

CORPORATE GOVERNANCE IN LISTED FIRMS: DOES MARKET COMPETITION MAKE A DIFFERENCE?

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ABSTRACT

This study assesses the relationship between market competition and corporate governance by analysing 562 non-financial companies listed on the Vietnamese stock market from 2010 to 2019. We used the quantitative method through ordinary least squares (OLS) robust and feasible generalised least squares (FGLS) regression to control heteroscedasticity and autocorrelation, which is suitable with panel data to test the above relationship. According to the research results, market competition has complementary and alternative effects on corporate governance, as reflected in the positive and negative effects of the variable Herfindahl-Hirschman Index (HHI), a proxy for market competition, on corporate governance. Market competition has a support impact on corporate governance, which is more evident in board size, CEO duality, and CEO ownership. In contrast, the impact of market competition substituted corporate governance and reduced the role of corporate governance, as demonstrated by the independent board members. As a result, our study provides an extended understanding of the factors affecting corporate governance, primarily based on contingency theory. Furthermore, this study provides evidence for further research in this field and identifies a number of potential solutions for investors and regulators.

Keywords: corporate governance, emerging market, Herfindahl-Hirschman Index, market competition, Vietnam

INTRODUCTION

Countries around the world attach great importance to corporate governance and promulgate corporate governance regulations based on the rules of the Organization for Economic Cooperation and Development (OECD, 2004). Improving corporate governance for listed companies is a critical goal to enhance investor confidence and attract stable and sustainable investment capital. Researchers and regulators around the world have long been interested in corporate governance topics (Alrayyes & Al Khaldy, 2019; Hamdan et al., 2017; Mubeen et al., 2021a; Nguyen et al., 2021; Salman & Laouisset, 2020; Tran, 2020; Youssef & Diab, 2021). Most of the research on corporate governance has always been seen as an effective supervisory role and has a positive influence on performance (Buallay et al., 2017; Hamdan, 2019; Hamdan et al., 2013; Khuong et al., 2020; Mubeen et al., 2021b; Salman & Laouisset, 2020; Youssef & Diab, 2021). However, in both internal and external dimensions, market competition is viewed as a governance tool (Babar & Habib, 2020). One of the most effective management techniques for motivating managers to maximise business value has been identified as the degree of market competitiveness.

Allen and Gale (2000) state that market competitiveness is a characteristic of the business environment. A dynamic environment is referred to as a highly competitive market, whereas a stable environment is referred to as a weakly competitive market (Gani & Jermias, 2009). The meaning of market competition has been the subject of previous theoretical and empirical studies (Yeh & Liao, 2020). When viewed from the perspective of an industry, competition has been described as an industry-level structure, with competition being determined by industry characteristics such as the company's market share. Firms with poor corporate governance have lower worker productivity and greater input costs, making them more susceptible to acquisitions (Giroud & Mueller, 2011). Managers may be pressured by market competition to demonstrate increased efficiency and eliminate agency difficulties, or they may lose their employment or face mergers and acquisitions (Allen & Gale, 2000; Tian & Twite, 2011). Companies in a competitive market may have relatively poor corporate governance if market competition is deemed to be effective in decreasing agency problems and if the expenses of complying with corporate governance increase. Because these firms have greater influence and are more closely scrutinised, corporations in market-competitive industries have superior corporate governance (Karuna, 2007). To assess the direct relationship between market competition and corporate governance, market competition is viewed as a corporate governance instrument (Chou et al., 2011). Product profitability, industry competition, and the extent to which management's own interests limit firm profits are all affected by high market competition (Oh & Park, 2016).

According to some studies, market competition can replace or complement corporate governance procedures, which can then be used to build corporate governance systems. The first position is that market competition can take the role of corporate governance structures since it aids in identifying the finest leadership team and ensuring regulatory compliance (Fama & Jensen, 1983). Furthermore, competition is an alternate kind of corporate governance that can promote effective management monitoring (Allen & Gale, 2000; Chou et al., 2011; Huang & Peyer, 2012; Tian & Twite, 2011). The second point of view is that market competition can help to support and supplement corporate governance (Gupta et al., 2017; Hermalin, 1992; Januszewski et al., 2002; Karuna, 2007; Zhang, 2018). As a result, market competition can strengthen and effect corporate governance, and vice versa, corporate governance can influence market competition. In this instance, market competition may not be able to alleviate the damage caused by a lack of productive capacity in a poor corporate governance environment without supportive corporate governance.

According to past research, the majority of studies on market competitiveness and corporate governance are conducted in industrialised countries. Market competition affects corporate governance and can change alternatives to corporate governance, according to research such as market competition impact on performance (Campello & Giambona, 2012; Grosfeld & Tressel, 2002; Huang & Peyer, 2012; Liu et al., 2018; Wang, 2017), investigates the function of market competition in stakeholder relationships, as well as its impact on important stakeholders like shareholders, consumers, and employees. Byun et al. (2018) examine the impact of market competition on controlling shareholders' ownership decisions in Korean corporations. According to some studies, market competition is a mechanism for controlling and reducing agency problems, as well as improving and supplementing corporate governance (Byun et al., 2018; Gupta et al., 2017; Zhang, 2018).

Furthermore, according to Cosset et al. (2016), market competition has a weaker impact on corporate governance in developing countries than it does in developed countries. Market competition, state ownership, and corporate governance all have an impact on firm performance in more competitive markets (Liu et al., 2018), as does the association between competition, audit quality selection, and company compliance with accounting regulations (Samuel & Schwartz, 2019). Yeh and Liao (2020) assess the impact of market competition and internal corporate governance on family corporate inheritance, while Tang and Chen (2020) explore the impact of market competition on corporate governance and earnings management. Some studies suggest that market competition is a mechanism to control and reduce agency problems, improve and complement corporate governance (Byun et al., 2018; Gupta et al., 2017; Zhang, 2018).

