

The impact of board size, ownership structure and characteristics of the supervisory board on the financial performance of listed companies in Vietnam

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Abstract. This study focuses on examining the influence of board size, ownership structure and characteristics of the supervisory board on the financial performance of companies listed on the Vietnam stock market. Using the fixed-effects regression model (FEM) and the random-effects model (REM) with panel data from 2017 to 2021, the research results have shown: (i) ownership (share ownership ratio of major shareholders are state, foreign investors, domestic private investors, members of the board of directors) have a positive influence on financial performance, (ii) board size has a negative effect on the financial performance, and (iii) characteristics of the supervisory board has a positive effect on the financial performance of companies listed on the Vietnam stock market. Based on the research results, the authors propose several key policy recommendations to enhance the financial performance of listed companies on the Vietnam stock market.

Keywords: ownership, board structure, characteristics of the supervisory board, financial performance, listed companies, Vietnam.

1. Introduction

Corporate governance (CG) plays a crucial role in enhancing financial performance (FP) and sustainable long-term development of firms (Ehikioya, 2009; Dalton and Dalton, 2011; McGuire et al., 2012). Good corporate governance enhances accountability, transparency, and trustworthiness, ensuring fair treatment of stakeholders (Cho and Kim, 2007; Iwasaki, 2008). Moreover, good corporate governance helps a firm lower average cost, improve market value, and mitigate financial risks, leading to increased financial efficiency (Khatab et al., 2011; Paniagua, Rivelles, and Sapena, 2018).

The Board of Directors (BOD) represents the shareholders and other stakeholders of the company, performing the tasks of monitoring and controlling managers, providing information and advice to managers, overseeing compliance with current regulations and linking the company to the external environment (Carter et al., 2010). In a company, the board of directors has the most significant influence on strategic decisions and operations to ensure benefits for all shareholders (Jensen and Meckling, 1976; Erickson et al., 2005; Dzingai and Fakoya, 2017). However, according to agency theory, managers often conflict with shareholders because they prioritize personal interests over the common interests of the company, namely increasing financial performance, maximizing stock value, and ensuring the company's future survival (Jensen and Meckling, 1976; Fama and Jensen, 1983). Therefore, the composition and ownership of the board of directors will affect the financial performance of a company.

In the academic realm, the research topic of the impact of corporate governance characteristics on financial performance has garnered significant attention from scholars (Davis et al., 1997; Klein, 1998; Gillan, 2006; Guest, 2009; Bhagat and Bolton, 2009; Roodposhti and Chasmi, 2011; Hassan and Ahmed, 2012; Tornyeva and Wereko, 2012). By reviewing previous research on the impact of corporate governance characteristics on financial performance, it can be categorized into three groups corresponding to the variables representing corporate governance characteristics, including: First, the characteristics of the board of directors represented by the size of the board of directors (Yermack, 1996; Guest, 2009; Dzingai and Fakoya, 2017; Paniagua et al., 2018); Second, ownership structure represented by the ownership ratio of major shareholders (Stulz, 2005; Mangena and Tauringana, 2007; Roodposhti and Chasmi, 2011; Hassan and Ahmed, 2012; Marshdeh, 2014); Third, the characteristics of the ASB represented

by the independence of the ASB (Klein, 2002; Erickson et al., 2005; Yasser et al., 2011; Ghabayen, 2012; Tornyeva and Wereko, 2012; Aldamen et al., 2012; Wang and Huynh, 2013). Domestic research in Vietnam on the topic of the impact of corporate governance characteristics on financial performance has gradually gained attention in recent times (Pham Minh Vuong et al., 2021; Nguyen Dinh Khoi, 2018; Phan Bui Gia Thuy et al., 2017), however, the research results of scholars are inconsistent and mainly approach the consideration of each individual impact of corporate governance characteristics (board of directors characteristics; ownership structure; characteristics of the supervisory board) on the financial performance of enterprises. Therefore, considering the level of influence of corporate governance characteristics simultaneously, including: board of directors size, ownership structure, and supervisory board characteristics on financial performance in the context of listed companies on the Vietnam Stock Exchange is one of the main contributions of this study. The research results will provide empirical evidence on the impact of board size, ownership structure, and supervisory board characteristics on the financial performance of listed companies on the Vietnam Stock Exchange, thereby proposing policy implications to improve the financial performance of Vietnamese listed companies in the future.

