

The impacts of corporate governance on firms' performance: from theories and approaches to empirical findings

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Abstract

Purpose – This study aims to investigate the relationship between corporate governance (CG) and financial performance in the case of publicly listed companies in Vietnam for the period from 2019 to 2021. The topic is crucial in understanding how effective governance practices can influence the financial outcomes of companies. The study sheds light on the link between CG practice and firm financial performance. It also provides insights for policymakers and practitioners to improve CG practices.

Design/methodology/approach – Due to the potential dynamic endogeneity in CG research, this study uses the generalized system methods of moments to effectively address the endogeneity problem. Financial performance is measured by Tobin's Q, return on equity (ROE) and return on assets (ROA). Based on organization for economic cooperation and development (OECD) standards, these indices were calculated to assess the influence of CG practices on corporate financial performance, namely, for accounting information (ROA and ROE) and market performance (Tobin's Q and service à resglement différé (SRD) – stock price volatility) for the period 2019–2021. In addition, the study examines the relationship between changes in the CG index and changes in financial performance.

Findings – The study's main objective is to determine the relationship between CG performance scores and financial performance. The study found a positive relationship between transparency disclosure and financial performance and a positive correlation between CG and company size. The COVID-19 pandemic caused a decrease in transparency and information index scores in 2021 compared to 2019 and 2020 due to delayed General Meetings of Shareholders. The study failed to find a relationship between shareholder rights index (“cg_rosh”) and board responsibility (“cg_reob”) and financial performance, concerning which the findings of this study differ from those of previous studies. Reasons are put forward for these anomalies.

Originality/value – Policymakers need to develop a set of criteria for assessing CG practices. They also need to promulgate specific regulations for mandatory and voluntary information disclosure and designate a competent authority to certify the transparency of company information. The study also suggests that companies should develop CG regulations and focus on regulations relating to the business culture or ethics, as well as implementing a system to ensure equal treatment among shareholders. The study found that good CG practices can positively contribute to a company's financial performance, which



is crucial for investors to evaluate the quality of CG practices for each listed company so that investment risks can be limited.

Keywords Corporate governance, Financial performance, Corporate governance index, Vietnam

Paper type Research paper

1. Introduction

Corporate governance (CG) refers to the rules, practices and processes by which a company is executed and managed. Good CG ensures that companies operate efficiently and effectively and maximize shareholder value (Alodat *et al.*, 2022). Critical economic arguments for good CG include increased investment and financial performance and reduced agency costs and risks.

One important channel through which CG affects economic outcomes is the alignment of incentives between shareholders and managers. This alignment can be achieved through mechanisms such as performance-based pay and independent directors on boards. Another means is to provide reliable and transparent financial reporting, which can reduce information asymmetries between managers and investors.

Despite the clear benefits associated with good CG, there are still challenges in implementing effective governance practices. These challenges include issues such as the concentration of ownership, conflicts of interest and the difficulty of measuring and monitoring governance practices (Hunjra *et al.*, 2021).

In sum, good CG is critical for ensuring that companies operate in the best interests of shareholders and maximize their value. According to Farooq *et al.* (2022), companies can achieve better financial performance and can reduce risk by aligning incentives between managers and shareholders and by providing reliable and transparent financial reporting. However, challenges remain in implementing effective governance practices, and endless efforts are needed to ensure that companies are governed as effectively and efficiently as possible.

According to Çolak and Öztekin's (2021) study, the impact of COVID-19 on a group of developing countries with poor economies, tight budgets, weak policies and business environments is significant. The COVID-19 pandemic has brought about the need for effective governance practices focusing on risk management, transparency, accountability and ethical behavior. Companies prioritizing these practices will likely emerge more successful and resilient in the postpandemic world.

With respect to developing countries, Vietnam was chosen as a context for studying the influence of CG on financial performance for two reasons. First, Vietnam is a developing Asian country whose economy is transforming along with the establishment of closer links to the global financial world (Nguyen *et al.*, 2019). Second, studies using the Vietnamese context are very relevant, as they provide a framework for developing effective CG strategies to strengthen governance capacity in Vietnam and, through this example, potentially in all developing countries.