In emerging economies, countries are in the process of rapid growth and industrialisation, moving from a closed economy to a market economy. Corporate governance issues are becoming more and more important. Researchers are very interested in the topic of corporate governance (Buallay et al., 2017; Hamdan, 2019; Hamdan et al., 2013; Salman & Laouisset, 2020; Youssef & Diab, 2021), the moderating role of corporate governance (Hamdan et al., 2017), the impact of corporate governance rules on earnings management (Alrayyes & Al Khaldy, 2019), and the relationship between product market competition and firm performance (Mubeen et al., 2021a).

In Vietnam, there are studies related to corporate governance (Nguyen et al., 2021; Nguyen et al., 2015; Tran et al., 2014; Tran, 2020; Vo & Phan, 2013). However, in-depth research on factors affecting corporate governance, especially market competition, affects on the board size of directors, CEO duality, independent board members, and CEO ownership are limited. Small and medium-sized enterprises (SMEs), which account for 95% of all businesses, face numerous difficulties and challenges in competing in the market, both domestically and internationally, particularly in the context of international integration and a global market dominated by multinational corporations.

In conclusion, market competition research includes a variety of topics and is mainly conducted in developed economies such as Germany, Canada, Taiwan, South Korea, the United States, and China. In emerging economies, research is relatively sparse. In Vietnam, there is currently a scarcity of research on the relationship between market competition and corporate governance, particularly studies on how market competition affects corporate governance. Furthermore, because Vietnam has unique institutional characteristics, studies from other economies find it difficult to apply in the Vietnamese context. Vietnam's stock markets, in particular, are still in their infancy, and the majority of the country's publicly traded companies have weak corporate governance (World Bank, 2012).

As a result, the goal of our research is to define how market competition influences corporate governance, as well as to answer why an enterprise may have a weaker or stronger corporate governance mechanism, particularly when it comes to corporate governance. In particular, explaining two perspectives on market competition that can augment or replace corporate governance for markets in poor countries, such as Vietnam, one of the developing countries, pays great attention to and attaches great importance to corporate governance issues.

RESEARCH CONTEXT IN VIETNAM

According to the *The White Book on Vietnamese Businesses 2020*, as of 31 December 2019, Vietnam had 758,610 active firms, of which 138,139 new businesses were registered, representing a 5.2% increase over the previous year (Ministry of Planning and Investment, 2020). In 2019, the total registered capital of newly founded firms increased by 17.1% over the previous year, 2018, to VND1.73 million billion. As a result, Vietnam has implemented numerous adjustments in recent years to promote business assistance and promotion, such as the legislative corridor on corporate governance (for example, Decree No. 71/2017/ND-CP) and other related regulations. In addition, the Vietnam Stock Market is working to become a member of the growing stock market in the near future. Institutional barriers to enterprise competitiveness include issues such as recognition of the role of private enterprises in general, legal property, administrative procedures, an unfair competitive environment, the quality of civil service personnel, government transparency and accountability, and so on. Vietnam's economic integration with other countries in the region and throughout the world is progressing. The competition is likewise becoming more intense.

Market competition, on the other hand, is considered as having many different elements and forms in various marketplaces. Competition is defined as an industry-level structure that is influenced by industry factors such as the company's market share. It is one of the most potent corporate governance tools for encouraging managers to maximise firm value (Babar & Habib, 2020). Vietnam's market is in the process of transformation and development. Circulars and decrees were issued guiding corporate governance (Decree No. 71/2017/ND-CP) and the enterprise legislation was amended Enterprise Law (No_59/2020/QH14) to improve the management system of corporate governance in Vietnam. The unique evidence of the Vietnamese market needs to be researched to supplement the overview that corporate governance is mostly practiced in developed countries, with emerging countries progressively catching up.

Recognising the significance of the role, Vietnam has made tremendous efforts over the years to remove different roadblocks and promote the growth of small and medium businesses. The goal of this research is to learn more about how market competition affects corporate governance in Vietnam. In particular, Vietnam is in the process of finalising regulations and procedures to assist Vietnamese enterprises in their economic integration with other nations in the area and throughout the world.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In this study, we combine contingency theory and agency theory to investigate the impact of market competition on corporate governance. The relationship between organisational structure, circumstances (uncertainty, interdependence), and organisational performance is established by contingency theory (Donaldson, 2001). The external and internal characteristics of the business environment are included in scenarios (Geiger et al., 2006; Hambrick, 1983; Hoque, 2004). The contingency theory discusses the factors that influence a firm's efficiency, one of which is market competition. The goal of contingency theory is to examine at random the influence of interactions between organisational structure in corporate governance and market competitiveness in the business environment (Donaldson, 2001). Market competition, according to contingent theory, has an impact on the structure of corporate governance in order to accomplish performance (Ghofar, 2015), and is one of the most important elements in determining the company's structure and framework of corporate governance (El Mir & Seboui, 2006).

According to Allen and Gale (2000), market competition is one aspect of the business environment. Previous studies have discovered a connection between corporate governance and market competition (Allen & Gale, 2000; Babar & Habib, 2021; Liu et al., 2018; Muhmad et al., 2021; Oh & Park, 2016; Yeh & Liao, 2020). Market competition is of prime importance as a governance mechanism from which companies can choose when designing a corporate governance system (Huang & Peyer, 2012). Prior research has shown that market competition is associated with lower corporate governance ratings in developed countries (Cosset et al., 2016), and plays a complementary role to corporate governance by monitoring and correcting managerial misbehaviour (Gupta et al., 2017).