Following the introduction, the research is structured to include the following main content: Part 2 will present the theoretical basis and related previous studies; Part 3 will focus on introducing the research model and methodology; Part 4 will present the estimation results; and finally, Part 5 will present the conclusions and policy implications.

2. Theoretical Basis and Research Methodology

2.1. Theoretical Basis

2.1.1. Corporate Governance

The concept of corporate governance can be found in corporate governance regulations or charters at both national and international levels. Parkinson (1994) defined corporate governance as "the process of monitoring and controlling that is carried out to ensure that the management and operation of the company are carried out in accordance with the interests of the shareholders." corporate governance is also seen as a tool to ensure that the company's financial providers will receive a return on their investment (Shleifer and Vishny, 1997). In addition,

corporate governance includes a system of rules, regulations, and factors that control the operations of a company (Gillan and Starks, 1998).

In addition to the definitions of researchers, international organizations also provide different definitions of corporate governance. Indeed, The International Finance Corporation (IFC) in Vietnam defines corporate governance as "the mechanisms and processes for guiding and controlling the company." The "Principles of Corporate Governance" document published by the OECD in 1999 and revised in 2004 provides a detailed definition: "corporate governance is the internal measures for governing and controlling a company, involving the relationships between the board of directors, the supervisory board, and the company's shareholders with stakeholders. corporate governance also creates a framework for setting the company's objectives, identifying the means to achieve those objectives, and monitoring the company's performance. corporate governance is considered effective only when it encourages the board of directors and the supervisory board to pursue the objectives for the benefit of the company and its shareholders, and must facilitate effective monitoring of the company's operations, thereby encouraging the company to use its resources more effectively."

In summary, based on the above analysis, the authors define corporate governance as the measures used to monitor and control the company's operations, ensuring that the company is operated efficiently to meet the interests of shareholders and stakeholders.

2.1.2. Financial performance

Financial performance is a crucial indicator for stakeholders such as shareholders, the board of directors, creditors, suppliers, and others in making business or investment decisions. Financial performance reflects the company's performance based on indicators that mirror economic objectives, including a group of indicators reflecting profitability and a group of indicators reflecting market value (Venkatraman and Ramanujam, 1986).

In addition, financial performance is a measure of the profitability of equity capital, a tool to determine the company's profit and the increase in asset value for owners. In other words, financial performance is a measure of the company's value maximization (Le Vu Thao Nguyen, 2012). A company with high financial performance will create opportunities for the company to expand and develop its business operations, improve the company's competitiveness, and help the

company ensure financial autonomy, maintain and control its operations, and limit risks in conducting business activities (Pham Quang Sang, 2012).

Based on a review of previous studies, financial performance is often approached through market-based, financial statement-based, and combined approaches (Pham Quoc Viet, 2010). Being measured by many different indicators, the group of indicators reflecting profitability, such as return on assets (ROA) and return on equity (ROE), are the two most commonly used coefficients (Pham Nguyen Hoang, 2013).

In this study, the authors adopt the approach of measuring financial performance as a measure of the profitability of equity capital, or in other words, financial performance as a measure of the company's value maximization (Le Vu Thao Nguyen, 2012).

2.1.3. Theories on the Impact of Corporate Governance on Financial performance

Agency Theory

Jensen and Meckling's (1976) agency theory is a seminal work in the study of managerial behavior, agency costs, and corporate ownership structure. It focuses on the relationship between principals (shareholders) and agents (managers) as a contractual arrangement where principals hire agents to represent them in carrying out certain tasks and making decisions. However, agents may not always act in the best interests of principals, as both parties have their own self-interest to maximize. Principals aim to maximize their wealth by increasing the firm's value, while managers' interests are often directly tied to their compensation. This divergence in interests leads to the need for principals to monitor agents, incurring monitoring costs. Agents, in turn, incur bonding costs to align their actions with principals' interests. This conflict of interests also results in residual losses due to the inability to fully maximize both parties' interests. The total of monitoring costs, bonding costs, and residual losses is known as agency costs.