1.1 Corporate governance in Vietnam

The Vietnamese Government adopted the legal principles of Anglo-American jurisdiction to establish a regulatory framework for Vietnamese companies' CG practices (Le Minh and Walker, 2008). In Vietnam, the Law on Enterprises (LOE) stipulates the mandatory internal governance structure of a shareholding company: this mandatory internal governance structure consists of four major components:

- (1) shareholder's meetings;
- (2) Board of Directors (BODs);
- (3) CEOs; and

(4) Supervisory Board.

Vietnam follows a two-tier CG system, where the top management is concurrently overseen by two bodies: the Board of Directors and the Supervisory Board. The LOE helps to ensure the board of directors' independence, seeks to eliminate conflict of interest and improves accountability as part of the Vietnamese Government's drive to ensure better CG practices (IFC, 2015).

Based on the OECD principles of CG, under the Vietnamese LOE, the ordinance on CG for listed companies has been assigned to apply the best global practice in Vietnam to ensure the stable development of the capital market and a transparent economy. The main principles of CG applicable to a listed company under the ordinance include:

- rights of shareholders;
- General Meeting of Shareholders;
- Board of Directors;
- Supervisory Board;
- conflicts of interest and related party transactions; and
- information disclosure and transparency.

Despite the Vietnamese Government's continuing efforts, Vietnam is ranked 168th out of 185 economies in strength of investor protection (World Bank, 2021). The average CG score of Vietnam in 2019 – conducted by the International Finance Corporation (IFC) using a scorecard – was only 41.7%, which ranks much lower than other markets in Asia (IFC, 2020).

Transparency, protection of minority shareholders, professionalism of boards and effectiveness have been identified among the weaknesses of CG practices in Vietnam (World Bank, 2013b). Recently, Vietnam experienced several corporate financial scandals of high-profile listed companies such as Asia Commercial Bank and Ocean Bank. Therefore, a systematic assessment of CG practices in listed companies in Vietnam is essential in the current Vietnamese context.

1.2 Research gap

This study seeks to identify the causal impact of transparency and information disclosure on financial performance and to describe the effects of other CG mechanisms such as Hermalin and Weisbach, 2012; Gompers *et al.*, 2003; Piotroski and Wong, 2012; Chhaochharia and Grinstein, 2007. The study also aims to explore how this relationship may have changed over time, particularly in the context of the COVID-19 pandemic. This research is essential for deepening understanding of the role of CG in promoting financial sustainability and long-term value creation for companies and their stakeholders.

Previous studies indicate that, although there is evidence that the compliance level of companies on CG has increased, the relationship between CG practices and corporate performance has produced positive, unfavorable, mixed or inconclusive results in developed countries (Rinaldi and Viganò, 2021; Ali and Frynas, 2021; Ghulam *et al.*, 2021). Furthermore, when tested in emerging markets, these studies yielded inconsistent results.

Most previous studies (Dauda and Shafii, 2021; He *et al.*, 2021; Bruna *et al.*, 2019) used only one or a few CG mechanisms in a model, such as independent board members, the board size, manager ownership and other dimensions, to check the relationship between the above CG characteristics and firm performance.

Only a small number of studies (Xuan Ha and Thi Tran, 2022; Basyith *et al.*, 2022) in Vietnam have applied a more comprehensive tool to measure and score the quality of CG performance using the CG practice index questionnaire, commonly used in other countries under the OECD Principles of Corporate Governance (2015).

Based on the extant research, there is an argument in favor of more research that examines the impact of CG on financial performance in different contexts and across different types of firms, especially as there is a growing interest in understanding how CG affects financial performance in emerging markets, small- and medium-sized enterprises and other organizations.

This study presents data and methods to examine the effect of CG on the financial performance of listed firms in Vietnam. Section 2 introduces the hypothesis development and its theoretical underpinnings. Section 3 contains data collection, databases, data analysis, data presentation, the description of conducting a pilot study and, based on this, primary descriptive analysis of the results. Finally, in the Section 6, the study is concluded and potential directions of future research are described.