In addition, market competition also shows the impact of market competition on the choice of ownership of controlling shareholders in Korean business groups and a significant negative impact on sales growth (Byun et al., 2018). Besides, Zhang (2018) indicates that market competition and corporate governance are complementary for businesses that want to achieve management efficiency by granting CEOs additional power. Yeh and Liao (2020) find market competition is an external issue that affects inheritance in family businesses, and it has a direct influence on internal corporate governance. This also shows that these companies, when operating in a fiercely competitive environment, are more likely to choose a member who is not a family member as the executive member, because those who cannot inherit are considered to be able to improve the performance of the company. Muhmad et al. (2021) show that companies with higher levels of market competition have lower levels of corporate governance. The results of this study also

show the regulatory effect of corporate governance, as the negative relationship of product market competition diminishes for firms with better corporate governance. Based on arguments, we suggest the following hypothesis to better understand the influence of market competition on corporate governance.

The Size of the Board of Directors

According to the contingency theory, the external and internal aspects of the business environment are made up of random events (Hambrick, 1983; Hoque, 2004). One of the factors influencing the structure of corporate governance is market competition in the business environment, which may be used to study how market competition affects corporate governance. Market competition may have a variety of effects on company governance. For example, when competition raises agency expenses, boards must tighten their monitoring of management (Jensen & Meckling, 1976). According to Lehn et al. (2005), firm size accounts for more than 60% of the variance in board size within businesses. Because directors are concerned about their reputation, maintaining and being re-elected to office, or enhancing their labour market appeal so that they can one day take on directorial roles in other companies (Fama & Jensen, 1983), a company's board of directors may be caught off guard or lax in their oversight of the company's CEO (Hirshleifer & Thakor, 1998).

The framework of corporate governance is complicated. This complex structure has been captured using a variety of approaches in the past. Due to the concentration of more wisdom from the leaders, the greater the board size, the more experienced and knowledgeable individuals, and the more important the counsel and decision-making. Yermack (1996) found a correlation between the size of the board of directors and the firm's value. As a result, companies with small board sizes will be able to collaborate more quickly and provide more effective monitoring. Larger boards, on the other hand, incur more coordination costs and lower the efficacy of supervision (Lipton & Lorsch, 1992). The larger the board, the more difficult it is for each member to communicate their thoughts and opinions (Karuna, 2008). This has an impact on board decision-making, as there is less motivation to carefully oversee the company's management, leading to director independence. When competition is fiercer, however, organisations require more sophisticated actions and judgments from board members, including knowledge about strategy, technology, product markets, and other critical parts of the company. Meanwhile, a smaller board will make member collaboration easier (Yermack, 1996). Companies with a large board size, on the other hand, will find it more difficult to coordinate among members (Eisenberg et al., 1998).

In addition, Gaitán et al. (2018) reveal that board size has an impact on organisations' productivity. They discovered a nonlinear link between board size and production that is statistically significant. Furthermore, we explain the market competition measurement and how it is related to the hypothesis proposal. Accordingly, we use the Herfindahl-Hirschman Index (HHI) scale, which is a widely used measure of market competition employed by researchers (Babar & Habib, 2020; Ghofar, 2015; Yeh & Liao, 2020; Zhang, 2018). An industry can be seen as extremely competitive if it has many companies, each of which has a limited market share (i.e., a low HHI). When a few companies control the market, the reverse is true (a high HHI). An alternative explanation is that market competition supplementing (positive sign) corporate governance will have HHI with a negative sign (-) (high competition), while market competition replacing (negative sign) corporate governance will have HHI with a positive sign (+) (low competition). The opposite is true when a few firms dominate the industry (a high HHI). The results of HHI have the opposite meaning since the competition is stronger when the HHI is lower and lower when the HHI is larger. For the reasons listed above, we propose the following hypothesis:

H1: Market competition has a positive effect on the size of the board of directors.

The Percentage of Independent Board Members

Prior studies have found that board member independence is critical for improving board strength and executive supervision (Fama & Jensen, 1983; Weisbach, 1988). When advising on new procedures or strategies, studies suggest that an outside director is the best choice. If there aren't adequate disciplinary procedures for CEOs in highly competitive companies, they may engage only in beneficial actions aimed at achieving short-term profits. In the long term, companies may face challenges such as takeovers, insolvency, market share loss, and decreased profitability (Hart, 1983; Schmidt, 1997). Stiff competition, for example, can result in a larger risk of takeovers (Kole & Lehn, 1997, 1999) and a higher risk of merger or liquidation than if the firm is plagued by management incompetence and excessive expenses (Schmidt, 1997).

Internal directors are more likely to have a close relationship with the CEO than independent board members. Internal members of the board of directors and the CEO or senior management can work together to reduce the impact of competition as a disciplinary tool. For example, if increased competition raises the risk of a hostile takeover, boards of directors may decide to keep their CEO in place regardless of his performance, because CEO departures may reflect the board's

inability to choose and may allow other firms to take over and potentially eliminate jobs (Graziano & Luporini, 2003). Recent research links market competition and internal corporate governance. According to Karuna (2010) and Gaitán et al. (2018), market competition serves as a form of disciplinary mechanism that affects internal governance in turn. They discovered a statistically significant link between market competition and board independence. Internal directors have a lower likelihood of becoming superior CEO supervisors versus external directors or independent board members. Thus, when competition is high, the company needs the role of an independent board of directors to monitor, advise, or devise new strategies. We then developed the following hypothesis:

H2: Market competition has a negative effect on the percentage of independent board members.