Jensen and Meckling (1976) suggest that using financial leverage can reduce agency costs. They also propose incentive contracts in the form of stock ownership and stock options to align managers' efforts with shareholders' interests. Jensen and Ruback (1983) further argue that the threat of hostile takeovers can also mitigate agency costs. Additionally, dividend payouts are recommended as a means to reduce agency costs, as they serve as a form of incentive while also constraining managers' misuse of free cash flow.

Corporate governance research is inherently linked to agency theory. Carter et al. (2003) emphasize that agency theory provides the foundation for understanding the relationship between board characteristics and financial performance.

Stewardship Theory

According to stewardship theory, if we solely rely on agency theory, which assumes that individuals are self-interested and have personal biases, the relationships within an organization become even more complex. Stewardship theory emerged from this perspective to provide a comprehensive view of corporate governance issues.

Stewardship theory posits that managers are individuals with motivations and needs that drive their work. Donaldson and Davis (1991) argue that managers will demonstrate their worth by performing their business tasks flawlessly, which is inherently challenging. At the same time, managers will exercise their authority and responsibilities to gain recognition from their peers and superiors. Proponents of stewardship theory believe that a company's performance is highly dependent on its executive directors, who are always striving to maximize shareholder value. Due to their understanding and knowledge of the business, executive directors are better equipped to make decisions than independent directors. Therefore, it is essential to have a proportion of executive directors within the board structure to ensure greater influence and effective decision-making.

In contrast to the agency theory perspective, stewardship theory maintains that managers are trustworthy individuals who always minimize agency costs, which are inherently present in any company. Stewardship theory recognizes the importance of empowering managers and granting them maximum autonomy based on trust and incentives to better serve the interests of shareholders and maximize shareholder value. According to Hung (1998), stewardship theory is considered a positive school of thought, and the role of the board of directors (BOD) contributes significantly to this theory.

2.2. Literature review

The relationship between corporate governance and financial performance has been extensively studied in prior research. It has been observed that the focus of this relationship primarily lies in specific characteristics of corporate governance (Davis et al., 1997; Klein, 1998; Gillan, 2006; Guest, 2009; Bhagat and Bolton, 2009; Roodposhti and Chasmi, 2011; Hassan and Ahmed, 2012;

Tornyeva and Werekó, 2012). These characteristics include: (i) Board of Directors characteristics: These encompass the size of the board of directors; (ii) Ownership structure: This refers to the proportion of shareholdings held by large shareholders; (iii) Supervisory board characteristics: These involve the independence of the members.

The first category of studies examines the relationship between board characteristics and financial performance (FP), specifically focusing on board size. A recent study by Paniagua et al. (2018) investigated the impact of corporate governance (CG) on financial performance (FP) for a sample of 1207 companies across 59 countries and 19 industries, spanning the period 2013-2015. The authors employed linear and non-linear regression analyses to explore the connection between corporate governance and financial performance. Their model, built upon agency theory, used return on equity (ROE) as the dependent variable to measure financial performance. The independent variables representing corporate governance included ownership dispersion, the number of board members, and the dividend payout ratio. The study revealed a negative correlation between ROE and the number of board members, suggesting that a larger board size is associated with lower ROE. Ownership dispersion was also found to have a negative impact on a firm's financial performance (ROE). The results further indicated that a high cost of ownership (dividends) has a detrimental effect on a company's financial performance. These findings can be valuable for CFOs and CEOs in designing effective corporate financial strategies. The results of Paniagua et al. (2018) corroborate those of Yermack (1996) regarding the negative influence of board size on a firm's financial performance. Additionally, Guest's (2009) research on the impact of board size on the financial performance of 2746 listed companies operating in the UK from 1981 to 2002 yielded similar evidence of a negative effect. This can be explained from the perspectives presented by Lipton and Lorsch (1992) and Jensen (1993). While an initial increase in board size may facilitate the board's function, it can also lead to complacency and subjectivity in the board's oversight role. Furthermore, communication among board members becomes more complex, potentially causing delays and inefficiencies in decision-making, ultimately hindering the company's performance.