2. Literature review

2.1 Theoretical underpinning

Several critical CG theories have been developed over the years. Here are brief overviews of some of them:

- *Agency theory* suggests that a principal-agent relationship exists between shareholders (the principal) and management (the agent) and that the agent's interests may not always align with those of the principals. As a result, mechanisms are needed to ensure that managers act in the best interests of shareholders.
- *Stewardship theory* proposes that managers act as stewards of the company and, therefore, have a sense of responsibility to act in the company's and its stakeholders' best interests. This theory emphasizes the importance of trust, cooperation and collaboration between managers and shareholders.
- *Resource dependence theory* suggests that companies depend on external resources (such as capital, labor and raw materials) to operate and that the ability to access these resources is influenced by the company's relationships with external stakeholders. As a result, effective CG is needed to manage these relationships and to ensure that the company has access to the resources it needs to succeed.
- *Transaction cost theory* proposes that companies engage in transactions (such as contracting with suppliers or hiring employees) that incur costs beyond the monetary value of the transaction itself (such as monitoring costs and negotiating costs). Effective CG can minimize these costs by establishing clear transaction rules and procedures.
- *Stakeholder theory* suggests that companies are accountable to a wide range of stakeholders (such as employees, customers, suppliers and the wider community) and that effective CG should consider the interests of these stakeholders and those of shareholders.

2.2 Corporate governance

Numerous studies have been conducted to examine the effects of CG on firm financial performance both formally and informally. Formal CG ([Tachizawa and Wong, 2015](#); [Gallego-Álvarez and Pucheta-Martinez, 2020](#)) refers to a firm's organizational structure, including command structure, incentive system, standard operating procedures and written dispute resolution procedures. In contrast, informal CG is characterized by social control and trust ([Khatib and Ibrahim Nour, 2021](#); [Chi, 2021](#)). CG has been found to play a crucial role in improving company performance, reducing agency costs and influencing corporate policies. The COVID-19 crisis has highlighted the importance of the board's supervisory role in mitigating risk and postpandemic CG is also essential as companies face ongoing

disruptions (Gerged *et al.*, 2021). The link between CG and firm performance has garnered attention from researchers, businesses and policymakers. Several studies have investigated CG's mediating and moderating roles during the pandemic. However, research has yet to examine the moderating role of CG in firm innovation capabilities in postpandemic environments, particularly in emerging economies. Consequently, this study aims to investigate the role of CG in enhancing the relationship between capital budgeting, knowledge management, business strategy and innovation capabilities in the banking sector of Vietnam, an emerging economy in urgent need of postpandemic firm innovation.

2.3 Hypothesis development

2.3.1 The rights and equitable treatment of shareholders and key ownership functions.

According to the OECD (2004), the CG framework should protect and facilitate the exercise of shareholder rights. Many studies examine the overall CG measurement and its relationship to substantial equity. For example, Gompers *et al.* (2003) used Investor Responsibility Research Center data and found that firms with weaker shareholder rights had lower firm value and profit. The authors also found that firms with more substantial shareholder rights are less likely to be acquired. And that weak shareholder rights create a conflict of representation, which results in long-term low company values. The authors also demonstrated a statistically significant positive relationship between G-Index scores and stock returns over the sampling period. The study also stated that weak shareholder rights create a conflict of representation and lead to low company value in long-term operations. Recently, the G-Index has become a benchmark for measuring the CG quality of USA companies. Although the G-index contributes to anti-acquisition literature in the USA, it has little to do with emerging market countries since hostile acquisitions are scarce.

King and Wen (2011) argue that companies should ensure shareholders' right to participate and vote at a General Meeting of Shareholders and the right to elect members of the board of directors. Shareholders should also be promptly and regularly provided with relevant information and business documents (through annual meeting notices) (Gillan and Starks, 2000; Karpoff *et al.*, 1996). Shareholders' rights should be protected, including ownership (Cheung *et al.*, 2010). Furthermore, Murphy and Topyan (2005) assert that CG's most critical characteristic is to protect minority shareholders, who are ineffective compared to major valid shareholders. Mallin and Melis (2012) acknowledge that shareholder rights are critical to a reliable CG system.

Vietnam has promoted better CG by adopting the Law on Securities 2019 No 54/2019/QH14 (the New LOS). The New LOS has, among other things, defined stricter conditions for public offering to facilitate the catching up of standards and CG with international benchmarks.

Significant shareholders in Vietnam – those who own 5% or more of a company's voting shares – are required not to take advantage of their positions to interfere with the rights and benefits of other shareholders. This provision spells out the above-mentioned principle: all shareholders deserve fair treatment:

H1. Firms with more substantial shareholder rights have a positive relationship with firm value and profit.

