (Jensen, 1993), the maximum board size of Vietnamese listed HOSE companies is 11 members with an average of six board members, which is not high compared to the board size in other countries around the world (from 3 to 31 members). This suggests that with the appropriate number of directors, Vietnamese director boards can still maintain their effectiveness in monitoring the CEO and management team.

#### 4.3.1.2. Influence of board independence on corporate performance

In terms of board independence, negative relationships with ROE and Tobin's Q are found, hence hypothesis 2 is rejected. Those results also indicate that the higher the proportion of



independent directors on board is, the lower performance firms have.

These findings are opposite to discussed article 134 of the Enterprise Law 2014 stating that at least 20% of the board must be independent. The contradiction may be due to the idea that independent directors are unnecessary in Vietnamese companies. Thus, there are chances that many firms appoint independent directors just to comply with the law, or in some cases they even mistaken what criteria that make an independent director.

Further, the in-depth discussion of roles of independent directors are taken. In countries with weak corporate governance, independent directors may not fully recognize their duties due to the lack of detailed guidelines in the governance codes. Using qualitative research method to collect information on the perceptions of independent directors about their roles and challenges on their boards, Nguyen, Evans and Lu (2017) found that in the advisory role, Vietnamese independent directors were facing several difficulties. The first one was information asymmetry between insiders and outsiders, which is also an issue in transition economies. In addition, independent directors claimed that CEOs intentionally held back information, and that they needed to rely mostly on public information and information from the formal board meeting. That prevented them from having sufficient information to understand the nature of decisions to be made (Nguyen, Evans & Lu, 2017). Therefore, the roles of independent directors in Vietnamese board are not fulfilled and board effectiveness can be decreased due to the lack of quality advice and monitoring.

Additionally, Ni and Purda (2012) observed that independent directors can diminish firm performance since an increase in the proportion of it on a firm's board led to more conservative operating decisions. These decisions contributed to the consequences that idiosyncratic risk was lower and stock returns had less negative skewness, implying a lower risk of stock price crash. However, investment rates were lower, growth opportunities were reduced, and the firms were less likely to make acquisitions. This can help explain the reason why independent directors can diminish firm performance since conservative decisions may result in missed opportunities for risky but potentially large gains (Ni & Purda, 2012).

#### 4.3.1.3. *Influence of board educational level on corporate performance*

With respect to board educational level, the relationships of professional diversity on all 4

performance variables are non-significant. Thus, education backgrounds of directors do not play a significant role in determining the company's performance, countering hypothesis 3. The insignificant result indicates that it is not education that mainly helps the firm's performance, but maybe due to other characteristics of the board such as disciplinary attitude and working experience. In Vietnam, most of business schools emphasize too much abstract theories and do not put enough attention to improving practical skills. They are more focused on research education rather than practical management. Thus, education seems to be of little importance to practical tasks that directors have to deal with in real business environment.

#### 4.3.1.4. *Influence of CEO duality on corporate performance*

Regarding CEO duality, similar to board independence, all 4 coefficients with 4 performance variables are negative. Yet, only influence of CEO duality on 2 accounting measures (ROA and ROE) are statistically meaningful. The results support the agency theory which confirms that the firm with split titles of CEO and chairman of the board will improve its performance, and so hypothesis 4 is rejected.

The findings comply with the Decree 71/2017 established the Government of Vietnam, stating that in public companies, the duality of the roles of CEO and chairman is banned without any exception. This will take effect from August 1<sup>st</sup>, 2020, and is supported by listed companies, including family-owned companies (Nguyen, 2017). In Vietnamese enterprises, the CEO often depends on the major shareholders in the business, so they often run the company for the benefit of these big owners. The interests of major shareholders and business interests (including the interests of minor shareholders) are sometimes heterogeneous. This distorts the implementation of the owners' resolutions in general and damages minor shareholders. Furthermore, the key task of the board of directors is to supervise the board of management to operate effectively. This will be difficult to implement if the chairman of the board of directors is also the person assigned to manage the firm. Another reason is related to time management of the CEO. CEOs are often very busy people because of the day-to-day running of the company and their responsibilities are often given priority to the responsibilities of the chairman of the board.