CEO Duality

Managers, according to the agency theory, strive to maximise their own personal interests, so they will make decisions that benefit them rather than shareholders (Jensen & Meckling, 1976). In truth, some business leaders are motivated by personal interests rather than shareholder interests. Board members, on the other hand, may not want to lose sympathy with the CEO if he impacts their re-election to office or if they have a strong connection with him for a variety of other reasons (Farrell & Whidbee, 2000). As a result, the board of directors can be lax in its oversight of the chief executive officer. A CEO who wields authority over his board and fails to act in the best interests of the company may not only negotiate less board oversight but also be less vigilant in overseeing subordinates or other workers (Karuna, 2008). If the chairman of the board is also the CEO, he or she will have more authority and influence over the board and may not act in the company's best interests. As a result, stronger governance mechanisms may be required for these companies.

Previous research has revealed that in order to acquire a competitive advantage through cost reduction or quality improvement, executives will need to participate in more complicated forward-looking activities, hence less surveillance (Kole & Lehn, 1997, 1999; Raith, 2003). Market competition forces managers to strengthen their management abilities in order to conduct increasingly complicated operations with more competition (Hubbard & Palia, 1995) and it necessitates the use of speed and knowledge competence to make critical judgments (Christie et al., 2003). Studies on the relationship between market competition and corporate governance provide an alternate perspective that emphasises the connection between corporate governance and market competitiveness (Jaroenjitrkam et al., 2020). The

research found that CEOs have less power in a highly competitive environment, confirming the link between internal governance and market competitiveness as a replacement. Besides, Bakke et al. (2022) indicated that market competition and corporate governance are allegedly related and there is causal evidence to support this assertion. In this case, we propose the hypothesis that market competition has a positive effect on CEO duality as follows:

H3: Market competition has a positive effect on CEO duality.

CEO Ownership

Some argue that companies in highly competitive industries should give their executives more decision-making power. In a competitive context, Prendergast (2002) claims that giving more responsibility to executives is connected with making decisions that influence the organisation. This can be accomplished by giving higher equity incentives to executives (Karuna, 2007). Jensen et al. (2004) found that when managers' salaries and bonuses are greater, corporate governance is stronger. They arrive at the conclusion that compensation policies, equity ownership, and corporate governance are all intertwined, and that well-designed compensation packages reduce agency problems between managers and shareholders, while well-designed corporate governance policies reduce agency problems between boards and shareholders. In another study, Gaitán et al. (2018) find that institutional ownership, independent directors, and board size all have an impact on a company's productivity. Between board size and productivity, they discovered a nonlinear connection that is statistically significant. Productivity is increased by institutional ownership, whereas it is decreased by board independence.

In competitive industries, CEOs must strive to maintain profitability and corporate image in order to maintain credibility and reduce the risk of job loss, which leads to a number of decisions that have short-term benefits but have long-term consequences for the company's value and profitability. When CEOs hold stock, they are limited in their ability to make short-term profitable judgements since their personal interests are immediately affected. Other studies, on the other hand, suggest that while equity incentives might push CEOs to behave in the best interests of the firm, they can also encourage CEOs to hold stock to prevent potential opportunistic CEO actions. According to this, we propose the following hypothesis:

H4: Market competition has a positive effect on CEO ownership ratio.

DATA AND METHODOLOGY

Sample Selection and Data Analysis

This study is based on a sample of 562 non-financial firms that were listed on the two Vietnamese stock markets, Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX), over the period from 2010 to 2019. The Vietnamese stock market, which has over 700 companies listed, includes both non-financial and financial firms. The data was analysed by STATA 15.2 with panel data, we used pooled ordinary least square regression (Pooled OLS) and the generalised least squares method (GLS) to regress the research model to overcome the phenomenon of heteroskedasticity and autocorrelation (Wooldridge, 2015).

Measuring Corporate Governance

Based on the theory and inherited from previous studies, we use four scales representing corporate governance, namely boardsize, boardid, ceodual, and ceownership as follows:

The size of board of directors (boardsize)

The board of directors is responsible for overseeing management's actions and providing strategic advice to the organisation. The number of board members and the size of the board impact how effectively they work to achieve the company's goals (Eisenhardt, 1989; Yermack, 1996). Board size is measured by the number of directors on the firm's board in each year of the observation period (Eisenhardt, 1989; Ha, 2019; Waweru, 2014; Yameen et al., 2019; Yermack, 1996).

Boardsize = Logarithm of the number of members in the board

The percentage of independent board members (boardid)

Independent board members play an important and necessary role in a business due to their function of overseeing the company's management team. Investors are often interested in independent board members (Muniandy & Hillier, 2015). The ratio of independent board is measured by the ratio of the above non-board members to the total number of board members, studying inheritance of a magnetic scale (Abdullah, 2004; Alves et al., 2015; Ha, 2019; Johl et al., 2015; Tran, 2020; Yameen et al., 2019).

Boardid = The ratio between the independent members of the BODs and the total number of members

CEO duality (ceodual)

Jensen (1983) argues that the chairman of the board becomes the CEO due to a failure in internal supervision and thus affects the remuneration, firing, and hiring of new directors. The board of directors is measured by analysing from annual reports of firms (Alves et al., 2015; Ha, 2019; Tran, 2020). The CEO's dual role is a dummy variable whose value is 1 if the CEO is also the chairman and 0 otherwise, simultaneously takes the chairman position.