2.3.2 The role of stakeholders. The CG framework should recognize stakeholders' interests shaped by law or through mutual agreements. It should encourage active cooperation between corporations and stakeholders to create more wealth and jobs and to increase the company's sustainability. Stakeholder principles focus on the company's and stakeholders' relationship in value creation (OECD, 2004). This principle should include stakeholders'

roles to reflect the interactions and treatment of stakeholders such as employees, creditors, suppliers, shareholders and the environment (Cheung *et al.*, 2010). Allen *et al.* (2007) argue that, in some cases, companies may voluntarily select their stakeholders, as this increases their value. On the other hand, Jensen (2010) states that a company cannot maximize its value if it ignores its stakeholders' interests.

Consequently, the management is responsible for ensuring shareholders receive a fair return on their investments (OECD, 2015). Besides this, administrators are also accountable to all stakeholders and should manage and reduce conflicts of interest between the company and its shareholders (Prugsamatz, 2010). The strength of corporate-stakeholder relationships – directly and indirectly – has been found to affect firm financial performance (Berman *et al.*, 1999):

H2. Optimal benefits can only be achieved by respecting the interests of stakeholders and their contribution to the company's long-term success.

2.3.3 Disclosure and transparency. Asymmetric information between the firm's insiders and outsiders will likely lead to market failure (Akerlof, 1970). In theory, high-value companies have more incentives to reduce information asymmetry, to reduce the risk of reverse selection and to avoid declining prices, as established by the authors concerning the used car market ("lemon"). The reason is that profitable companies have good news to share with their stakeholders: these companies encourage more publicity than companies with little profit or loss. Therefore, a positive relationship between firm performance and information disclosure can be expected.

Recent studies (Bamber and Cheon, 1998; Li and Zhang, 2010; Nagar *et al.*, 2003), however, do not support a positive relationship between information disclosure and firm value. For instance, Bamber and Cheon (1998) and Nagar *et al.* (2003) found a negative relationship between voluntary disclosure and the firm's book value or market ratio, and the authors also established that the coefficients differ substantially and unintentionally. Other studies (Clatworthy and Jones, 2006; Watson *et al.*, 2002) also support the assumption that an inverse relationship can balance publicity and corporate efficiency.

Cheung *et al.* (2010) developed a comprehensive scorecard based on the OECD CG Principles (2004) related to information transparency assessment for China's 100 largest listed companies in the period between 2004 and 2007. The results prove a positive relationship between information transparency and market value as measured by Tobin's Q.

Considering publicity, a higher degree of publicity can positively affect company performance based on the principle that improved disclosure and timely reporting can reduce capital costs and mitigate information asymmetry, as argued by Euromoney Institutional Investor (2001) and Lang and Lundholm (2000). In addition, Evans *et al.* (2002) found that companies can benefit from good governance, increased management trust, more long-term investors and consultants' higher expectations that more transparent governments govern better.

In a Vietnamese context, most enterprises have promptly published reports according to current regulations, but the level of compliance has yet to reach 100%. Many companies need to publish information such as reports and financial statements on their business website. The content of such disclosed information needs to be complete, especially as far as annual reports are concerned, even though these contents are specified in Circular 155.

This study proposes the hypothesis (*H3*) that corporate transparency and disclosure practices have a significant impact on firm performance by drawing insights from multiple theories, such as agency theory and resource dependency theory. Agency theory highlights the crucial role of transparency and disclosure in mitigating agency problems between

shareholders and managers. By providing shareholders with comprehensive and accurate information, firms can enhance monitoring mechanisms and align the interests of principals and agents:

H3. Good corporate transparency and disclosure practices play a significant role in firm performance.

3. Methodology

3.1 Scope of study

The COVID-19 pandemic has exposed weaknesses in CG in developing countries, including inadequate risk management and crisis management capabilities (PWC, 2020). The shift to remote work and virtual meetings has highlighted the need for effective communication and oversight. Transparency and accountability have become more critical, and there has been a greater focus on sustainability and social responsibility.