#### 4.3.2. *Moderating roles of family ownership*

Table 6. summarizes the GLS regression results for model 2 which tests the effect of moderator FOWN between board characteristics

and performance variables. From the table, it is noticeable that family ownership plays a negative moderating role in the relationship between board independence and performance and the relationship between board educational level and

performance. However, the moderating effects of family ownership on the relationship between board size and CEO duality with performance are not statistically significant.

**Table 6:** GLS model results for testing the effect of moderator on the relationship between variables

	(5) ROA	(6) ROE	(7) TobinsQ	(8) Zscore
	Coefficient	Coefficient	Coefficient	Coefficient
BSIZE	0.259 ***	0.549 ***	0.0321 ***	-0.00499
BIND	0.0801	-2.126 **	-0.184 ***	-0.032
BEDU	0.0633	1.657 **	0.104	0.143
CDUAL	-0.35 *	-0.739 **	-0.0265	0.0398
FSIZE	-0.0843	-0.146	0.0124	-0.212 ***
LEV	-11.57 ***	-4.204 ***	-0.158 *	-5.45 ***
FOWN	0.842	-0.243	-0.255	0.076
BSIZEFOWN	-0.097	0.265	0.0216	0.056
BINDFOWN	-0.913	4.197	0.189	-0.821 **
BEDUFOWN	-0.466	-3.642 *	-0.198	-0.65 **
CDUALFOWN	0.126	-0.871	0.0384	-0.0636
Cons	11.71 ***	13.45 ***	0.516	11.09 ***

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

For the moderating effects of FOWN, the coefficients of board variables (alphas) and interaction variables (betas) are taken into account. In particular, for FOWN's effect on BIND and performance variables, the coefficients of BIND ( $\alpha_2$ ) and the coefficients of interaction term BIND\*FOWN ( $\beta_3$ ) are considered. For BIND, its coefficients are negative on ROE and Tobin's Q, meaning that when a business is non-family-owned, BIND has negative effect on ROE and Tobin's Q. As regards the interaction variable BIND\*FOWN, effect on Z-score is significant and negative, meaning that when a business is family-owned, having a lot of independent directors on the board can cause adverse effect on the risk of bankruptcy of the firm, but insignificant impacts on other variables. Therefore, hypothesis 5b is partially accepted. It can be explained that in family firms, the dominating family members have the powerful voice and can have the last saying on the decision-making processes. The presence of independent directors may be uninfluential on these firms, or worse, it can cause conflict between independent directors and other directors that are close with the dominating family or under pressure by their power, rather than contributing to the effectiveness of the board by providing objectivity to the board. Such conflict leads to lower performance of the firm.

For the moderating effect of FOWN on the relationship between BEDU and performance variables, the coefficients of variable BEDU ( $\alpha_3$ ) and interaction variable BEDU\*FOWN ( $\beta_4$ ) are considered. BEDU's coefficient on ROE is

significantly positive, suggesting that in non-family firms, BEDU has positive effect, but BEDU\*FOWN's coefficient on ROE is negative, suggesting that in family firms, that positive effect is lower compared to in non-family ones. That means FOWN negatively moderates the effect of BEDU on ROE. For other performance variables, BEDU's coefficient is positive but insignificant; BEDU\*FOWN's coefficient is significantly negative on Z-score, but insignificant on ROA and Tobin's Q. Overall, this indicates that family ownership has a negative moderating effect on the relationship between board educational level and firm performance (ROE and Z-score), or in other words, in a family firm, more members with postgraduate degrees can lower firm performance more compared to the context in a non-family one. Hence, hypothesis 5c is partially accepted. The reason for this circumstance is similar to the one with board independence. In Vietnam family firms, the influence of the dominating family on the process of making decision in corporate activities is enormous that the words of highly educated directors are ignored or sometimes generate discord between the two, assume that the dominating family usually has few directors holding high-level qualifications. Nonetheless, this assumption needs more testing, so in the forthcoming studies, descriptive statistics of family and non-family firms should be separated and the number of directors holding postgraduate degrees in the dominating family in family firms should be included. Moreover, in family businesses, they are used to dealing with problems by utilizing their experience and self-learned

knowledge. Directors holding high qualifications may advise others with too much theories which cause confusion or cannot be applied effectively within the practical business.