CEO ownership ratio (ceownership)

According to Fama and Jensen (1983) and Jensen and Meckling (1976), a larger shareholding by managers can “align their interests with the interests of shareholders.” In fact, the separation of company ownership and management creates a potential conflict of interest between the CEO and shareholders. As a result, many companies have attempted to resolve these potential conflicts by appointing an executive as a shareholder of the company. The ratio of CEO ownership is measured by the share ownership ratio of the CEO to the total market share of the company (Al Mutairi & Hasan, 2010; Ha, 2019; Tran et al., 2014).

$$\text{Ceownership} = \text{The share ownership ratio of the CEO}$$

Measuring Market Competition

The HHI was utilised as the market competition scale in this study, and it is one of the most commonly used variables to quantify competition. The HHI Concentration Index is used to assess the market competitiveness variable, which influences industry concentration, entry barriers, and risks to firms and managers (Wang et al., 2019), as well as threats to firms and managers (Tian & Twite, 2011). A higher HHI indicates a less competitive or stable environment. On the other hand, a lower HHI indicates a more competitive or dynamic economy. The HHI is used as the sum of squared market share in an industry, using a formula inherited from previous studies (Babar & Habib, 2020; Ghofar, 2015; Yeh & Liao, 2020; Zhang, 2018).

$$\text{HHI} = \sum_{j=1}^j S_{ij}^2$$

The equation above shows s_{ij} is the market share of firm j in industry i . The HHI is calculated for each year, and market share is calculated using the business' revenue divided by the industry's total revenue.

Measuring Control Variables

To measure the control variable, the following variables are used: financial leverage, years of operation of the company, fixed assets, company size, and state ownership.

Tangible assets (TANG)

Fixed assets are assets held by a company for use in production and business activities, and thus are one of the most important factors in determining the firm's value. Investment capital and total fixed assets are examples of indicators. Fixed assets are an important component of businesses, particularly industrial businesses, and they play a critical role in both production capacity and corporate growth. Larger companies are frequently more complex, which can lead to higher monitoring and consulting expenditures (Leuz & Verrecchia, 2000; Linck et al., 2008). Large organisations also invest in better technology, have more power over suppliers (Önder, 2003), are better managed, and have a higher risk tolerance (Berger & Di Patti, 2006). The fixed asset ratio is measured as follows:

$$\text{TANG} = \text{Fixed Asset/Total Assets}$$

Financial leverage (DEBT)

Financial leverage combines liabilities and equity to help the company understand its business risk. Risk and investment policy are affected by corporate leverage (Peyer & Shivdasani, 2001; Vengesai & Kwenda, 2018). Agency theory, on the other hand, suggests that highly indebted companies pay more for supervision (Jensen & Meckling, 1976). More debt can increase the risk of fraud, necessitating the need of internal controls. The leverage calculation formula used in previous research is carried over into this one. This study inherits the leverage calculation formula from previous studies (Khuong et al., 2020; Mahmood et al., 2019; Nguyen et al., 2021; Tran, 2020; Yeh & Liao, 2020) as follows:

$$\text{DEBT} = \text{Total Debt/Total Assets}$$

Firm age (AGE)

Firm age has been in business can be a good indicator of growth potential and a measure of its complexity (Adams & Mehran, 2012; Germain et al., 2014). Longer-established firms generally have greater expertise and abilities, allowing them to better manage, organise, modify, and speed production while also improving quality, lowering costs, and increasing profits. However, they are less dynamic and flexible in terms of meeting the demands of the corporate environment (Boone et al., 2007; Borghesi et al., 2007; Loderer et al., 2011). This study inherits the scale from previous studies (Boone et al., 2007; Yameen et al., 2019; Yeh & Liao, 2020) as follows:

AGE = The natural logarithm of (Year under consideration – Year firm begins listing)

The size of the company (SIZE)

One of the most important variables in determining a company's value is its size (Surajit & Saxena, 2009). Total investment capital, total assets, total number of employees, and net revenues are all used to determine a company's size. Larger companies have more organisational resources (Capon et al., 1990) are more complicated and may have higher monitoring and consulting costs as well as information asymmetries (Leuz & Verrecchia, 2000; Linck et al., 2008). Furthermore, huge corporations frequently have greater technology and more clout with suppliers (Önder, 2003) are better managed, and have a higher risk tolerance (Berger & Di Patti, 2006). The study inherits the scale from previous studies (Khuong et al., 2020; Mahmood et al., 2019; Mubeen et al., 2021a; Puri & Kumar, 2018; Vo, 2018; Yameen et al., 2019).

SIZE = The natural logarithm of the book value of total assets at the end of the fiscal year

State ownership (SOE)

One of the distinguishing institutional aspects is state ownership of public listed companies. The company's operations have been controversially owned by the government. Shareholders managed by the government can take advantage of broad government networks to gain equity and debt-related incentives (Cull & Xu, 2005), tax or fee reductions (Adhikari et al., 2006), and business expansion (Lu, 2011). These advantages help businesses become more efficient in the long

run (Tian & Estrin, 2008; You & Du, 2012). We inherit the state ownership scale from earlier studies via the ratio of state-owned shares to total business shares (Al Amosh & Khatib, 2021; Cull & Xu, 2005; Liu et al., 2018; Tran, 2020).

SOE = The percentage of a company owned by the government

STATISTICAL MODEL SPECIFICATION

Based on the relationship between market competition and corporate governance, we created the following regression model:

$$CG_{i,t} = \beta_0 + \beta_1 * HHI_{i,t} + \beta_2 * TANG_{i,t} + \beta_3 * DEBT_{i,t} + \beta_4 * AGE_{i,t} + \beta_5 * SIZE_{i,t} + \beta_6 * SOE_{i,t} + E_{i,t}$$

EMPIRICAL RESULTS

Descriptive Statistics

Research data was provided by Refinitiv Eikon. Banks, insurance, and financial companies were removed from the sample since they do not use the same accounting system, and financial companies have a different nature and business rules than companies in other industries. After deleting missing or incomplete data, the sample includes 562 companies from 2010 to 2019, with 4,129 to 4,953 observed variables.