Many developing countries have strengthened their CG frameworks in response to these challenges. Some have introduced new regulations and guidelines to address the specific challenges posed by the pandemic, while others have increased enforcement mechanisms to ensure compliance. There has also been a greater focus on sustainability and social responsibility as companies recognize the need to address broader societal challenges in addition to their core business operations. Overall, the COVID-19 pandemic has highlighted the importance of effective CG in developing countries and has allowed companies and regulators to strengthen their governance frameworks and practices (TTXVN, 2022).

3.2 Choice of sample

The sample has been compiled concerning all businesses listed on the Hanoi Stock Exchange (one of Vietnam's two largest stock exchanges) in the period from 2019 to 2021. Enterprises registered as listed after this time and enterprises in special status (temporary suspension of transactions/restricted transactions) are not considered for evaluation in the scope of this paper. Thus, a panel of 302 enterprises on the Hanoi Stock Exchange is evaluated for CG quality. Developing a set of evaluation criteria is done from an investor's perspective. The data used for evaluation is the information and data that enterprises make available to the general public, including but not limited to financial statements, annual reports, management reports, reports of BOD, internal regulations on CG, documents of the General Meeting of Shareholders, resolutions and minutes of the annual public meeting of shareholders, the website of the enterprise, etc. These documents are typically published on the Web portal of enterprises, the Hanoi Stock Exchange, as well as in different publications of the enterprises. The evaluation data source also includes internal data from the Hanoi Stock Exchange and data from other regulatory agencies related to information disclosure.

Financial data for this study are obtained from third-party websites like Investing and Vietstock. Board structure data, which is not available in the above sources, was collected manually from annual financial and CG reports of Vietnamese listed firms, of which documents are available on the websites.

Our data set constitutes a balanced panel of the 302 largest listed firms with 906 observations for three years from 2019 to 2021. Previous studies on the relationship between CG and firm financial performance in Vietnam used limited sample sizes due to data accessibility. For example, Alabdullah and Ahmed's (2020) study uses cross-sectional data from only 100 listed firms for 2009. Dao and Hoang's (2014) study used only 30 firms in 2011. Vo and Phan's (2013) study uses a small sample with only 58 listed firms in the period 2007–2009. Nguyen's

(2015. Nguyen's (2015) analysis used data from 122 listed firms from 2008 to 2011 (488 observations). Compared with prior studies, our larger data set (regarding the number of observations and the number of sampled firms) may contribute more extensively to estimating the relationship between CG and the financial performance of Vietnamese nonfinancial listed firms. The sample of Vietnamese listed firms is classified into nine industry categories based on the Industry Classification Benchmark (ICB), including (i) "Oil & Gas"; (ii) "Basic Materials"; (iii) "Industrials"; (iv) "Consumer Goods"; (v) "Health Care"; (vi) "Consumer Services"; (vii) "Telecommunications"; (viii) "Utilities"; and (ix) "Technology" (FTSE Russell, 2017, p.9). This study uses ICB because it is a broadly used benchmark for firms' classification and it is available from the Vietnam stock exchange.

3.3 Variables

3.3.1 Variables: explanatory variables. To measure the comprehensive influence of CG practices on financial performance, this study uses independent variables, namely, the total CG index and component governance indexes (used from the [OECD scorecard, 2004](#)).

To test the hypothesis, our study uses five explanatory variables, including:

- (1) total_cg: the CG index variable determined by the four component governance indexes;
- (2) cg_rosh: the component governance index variable related to shareholder rights;
- (3) cg_rost: the component governance index variable related to stakeholder roles;
- (4) cg_dat: the component governance index variable related to disclosure and information transparency; and
- (5) cg_reob: the component governance index variable related to BOD responsibility.

A linear regression analysis was conducted using the OECD Scorecard Instrument of financial firms' performance against CG components. After selecting pilot data, the authors constructed a set of evaluation criteria to score each business. These criteria are similar and are used to evaluate all listed companies in the future. The evaluation criteria used in this report have been designed with a view to regulations for CG of regulated companies listed on the stock market (Law on Enterprise 2014, Decree 71/2017/nghi dinh thong tu (ND-CP), Circular 155/2015/TT-BTC), international practices on information disclosure and CG (OECD principles on CG 2015). After conducting the evaluation, referring to the set of principles including 110 criteria mentioned in the methodology section, the authors selected a set of 68 evaluation criteria based on some basic principles of CG: selected were evaluation criteria related to information disclosure and transparency as well as to compliance and voluntariness in the application of good CG practices. The marks achieved under each principle or category are assigned certain weightages ([Table 1](#)).