Dzingai and Fakoya (2017) also examined the impact of board size on financial performance. Their study focused on the influence of corporate governance (CG) structure on the financial performance of mining companies listed on the Johannesburg Stock Exchange (JSE). They analyzed data from 10 companies over the period 2010-2015. The study used two

variables to represent corporate governance practices: the proportion of non-executive directors and board size. Return on equity (ROE) served as the measure of financial performance. The results indicated a negative correlation between board size and ROE, while a positive relationship emerged between board independence and ROE. However, these findings were not statistically significant. The study also observed a positive correlation between ROE and sales growth, but an insignificant negative relationship between ROE and firm size. Despite the lack of statistical significance for some relationships, the authors concluded that effective corporate governance, characterized by a small and independent board, can contribute to sustainable improvements in financial performance. In contrast to the aforementioned perspective, Klein (1998) argues that a larger board size can provide better support for management as the business environment becomes increasingly complex. Additionally, larger boards may facilitate easier information gathering and comprehension, ultimately leading to a rise in the company's performance (Adams & Mehran, 2005; Dalton et al., 1999).

The second category of studies focuses on the relationship between large shareholder ownership and financial performance (FP). As significant stakeholders, large shareholders possess the ability to influence a company's management and decision-making processes due to their holdings, resources, and influence (Roodposhti & Chasmi, 2011). Therefore, the presence of these large investors can have a positive impact on a company's financial performance (McConnell & Servaes, 1990; Bethel et al., 1998; Hassan & Ahmed, 2012). However, studies by Chaganti and Damanpour (1991) found limited evidence for a correlation between large investors and financial performance, while Daily et al. (1996) and Seifert et al. (2005) found no such relationship. The varying results across these studies can be attributed to the research by Jensen and Merklings (1976), which suggests that ownership by different investor groups can have diverse effects on firm performance. Pound (1988) proposed three hypotheses to explain the relationship between large investors and financial performance: (1) "Competence and Monitoring" Hypothesis: This hypothesis suggests that large investors often have high expertise and the ability to manage at a lower cost, potentially leading to a positive impact on financial performance; (2) "Conflict of Interest" Hypothesis: This hypothesis argues that large investors are compelled to delegate their shares to managers. Exerting pressure on managers can negatively affect their shareholding, while compliance has no impact. This suggests a negative influence on financial performance. Similar to the previous hypotheses, "Strategic-Linkage" Hypothesis also

suggests a negative impact on financial performance. Pound (1988) concludes that large investors in the "pressure-sensitive" group (e.g., banks, insurance companies) often have economic ties to the firm, leading them to comply with management decisions. This reflects a potential negative or neutral impact of such large investors on financial performance. Conversely, large investors in the "pressure-insensitive" group (e.g., mutual funds, pension funds) can exert pressure on managers and monitor their behavior, potentially leading to a positive impact on financial performance. On the other hand, a significant body of research has also explored the topic of foreign investor ownership (Cooper & Kaplains, 1991; Stulz, 2005; Mangena & Tauringana, 2007; Marashdeh, 2014). However, the findings on the relationship between foreign ownership and financial performance remain inconclusive. Some studies suggest a positive relationship between foreign ownership and financial performance, particularly in contexts where there is a clear distinction between domestic and foreign investors (Mangena & Tauringana, 2007; Marashdeh, 2014).

The third category of studies is studies on Board Characteristics and financial performance. Klein (2002) suggests that a company with over 50% independent members on its board has a high degree of board independence. This, in turn, can help companies reduce agency costs and enhance their performance. Erickson et al. (2005), Yasser et al. (2011), Ghabayen (2012), and Tornyeva and Wereko (2012) also found evidence of a positive relationship between board independence and financial performance. They argue that board independence can mitigate agency conflicts and improve firm performance. Wang and Huynh (2013) differentiated firm performance into financial and non-financial performance. They found a relationship between board independence, financial performance, and non-financial performance, suggesting that board independence moderates the impact of non-financial performance on financial performance. The higher the board independence, the stronger the impact of non-financial performance on financial performance. In contrast, Aldamen et al. (2012) focused specifically on financial performance and found evidence of a positive relationship between the number of independent board members and financial performance.

3. Hypotheses, Research Model and Methodology

3.1. Research Hypotheses

3.1.1. Board Size

An enlarged board size can facilitate the effective execution of the board's functions. However, this increase can also lead to complacency and subjectivity in the supervisory role of the board. Additionally, communication among board members becomes more complex, decision-making is prolonged and less efficient, and overall financial performance suffers (Lipton & Lorsch, 1992; Jensen, 1993). Moreover, a large board size incurs agency costs (Jensen & Meckling, 1976). Dzingai and Fakoya (2017) and Yermack (1996) also found evidence of an inverse relationship between board size and financial performance. Based on these arguments, the research hypothesis regarding the board size variable is formulated as follows:

Hypothesis H1: Board size has a negative impact on the financial performance of companies listed on the Vietnamese Stock Exchange.