According to the data from the variables in Table 1, the firm size variable boardsize has a stability level of 2.398 with the maximum and smallest values of 0.693, respectively, and an average value of 1.681. The mean value of the boardid variable is 0.636, and the difference between the maximum and minimum values is 0.909 and 0.167, respectively, showing that the firms in the sample do not differ significantly in terms of independent board participation. The ceodual variables have maximum and lowest values of 1.000 and 0.000, ceoownership of 71.824 and 0.000, tang of 0.966 and 0.000, dept of 0.800 and 0.000, age of 4.779 and 0.693, and size of 32.236, and soe of 98.110 and 0.000.

These are amplitudes with large fluctuations, indicating that there are disparities in corporate governance between CEO duality (ceodual), the ownership of the CEO (ceoownership), fixed assets (tang), years of operation (age), firm size (size), and state ownership (soe). The results also show that market competition fluctuates

between 0.023 and 0.293, indicating that the level of competition in the market has a large difference between businesses. Furthermore, the number of years the company has been in operation varies from 0.693 to 4.779, indicating that the majority of the selected enterprises have not had much time to list on the stock market.

Table 1
Descriptive statistics results

Variable	Obs	Mean	Std. dev.	Min	Max
Boardsize	4,938	1.681	0.189	0.693	2.398
Boardid	4,938	0.636	0.159	0.167	0.909
Ceodual	4,938	0.298	0.458	0.000	1.000
Ceoownership	4,938	3.782	7.816	0.000	71.824
HHI	4,938	0.091	0.061	0.023	0.293
Tang	4,851	0.266	0.218	0.000	0.966
Debt	4,129	0.270	0.178	0.000	0.800
Age	4,932	2.604	0.559	0.693	4.779
Size	4,889	27.055	1.511	23.362	32.236
Soe	4,851	22.346	25.918	0.000	98.110

Table 2
Coefficient matrix

	boardsize	boardid	ceodual	ceoownership	hhi	tang	debt	age	size	soe
Boardsize	1.000									
Boardid	0.101	1.000								
Ceodual	-0.013	-0.316	1.000							
Ceoownership	-0.025	-0.239	0.433	1.000						
HHI	0.008	0.072	-0.090	-0.082	1.000					
Tang	0.112	0.062	-0.080	-0.084	0.238	1.000				
Debt	0.029	-0.067	-0.004	0.070	0.006	0.249	1.000			
Age	0.040	-0.062	-0.038	-0.031	0.017	-0.072	0.033	1.000		
Size	0.295	0.074	-0.152	-0.084	0.145	0.152	0.316	0.089	1.000	
Soe	-0.090	0.000	-0.171	-0.317	0.116	0.211	-0.012	-0.055	0.088	1.000

According to Gujarati (2004), if the pair correlation coefficient is more than 0.8, the regression equation will have a multicollinearity problem. Table 2 demonstrates that all of these coefficients are less than 0.5, indicating that there is no multicollinearity problem among the variables. Independent board members

have a correlation coefficient of 0.101, meaning that when the boardid changes by 1 unit, the boardsize changes by 0.101 units. The variables reflecting corporate governance have a low correlation with market competition, with a board size coefficient of 0.008; independent board is 0.072; chairman and CEO is -0.090 ; and CEO ownership is -0.082 . The correlation matrix between the variables reveals that the coefficients of correlation are within the acceptable range.

MULTIVARIATE ANALYSIS AND FINDINGS

Regression Results

Tables 3–6 are the results from the regression model according to OLS adjusted to evaluate the impact of market competition on corporate governance. Looking at the results from Table 3, it shows that the market competition variable (hi) that affects the board size is -0.171 ; the chairman and chief executive officer (ceodual) is -1.978 and the CEO's equity ratio (ceoownership) is -3.858 , all at the 1% significance level. This is shown when market competition has a complementary relationship with corporate governance in influencing the control mechanism of the company. In contrast, when the market competition variable affects the percentage of independent board members (boardid) of 0.123, it means that market competition can substitute for corporate governance when the board of directors is independent. Thus, the research results are consistent with the arguments of two views that market competition can complement and replace corporate governance.

Table 3
OLS robust results with dependent variable (boardsize)

Boardsize	Coef.	Std. err.	t	P > t	[95% Conf. interval]	
HHI	-0.171	0.046	-3.74	0.000	-0.261	-0.081
Tang	0.114	0.014	8.39	0.000	0.087	0.140
Debt	-0.118	0.017	-6.84	0.000	-0.152	-0.084
Age	0.006	0.005	1.27	0.206	-0.003	0.015
Size	0.043	0.002	18.56	0.000	0.038	0.047
Soe	-0.001	0.000	-9.86	0.000	-0.001	-0.001
_cons	0.547	0.059	9.26	0.000	0.431	0.663
F test			83.61	0.000		
R-squared			0.121			

Table 4
OLS robust results with dependent variable (boardid)

Boardid	Coef.	Std. err.	t	P > t	[95% Conf. interval]	
HHI	0.123	0.040	3.11	0.002	0.046	0.201
Tang	0.048	0.012	3.93	0.000	0.024	0.073
Debt	-0.104	0.015	-6.7	0.000	-0.134	-0.073
Age	-0.019	0.005	-4.05	0.000	-0.028	-0.010
Size	0.011	0.002	6.69	0.000	0.008	0.014
Soe	0.000	0.000	-2.19	0.029	0.000	0.000
_cons	0.384	0.045	8.54	0.000	0.295	0.472
F test			20.43	0.000		
R-squared			0.027			

Table 5
OLS robust results with dependent variable (ceodual)

Ceodual	Coef.	Std. err.	z	P > z	[95% Conf. interval]	
HHI	-1.978	0.637	-3.11	0.002	-3.227	-0.730
Tang	-0.383	0.178	-2.16	0.031	-0.731	-0.035
Debt	0.662	0.219	3.02	0.003	0.232	1.092
Age	-0.135	0.062	-2.18	0.029	-0.257	-0.014
Size	-0.237	0.027	-8.74	0.000	-0.290	-0.184
Soe	-0.015	0.001	-9.98	0.000	-0.017	-0.012
_cons	6.335	0.716	8.85	0.000	4.933	7.738
Wald test			234.21	0.000		
Pseudo R-squared			0.048			

Note: Z test is a statistical method used to determine whether the mean of a sample differs significantly from the population mean when the population standard deviation is known.