The formula for calculating the score for a principle: $(R/M)*W$, where

R = marks received based on response to the questions under the principle

M = maximum possible score for the questions under the principle

W = weightage assigned to the principle ([Table 2](#)).

[Table 3](#) shows an example.

The final CG score (rounded off to the nearest integer) in this example is 78.44.

3.3.2 Variables: dependent variables. This study uses Tobin's Q, return on assets (ROA) and return on equity (ROE) as dependent variables to measure firm financial performance.

- Tobin's Q is widely recognized as a firm's performance measure ([Lewellen and Badrinath, 1997](#)) and is used in some firm performance measure studies ([Eisenberg et al., 1998](#); [Reddy et al., 2008](#)). We calculate Tobin's Q based on [Chung and Pruitt's](#)

(1994) studies. Accordingly, the approximation of Tobin's Q is computed as the market value of equity, plus the book value of debt, divided by the book value of total assets (Sun and Park, 2017). This method of calculating Tobin's Q has been selected because it offers simplicity in using the data available for our research. In addition, natural logarithmic transformation is applied to Tobin's Q to increase this variable's normality.

$$\text{Tobin's Q} = \frac{\text{Market value equity} + \text{Book value of liabilities}}{\text{Book value of total asset}}$$

- Many researchers use ROA and ROE to measure firms' performance (such as Demsetz and Villalonga, 2001; Finch and Shivadasani, 2006; Thomsen *et al.*, 2006; and Rahman and Haneem, 2006). This study defines ROA as the ratio of net income to the total book value of assets, and ROE is the ratio of net income to total equity. ROA and ROE have widely been used as accounting-based measures of a firm's performance in CG literature. In research concerning the measurements of firms' performance dimensions, Al-Matari *et al.* (2014) show that the two most commonly used accounting-based measures of firms' performance in CG research are ROA and ROE, which, respectively,

Table 1.
Weighting of areas/
categories

Principle (category)	Category weight (%)
Rights and equitable treatment of shareholders	30
Role of stakeholders	10
Disclosure and transparency	30
Responsibilities of board	30
<i>Total</i>	<i>100</i>

Source: Authors' own

Table 2.
Calculating the CG
score

Principle	Questions	Maximum possible marks
Rights and equitable treatment of shareholders	39	78
Role of stakeholders	8	16
Disclosures and transparency	32	64
Responsibilities of board	31	32

Source: Authors' own

Table 3.
Calculating the CG
score in an example

Principle	R	M	W	Principle score
Rights and equitable treatment of shareholders	52	78	30	20.00
Role of stakeholders	14	16	10	8.75
Disclosures and transparency	60	64	30	28.13
Responsibilities of board	23	32	30	21.56
<i>CG SCORE</i>				<i>78.44</i>

Source: Authors' own

account for 46% and 27% of the total ratio in CG studies dated from 2000 to 2012. According to Epps and Cereola (2008), ROE indicates the profit generated from the shareholders' investment. ROA evaluates the effectiveness of used capital and measures the earnings generated by the firm from its investment in capital assets.

3.3.3 Control variables. The authors acknowledge that factors beyond CG, such as capital structure as well as firm-specific and industry-specific effects, can influence a firm's performance. Besides, following Nguyen *et al.* (2014), to account for these effects and eliminate the potential bias arising from omitted variables, the author includes four control variables: firm size and age (as proxies for firm-specific effects), leverage (as a proxy for capital structure) and industry dummies (as a proxy for industry-specific outcomes). Additionally, the study uses one-year-lagged dependent variables to control the dynamic relationship between CG and a firm's financial performance.

Firm size is measured by adopting the natural logarithm of the market value of equity of nonfinancial listed firms (Wintoki *et al.*, 2012; Han and Suk, 1998). The market value of equity is chosen to control the size effect because it is a forward-looking measure that accounts for firm growth opportunities and stock market conditions. Furthermore, as the standard accounting system in Vietnam is still developing, to avoid inaccuracies, the use of the market value of equity as a proxy for firm size is more relevant than financial statement-based measures.