3.1.2. Supervisory Board Characteristic

The supervisory board plays a crucial role in monitoring and overseeing company management to protect the interests of investors. Effective supervisory board operations ensure transparency in the information provided to the Board of Directors (BOD) and shareholders, preventing agency costs and the oppression of minority shareholders by major shareholders (Pham Quoc Viet, 2010).

Bronson et al. (2009) argue that "the level of independence of supervisory board members has a positive impact on the quality of financial reporting oversight." Chan and Li (2008) also found evidence that the presence of independent and qualified supervisory board members increases firm value, thereby improving financial performance. Klein (2002) further suggests that if a company has over 50% independent members on its supervisory board, it indicates a high level of independence, which can help companies reduce agency costs. The study also asserts that the number of independent supervisory board members positively impacts financial performance. Therefore, the research hypothesis is proposed as follows:

Hypothesis H2: The independence of supervisory board members has a positive impact on the financial performance (FP) of companies listed on the Vietnamese Stock Exchange.

3.1.3. Ownership Structure

Major shareholders often possess the opportunities, resources, and capabilities to influence a company's management and decision-making processes (Roodposhti & Chasmi, 2011). Their shareholdings tend to be stable and less frequently traded, as they typically focus on long-term objectives rather than short-term gains. Consequently, they are concerned with the company's long-term performance. Additionally, major investors are often considered to have the knowledge and understanding to protect themselves, making them crucial players in corporate governance (CG) and acting as monitors of managerial behavior, preventing costly mistakes that could diminish the company's value (Chen et al., 2007). Hassan and Ahmed's (2012) study found evidence of a positive relationship between the ownership percentage of major shareholders and a company's financial performance.

According to the 2019 Securities Law, a major shareholder is one who directly or indirectly owns 5% or more of the voting shares of the issuing organization. Therefore, a company's major shareholders can encompass a wide range of investors, including foreign investors, state-owned investors, domestic private investors, and members of the company's Board of Directors (BOD).

The ownership percentage of major shareholders also constitutes a corporate governance element that impacts a company's financial performance. This is because they possess the opportunities, resources, and capabilities to influence the company's management and decision-making (Roodposhti & Chasmi, 2011). Companies with a high percentage of state-owned major shareholders are often long-established, large-scale entities with extensive markets, broad distribution networks, and preferential policy benefits. As a result, these companies are expected to outperform their counterparts (Tran Minh Tri & Duong Nhu Hung, 2011). Furthermore, companies with a high percentage of foreign major shareholders also exhibit positive impacts on financial performance. These investors are often experienced and knowledgeable about stock market operations, leading them to take actions that stabilize and increase the value of the company's shares, particularly when stock prices deviate from their true worth (Chu Thi Thu Thuy, 2015). Additionally, companies with a high percentage of domestic private or major shareholders also demonstrate positive effects on financial performance (Tran Minh Tri & Duong Nhu Hung, 2011). Therefore, the research hypotheses regarding the ownership percentage of major shareholders are proposed as follows:

Hypothesis H3a: State-owned major shareholders have a positive impact on the financial performance of companies listed on the Vietnamese Stock Exchange.

Hypothesis H3b: Foreign major shareholders have a positive impact on the financial performance of companies listed on the Vietnamese Stock Exchange.

Hypothesis H3c: Domestic private major shareholders have a positive impact on the financial performance of companies listed on the Vietnamese Stock Exchange.

Hypothesis H3d: Major shareholders who are members of the company's board of directors have a positive impact on the financial performance of companies listed on the Vietnamese Stock Exchange.

3.2. Research Model

Based on the theoretical framework and synthesis of previous research by Yermack (1996), Dzingai and Fakoya (2017), and Paniagua et al. (2018), the empirical model for this study is constructed as follows:

$$ROE_{i,t} = \beta_0 + \beta_1 * SIZE_{i,t} + \beta_2 * INDEP_{i,t} + \beta_3 * OWN_GOV_{i,t} + \beta_4 * OWN_INTER_{i,t} + \beta_5 * OWN_PRIVA_{i,t} + \beta_6 * OWN_MAN_{i,t} + \beta_7 * FIRMSIZE_{i,t} + \beta_8 * LEVER_{i,t} + \varepsilon_{it} \quad (1)$$

Details of the variables in equation (1) are presented specifically in Table 1 below.