To evaluate the robustness of the research results, we additionally use a regression method that is consistent with panel data corrected for heteroscedasticity and autocorrelation. The model’s explanatory value at the proxies of dependent variables ranges from 4.1% to 82.1%, according to the findings. This demonstrates that the dependent variable’s fluctuation is explained by the independent and control factors.

Table 6
OLS robust results with dependent variable (ceoownership)

Ceoownership	Coef.	Std. err.	t	P > t	[95% Conf. interval]	
HHI	-3.858	1.468	-2.63	0.009	-6.735	-0.980
Tang	-1.109	0.474	-2.34	0.02	-2.039	-0.178
Debt	4.576	0.709	6.45	0.000	3.185	5.967
Age	-0.667	0.234	-2.85	0.004	-1.127	-0.208
Size	-0.422	0.077	-5.48	0.000	-0.574	-0.271
Soe	-0.094	0.004	-24.01	0.000	-0.102	-0.087
_cons	18.805	2.065	9.11	0.000	14.757	22.854
F test		116.93 0.000				
R-squared		0.115				

The feasible generalised least squares (FGLS) is commonly employed to evaluate the associations among research concepts when dealing with panel data. This method proves particularly useful in handling the unique characteristics and relationships within dataset tables, providing a robust framework for comprehensive analysis. Tables 7–10 demonstrate that market competition has an impact on board size (regression coefficient -0.193 at 1% significance level), CEO duality (regression coefficient -0.439 at a significance level of 5%) and CEO ownership (regression coefficient -5.548 at 1% significance level). All three coefficients represent the complement of market competition to corporate governance. On the other hand, Tables 7–10 show that market competition has an impact on boardid with a regression coefficient of 0.096 and a significance level of 10%. This shows that the effect of the boardid variable makes it possible for market competition to replace corporate governance.

Table 7
FGLS regression results with dependent variable (boardsize)

Boardsize	Coef.	Std. err.	z	P > z	[95% Conf. interval]	
HHI	-0.193	0.063	-3.07	0.002	-0.315	-0.070
Tang	0.081	0.018	4.5	0.000	0.046	0.117
Debt	-0.073	0.021	-3.44	0.001	-0.115	-0.032
Age	0.003	0.008	0.42	0.677	-0.012	0.018
Size	0.038	0.003	11.87	0.000	0.032	0.045
Soe	0.000	0.000	-2.71	0.007	-0.001	0.000

(Continued on next page)

Table 7: (Continued)

Boardsize	Coef.	Std. err.	z	P > z	[95% Conf. interval]	
_cons	0.647	0.085	7.65	0.000	0.481	0.812
Wald test			172.2	0.000		
R-squared			0.821			

Table 8

FGLS regression results with dependent variable (boardid)

Boardid	Coef.	Std. err.	z	P > z	[95% Conf. interval]	
HHI	0.096	0.055	1.74	0.082	-0.012	0.205
Tang	0.042	0.016	2.59	0.01	0.010	0.073
Debt	-0.061	0.018	-3.39	0.001	-0.097	-0.026
Age	-0.010	0.006	-1.6	0.11	-0.023	0.002
Size	0.009	0.002	3.55	0.000	0.004	0.013
Soe	0.000	0.000	-2.1	0.036	0.000	0.000
_cons	0.434	0.064	6.73	0.000	0.307	0.560
Wald test			35.3	0.000		
R-squared			0.434			

Table 9

FGLS regression results with dependent variable (ceodual)

Ceodual	Coef.	Std. err.	z	P > z	[95% Conf. interval]	
HHI	-0.439	0.175	-2.51	0.012	-0.781	-0.096
Tang	-0.023	0.047	-0.49	0.624	-0.116	0.070
Debt	0.146	0.051	2.88	0.004	0.047	0.246
Age	-0.040	0.022	-1.84	0.065	-0.084	0.003
Size	-0.037	0.009	-4.38	0.000	-0.054	-0.021
Soe	-0.001	0.000	-2.12	0.034	-0.001	0.000
_cons	1.447	0.224	6.46	0.000	1.008	1.886
Wald test		48.28		0.000		
R-squared		0.063				

Table 10
FGLS regression results with dependent variable (ceoownership)

Ceoownership	Coef.	Std. err.	z	P > z	[95% Conf. interval]	
HHI	-5.548	1.958	-2.83	0.005	-9.386	-1.711
Tang	-0.225	0.705	-0.32	0.75	-1.606	1.156
Debt	2.808	0.766	3.67	0.000	1.307	4.309
Age	-0.297	0.385	-0.77	0.442	-1.052	0.459
Size	-0.348	0.139	-2.5	0.012	-0.621	-0.075
Soe	-0.051	0.006	-9.14	0.000	-0.062	-0.040
_cons	15.259	3.783	4.03	0.000	7.844	22.674
Wald test		114.44				
		0.000				
R-squared		0.041				