Regarding the interaction variable BSIZE\*FOWN and CDUAL\*FOWN, no significant effect is found on performance

variables, suggesting that the study fails to confirm a significant moderating effect of family ownership on the relationship of board size and CEO duality with firm performance. Thus, hypotheses 5a and 5d are rejected.

Table 7. below provides an overview of findings compared to hypotheses.

**Table 7: Hypotheses testing**

Hypotheses (predicted effect direction)	Supported or not supported (effect direction in results)	Details
<b>Hypothesis 1.</b> Board size has a positive influence on firm performance (Positive)	Partially supported (Positive)	Effects on ROA, ROE, Tobin's Q are positive. Effect on Z-score is insignificant.
<b>Hypothesis 2.</b> Board independence has a positive influence on firm performance (Positive)	Not supported (Negative)	Effects on ROE, Tobin's Q are negative. Effects on ROA, Z-score are insignificant.
<b>Hypothesis 3.</b> Board educational level has a positive influence on firm performance (Positive)	Not supported (Insignificant)	Effects on ROA, ROE, Tobin's Q, Z-score are insignificant.
<b>Hypothesis 4.</b> CEO duality has a positive influence on firm performance (Positive)	Not supported (Negative)	Effects on ROA, ROE are negative. Effects on Tobin's Q, Z-score are insignificant.
<b>Hypothesis 5.</b> Family ownership negatively moderate the relationship between board characteristics and firm performance (Negative)	Partially supported (Negative)	FOWN negatively moderates BIND on Z-score. FOWN negatively moderates BEDU on ROE and Z-score. Other moderating effects are insignificant.

## 5. Conclusion

### 5.1. Implications

Theoretically, the research makes a contribution to the corporate governance literature by studying the effects of board characteristics on firm performance. Further, to the best of the author's knowledge, this is the first study which examines the moderating effect of family ownership on the relationship between board characteristics and firm performance.

Practically, this study has multiple important implications.

First, from the findings of the positive effect of board size, the author suggests that, at the firm level, corporations in Vietnam should follow a large board size. The Enterprise Law 2014 limits the board size number from 3 to 11, so firms should seek the higher end of that range (from the mean of 6 to the maximum of 11).

Second, some suggestions are made after observing the negative effect of independent directors. Rather than implicating firms to limit the number of independent members on their boards, the author suggests that at the policy level, Government of Vietnam, Security Exchange Commission and other relevant authorities in Vietnam should act strongly and quickly to ensure that the law provisions of independent directors are strictly followed. Sanctions should be

implemented for companies that misidentify independent board members; their corporate governance scores should be reduced more heavily. Thus, the awareness of the significance of independent directors and corporate governance will be raised. Then, when they can perform their roles without information restrictions from the insiders, they will contribute positive effects on firms' performance.

Third, from the results of the insignificant influence of board members' educational level, it is recommended that when it comes to someone being voted or appointed into the board of directors, in terms of educational background, high degree should not be a critical requirement.

Fourth, CEO duality's negative impact on corporate performance indicates that firms should separate the titles of CEO and chairman instead of having one person take responsibilities of the two positions. When the Decree 71/2017 about banning CEO duality takes effect in August 2020, regulators should enforce the law rigorously.

Fifth, the negative moderating effects of family ownership on the influences of independent directors and board educational level on firm performance indicate that, at the policy level, regulators should draw some policies to lessen the power of the dominating family in family firms, or, consider to limit the number of

boards consisting of family that can hold to their ownership proportion.

### 5.2. Limitations and future research

This study is still subject to some limitations which provide opportunities for future research. Firstly, the selection of firms is restricted to non-financial firms (industrial and service firms), while financial firms are excluded. Thus, it would be useful to for future studies to examine such relationship on financial firms. Secondly, this study focuses on the moderating effect of family ownership in board of directors, so it would be useful for forthcoming research to use other measurements for family power or control such as family presence, measurements for founder effect,

and other ownership factors such as state ownership and foreign ownership. Thirdly, the assumption that the dominating family usually has few highly educated directors (to explain the negative moderating effect of family ownership on the relationship between board educational level and firm performance) is not tested. Hence, future research can be undertaken to investigate this assumption and give a clearer explanation on the aforementioned effect. Lastly, the board characteristics in this study only include four variables, so it will be better to incorporate other characteristics such as board age, gender diversity, board experience, etc.

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