Table 1: Description of variables in the research model

Variable	Definition	Measurement	Reference source
Independent Variables			
Board Size			
SIZE	Board size	Number of members on the Board of Directors.	Yermack (1996), Dzingai and Fakoya (2017), Paniagua, Rivelles and Sapena (2018)
Ownership Structure			
OWN_GOV	Major shareholders are state investors	The share ownership ratio of major shareholders being state	Tran Minh Tri & Duong Nhu Hung

		investors.	(2011)
OWN_INTER	Major shareholders are foreign investors	Share ownership ratio of major shareholders who are foreign investors.	Stulz (2005); Mangena & Tauringana (2007); Marashdeh (2014).
OWN_PRIVA	Major shareholders are domestic private investors	The share ownership ratio of major shareholders being domestic private investors.	Bethel et al. (1998); Hassan and Ahmed (2012)
OWN_MAN	Major shareholders are members of the Board of Directors	Share ownership ratio of major shareholders who are members of the Board of Directors.	Bethel et al. (1998); Hassan and Ahmed (2012)
<i>Supervisory Board Characteristic</i>			
INDEP	Independence of the supervisory board	Number of members of the supervisory board who operate independently and do not concurrently undertake other duties of the company.	Erickson et al. (2005), Yasser et al. (2011), Ghabayen (2012), Tornyeva and Wereko (2012)
Dependent variable: Financial performance			
ROE	Return on equity	Total profit after tax divided by average equity	Yermack (1996), Dzingai and Fakoya (2017), Paniagua et al. (2018)
Control variables			
FIRMSIZE	Company size	Logarithm of total asset value	Yermack (1996), Dzingai and

			Fakoya (2017), Paniagua et al. (2018)
LEVER	Financial leverage	Total debt divided by total assets	Yermack (1996), Dzingai and Fakoya (2017), Paniagua et al. (2018)

Source: Compiled by the authors.

3.3. Data and Research Methodology

The study utilizes secondary data from the financial statements of 212 companies listed on the Ho Chi Minh Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX) during the period 2017-2021. This data is sourced from Vietstock, which acquires trading data and information from the State Securities Commission, HOSE, HNX, and other sources. Vietstock standardizes, calculates, and adjusts the data to meet market needs.

The study predominantly employs quantitative research method. The panel data regression techniques utilized in this research include: Fixed Effects Model (FEM) regression analysis and Random Effects Model (REM) regression analysis. Following the estimation, the Hausman test will be applied to determine the appropriate and reliable model for analyzing and discussing the research findings.

4. Results and Discussion

4.1. Descriptive statistics of the variables

The descriptive statistics of the research variables are presented in Table 2 below:

Table 2: Descriptive statistics of variables in the model

Variable	Definition	Number of observations	Minimum	Maximum	Mean	Standard Deviation
ROE	Financial performance	1060	-0.657	0.587	0.066	0.084
SIZE	Board size	1060	3.000	11.000	5.524	1.181

INDEP	Independence of the supervisory board	1060	0.000	5.000	3.060	0.517
OWN_GOV	Major shareholders are members of the Board of Directors	1060	0.000	87.380	24.211	24.930
OWN_INTER	Major shareholders are foreign investors	1060	0.000	78.000	3.126	9.302
OWN_PRIVA	Major shareholders are domestic private investors	1060	0.000	86.580	19.513	20.933
OWN_MAN	Major shareholders are members of the Board of Directors	1060	0.000	60.514	7.543	11.556
FIRMSIZE	Company size	1060	1.17E+10	3.64E+13	1.37E+12	3.39E+12
LEVER	Financial leverage	1060	0.008	0.957	0.493	0.222