DISCUSSION

The above results show that market competition can complement board size, CEO duality, and CEO ownership. The results from Tables 7–10 are also consistent with the results from Tables 3–6, in which market competition has the same impact on board size, CEO duality, and CEO ownership. This result shows that market competition can complement corporate governance. This result is in line with an earlier study by (Karuna, 2008) on how board size, board independence, and shareholder rights are affected by product market competitiveness in the sector. The findings of Karuna (2008) demonstrate a favourable association between market size and product substitutability and governance strength across various governance mechanisms. However, as indicated in a study by Karuna (2008), these correlations begin to change when competition surpasses a specific threshold, revealing the presence of a U-shaped relationship between competition and governance power reversal. Karuna (2008) also concludes that the strength or weakness of a firm's governance is contingent upon the intensity of market competition. However, "strong" or "weak" governance may not always imply "good" or "bad" governance, contrary to the assumption in many previous governance studies. In accordance with the findings of this study, Selarka (2014) rejects the idea that market competition substitutes corporate governance and instead suggests that it has a complementary impact on it, and it only has a direct impact on businesses with higher corporate governance ratings.

Additionally, a study for Latin America by Gaitán et al. (2018) finds that independent directors, institutional ownership, and board size all have an impact on a company's productivity. Between board size and productivity, they discovered a nonlinear connection that is statistically significant. Productivity is increased by institutional ownership, whereas it is decreased by board independence. According to the study, market competitiveness often leads to an increase in management malfeasance, necessitating increased oversight. In environments with laws and regulations that are unfavourable to business, independent directors may play a far more significant role in monitoring. This is especially true if the institutional shareholders who jointly own the company back the independent directors in their efforts.

By analysing the market response to CEO duality consolidation announcements, Zhang (2018) investigates the phenomenon that businesses in highly competitive industries can benefit from good corporate governance. The study finds that the market responds favourably to consolidation events if the announcing firm has strong governance and is dealing with intense market competition. The findings imply that corporate governance and market competitiveness are complementary for businesses looking to increase managerial effectiveness by giving the CEO more authority. By extending this to the context of market competition, Jaroenjitrkam et al. (2020) find that CEOs have less authority in highly competitive product markets, therefore demonstrating a substitutive relationship between competition and internal governance.

Bakke et al. (2022) found that corporations reduced CEO option remuneration in response to exogenous increases in competition. The finding is consistent with the theory that firms reduce option compensation to minimise the disparity in managers' pay because managers who are subject to intense competition are more willing to take on risk. Babar and Habib (2021) examine the effects of product market competition as an external governance instrument and identify both complementary and substitutive interactions with internal governance systems. The study focus on issues including the accuracy of financial reporting and the relationships between various corporate governance tools and the competitiveness in the product market, as well as whether such interactions are complementary or substitutive. Their analysis contends that while market competition has significant consequences for these problems, empirical data frequently provides contradictory conclusions. The findings of Babar and Habib (2021) will look more closely at the effects of product market competitiveness globally governance systems. They concentrate on topics such as the substitutive versus complimentary interactions between product market competition and other corporate governance instruments.

Overall, this research indicates that either market competition enhances corporate governance or has a positive impact on the board of directors. This result is also consistent with earlier studies demonstrating the positive effects of market competition on corporate governance (Grosfeld & Tressel, 2002; Gupta et al., 2017; Selarka, 2014; Zhang, 2018). On the other hand, the findings of this study are not clearly expressed based on Table 4 of regression results, with the market competition variable affecting the independent board member variable with the opposite sign of the other three variables (Chou et al., 2011; Huang & Peyer, 2012), refuting the idea that market competition has the effect of replacing corporate governance. As a consequence, based on the research findings, we conclude that market competition has a two-way effect on corporate governance, mostly having an added effect. Board size, CEO duality, and CEO ownership are the three factors that are convincingly demonstrated.

Thus, based on the foregoing two points of view and the regression model results, this study supports the hypothesis that market competition has a two-way impact on corporate governance. It means that market competition has both a substitutive and a complementary effect on corporate governance, which is also supported by the contingency theory. According to contingency theory, organisational structure and business environmental factors are interrelated and interdependent (Donaldson, 2001). Thus, there is a relationship and interdependence between organisational structure and business environment elements. Market competition can determine corporate governance structures to achieve operational efficiency (Ghofar, 2015).

CONCLUSION

The study aimed at providing empirical evidence in Vietnam on the impact of market competition on corporate governance, analysed data from 562 non-financial companies listed on the Vietnamese stock market from 2010 to 2019. The results indicate a significant relationship between market competition and various aspects of corporate governance, shedding light on the importance of competition in influencing board size, CEO duality, independence of board members, and CEO ownership.

Implications

The study's findings have practical implications for regulators and the government, especially for Vietnamese businesses. Recommendations include enforcing the separation of CEO and chairman positions, ensuring the presence of independent board members, and establishing guidelines and rules aligned with global financial

reporting standards. The study emphasises the importance of professional and effective boards for sound corporate governance.

Limitations

While the study provides valuable insights, limitations exist. Data is limited to listed companies, excluding those in finance, banking, and insurance because of different account systems and business models. The study did not extensively explore other aspects of corporate governance, such as gender, age, and qualifications. In addition, the year 2020 was the time when the COVID-19 pandemic was particularly severe, so the research dataset is used for the period 2010–2019.

Future Research

Future research should extend the scope to include companies in finance, banking, and insurance for a more comprehensive analysis. Further exploration of aspects like gender, age, and qualifications in corporate governance is warranted. Comparisons between different sectors would contribute to a more nuanced understanding of the relationship between market competition and corporate governance.

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