Source: Summary of data processing results by the authors

Table 3: Correlation matrix between research variables

	SIZE	INDEP	OWN_GOV	OWN_INTER	OWN_MAN	OWN_PRIVA	FIRMSIZE	LEVER
SIZE	1	0.34	-0.17	0.16	0.02	0.05	0.38	0.03
INDEP	0.34	1	0.08	0.08	-0.03	-0.06	0.17	0.05
OWN_GOV	-0.17	0.08	1	-0.143	-0.366	-0.319	-0.073	-0.046
OWN_INTER	0.16	0.08	-0.143	1	-0.022	-0.094	0.144	-0.095
OWN_MAN	0.02	-0.03	-0.366	-0.022	1	0.456	0.003	0.104
OWN_PRIVA	0.05	-0.06	-0.319	-0.094	0.456	1	0.092	0.090
FIRMSIZE	0.38	0.17	-0.073	0.144	0.003	0.092	1	0.370

LEVER	0.03	0.05	-0.046	-0.095	0.104	0.090	0.370	1
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Source: Summary of data processing results by the authors

The results of the pairwise correlation analysis presented in Table 4.2 indicate that no pair of variables has a correlation coefficient greater than 0.8. Therefore, it is appropriate to proceed with linear regression analysis using these variables.

4.2. Estimation Results and Discussion

To determine whether the Fixed-Effects Model (FEM) or the Random-Effects Model (REM) is more appropriate for estimating the regression model that measures the impact of corporate governance (CG) on financial performance (FP) as measured by the ROE of listed companies on the Vietnamese stock market, the study employs the Hausman test. The results of the Hausman test indicate a Prob value of 0.3947, which is greater than the significance level of 5%. This implies that there is insufficient evidence to reject the null hypothesis (H_0 : *No correlation between the explanatory variables and the random component*). Consequently, it can be concluded that the REM is more suitable for analyzing the impact of corporate governance on financial performance as measured by ROE.

Table 4: Regression results according to the REM model

Variable	Regression coefficient	t	P>t
SIZE	-0.0020***	-5.0000	0.0021
INDEP	0.0075**	2.5000	0.0269
OWN_GOV	0.0006**	3.0000	0.0215
OWN_INTER	0.0015**	3.7500	0.0102
OWN_MAN	0.0004***	4.0000	0.0014
OWN_PRIVA	0.0023***	11.5000	0.0013
FIRMSIZE	0.0099***	2.9118	0.0016
LEVER	-0.1441***	-7.1337	0.0011
const	-0.1378**	-2.4695	0.0371
R ²	0.745742		
Prob>F	0.0000		

, ** and * represent statistical significance at the 10%, 5% and 1% levels*

Source: Summary of data processing results by the authors

The regression results presented in Table 4 reveal the following:

First, board size (SIZE) has a negative and statistically significant impact on financial performance (FP) at the 1% level. This finding is consistent with the notion that many Vietnamese companies are family-owned businesses with small to medium capital sizes and limited intermediate management layers within their organizational structures. Consequently, an excessively large board of directors can lead to higher agency costs and reduced FINANCIAL PERFORMANCE. This finding aligns with the research of Dzingai and Fakoya (2017) and Paniagua et al. (2018), who also found evidence of a negative relationship between board size and financial performance. While an increase in board size can facilitate the effective functioning of the board, it can also lead to complacency and subjectivity in the board's oversight role. Additionally, increased board size can complicate information exchange among board members, prolong decision-making processes, and reduce overall efficiency, ultimately hindering financial performance (Lipton and Lorsch, 1992; Jensen, 1993).

Second, supervisory board's independence (INDEP) has a positive and statistically significant impact on financial performance (FP) at the 5% level. This finding underscores the importance of an independent supervisory board in overseeing and ensuring the integrity, legality, reasonableness, and due diligence of a company's management and operations. An independent supervisory board can effectively fulfill its responsibilities, mitigate agency conflicts, and ultimately enhance a company's performance. This result aligns with the research of Yasser et al. (2011), Ghabayen (2012), and Tornyeva and Wereko (2012). These authors also found evidence that supervisory board independence increases a company's value, thereby enhancing its financial performance. Additionally, Klein (2002) suggests that a higher proportion of independent members on a supervisory board can reduce agency costs and have a positive impact on a company's operational efficiency.

Third, the ownership structure variables, including the percentage of ownership held by large shareholders that are state-owned (OWN_GOV), foreign investors (OWN_INTER), domestic private investors (OWN_MAN), and members of the board of directors (OWN_PRIV), all have a positive and statistically significant impact on financial performance (FP) at the 5% level. According to the 2019 Securities Law, large shareholders are those who directly or indirectly hold 5% or more of the voting shares of the issuing organization. Therefore, a company's large shareholders can include a wide range of investors, including foreign investors, state-owned

investors, domestic private investors, and investors being members of the company's board of directors. The percentage of ownership held by large shareholders is another corporate governance factor that impacts a company's FINANCIAL PERFORMANCE because they possess the opportunities, resources, and ability to influence the company's management and decision-making (Roodposhti and Chasmi 2011). Companies with a high proportion of ownership by state-owned large shareholders are typically well-established, large-scale companies with extensive markets, broad distribution networks, and access to favorable preferential policies. Consequently, these companies are expected to have superior financial performance compared to other companies (Tran Minh Tri and Duong Nhu Hung, 2011). Furthermore, companies with a high proportion of ownership by foreign large investors also have a positive impact on financial performance. These investors are often experienced and knowledgeable about the operation of the stock market, leading them to take actions that stabilize and increase the value of the shares of the companies they invest in, particularly when share prices deviate from their intrinsic value (Chu Thi Thu Thuy, 2015). Additionally, companies with a high proportion of ownership by domestic private large shareholders or shareholders being members of the board of directors also have a positive impact on financial performance (Tran Minh Tri and Duong Nhu Hung, 2011). In addition, the results also show the influence of control variables on financial performance, specifically: company size (FIRMSIZE) has a positive impact on financial performance (ROE), and financial leverage (LEVER) has a negative impact on financial performance (ROE).

5. Conclusion and Policy Implications

This study examined the impact of board size, ownership structure, and supervisory board's independence on financial performance of listed companies on the Vietnamese stock market. Employing fixed-effects (FEM) and random-effects (REM) regression models with panel data, the findings reveal that: (i) Ownership structure (percentage of ownership held by large shareholders being state-owned, foreign, private, and members of board of directors) has a positive relationship with financial performance, (ii) Board size has a negative influence on financial performance, (iii) Supervisory board independence has a positive relationship with financial performance of listed companies on the Vietnamese stock market.

Based on the study's findings, the authors propose the following policy recommendations to enhance the financial performance of listed companies on the Vietnamese stock market:

First, the study's findings demonstrating the negative impact of board size on firm performance indicate that companies should consider implementing measures to limit the number of board members. This recommendation is particularly relevant for Vietnamese listed companies, which often operate as family-owned businesses with relatively small capital sizes and limited management structures. An excessively large board can lead to increased agency costs and reduced firm performance. While limiting board size is advisable, the optimal number of board members will vary depending on factors such as the number of shareholders, the company's capital structure, and the specific industry in which it operates. Companies should carefully consider these factors when determining the appropriate board size for their specific circumstances.

Second, the study's findings highlight the importance of a supervisory board with strong independence. This recommendation aligns with the recognition of the supervisory board's crucial role in overseeing the board of directors as stipulated in the Enterprise Law and corporate governance practices in Vietnam and globally. Given its responsibility for overseeing and verifying the integrity, legality, rationality, and prudence of a company's management and operations, the supervisory board independence is crucial. This independence empowers the supervisory board to fulfill its role effectively, mitigate conflicts arising from agency issues, and ultimately enhance the company's financial performance. Consequently, companies should prioritize strengthening the independence of supervisory board members. An independent supervisory board member is typically not employed in a management position within the company, does not hold shares or work as an employee, and has no familial ties (spouse, parent, sibling, relative) to members of the Board of Directors or the Executive Board. Additionally, to further bolster independence, companies should establish mechanisms and necessary legal frameworks that guarantee the autonomous functioning and duty fulfillment of supervisory board members.

Third, the study's findings further underscore the positive impact of large shareholder ownership structure on financial performance of listed firms in Vietnam. The presence of diverse types of large shareholders, including state-owned entities, foreign investors, domestic private investors, and board members, contributes to enhanced firm performance. As such, companies should actively seek to increase and diversify their large shareholder base. The involvement of large shareholders not only facilitates capital acquisition but also fosters more effective corporate

management and governance. In particular, the participation of foreign investors as large shareholders can be particularly beneficial. Their expertise and experience in financial markets and business management can help companies overcome limitations in technology, knowledge, and operational capabilities, ultimately leading to improved performance and increased value.

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