Leverage (denoted as *Lev*) may impact a firm's financial performance. Debt may reduce a firm's cash flow, preventing managers from misusing resources for their benefit (Jensen, 1986; Ang *et al.*, 2000). However, debtholders may enhance monitoring and external supervision (Rajan and Zingales, 1995; Harris and Raviv, 1991). Nevertheless, high debt can increase a firm's risk of insolvency and reduce financial independence. Leverage is calculated by dividing the total debts' book value by the total assets' book value.

According to Loderer and Waelchli (2010) and Ammari *et al.* (2016), *firm age* is measured by adapting the natural logarithm of the number of years that have elapsed from the time a firm became listed on the stock exchange (denoted as *lnAge*). Older firms have relatively poorer performance and decreasing market share value, possibly due to their inability or unwillingness to design contracts that bind key employees and use their ideas and their inability to innovate, just like in the case of younger firms. Younger firms appear to be evaluated more highly due to their faster growth and their greater intangible asset intensiveness (Black *et al.*, 2006).

3.4 Data analysis

For the total CG index, equation (1) can also be written in the following form:

$$Y_{it} = \alpha_0 + \alpha_1 total_{cg} + \alpha_2 lnfSIZE_{it} + \alpha_3 lnfAGE_{it} + \alpha_4 LEV_{it} + e_{it} \quad (1a)$$

For the component governance indexes:

$$Y_{it} = \alpha_0 + \alpha_1 cg_{rosh}_{it} + \alpha_2 cg_{rost}_{it} + \alpha_3 cg_{dat}_{it} + \alpha_4 cg_{reob}_{it} + \alpha_5 lnfSIZE_{it} + \alpha_6 lnfAGE_{it} + \alpha_7 LEV_{it} + e_{it} \quad (1b)$$

To examine *H1* to *H3*, which anticipates the influence of the components of CG (*cg_ rosh*, *cg_ rost*, *cg_ dat*) on the financial performance of firms, we use the generalized method of moments (GMM) estimation model for assessing conditions (1 b). The income of the firm (ROA, ROE and *lnQ*) is determined for firm *i* at time *t*, while CG is a set of factors related to

the firm's CG. In addition, $\ln\text{Size}$, $\ln\text{Age}$ and $\ln\text{Lev}$ are vectors of control factors at the firm level.

GMM regression (generalized method of moments regression) is a statistical technique used to estimate the parameters of a regression model by matching sample moments to population moments. GMM is a flexible method that can be used to estimate models with both linear and nonlinear relationships between the involved dependent and independent variables.

When using GMM regression, the researcher first specifies a set of moment conditions, which are data functions and the model's unknown parameters. The estimator then finds the values of the parameters that minimize the distance between the sample moments and the population moments implied by the moment conditions.

[Wintoki et al. \(2012\)](#) suggest that GMM regression can be the best choice for analyzing CG's impact on a firm's financial performance for several reasons:

- GMM regression is a flexible technique that accommodates linear and nonlinear relationships between variables, which makes GMM suitable for various research questions.
- GMM regression can help address endogeneity issues when estimating the relationship between CG and financial performance through the use of instrumental variables correlated with explanatory variables but uncorrelated with the error term.
- GMM regression can provide consistent estimates even when the errors are heteroscedastic and serially correlated, which is often the case in financial data.

In conclusion, while GMM regression may be a valuable technique for analyzing CG's impact on a firm's financial performance, [Flannery and Hankin \(2013\)](#) state that it is essential to carefully consider the specific research question and the characteristics of the data before selecting a statistical technique.

The collected data are further examined using descriptive statistical techniques, including mean, standard deviation, maximum and minimum values, tables and charts. Then, the data are analyzed using panel data regression by Stata software. In the panel data regression, we first estimated the model using the common, fixed and random effects models. Hausman and Lagrange multiplier tests were used to select the best model used. Moreover, we applied the four models to investigate the relationships between CG and performance.

4. Results

4.1 Descriptive statistics

A total of 302 stock market listed companies as of September 20, 2021, were used for collecting annual evaluation data. The list of enterprises is provided in the [Appendix](#).

[Table 4](#) reports the descriptive statistics of the variables used in this study. Tobin's Q, which measures the financial performance of the listed firms of the sample data, ranges from the lowest value of 0.06 to the highest value of 2.69, with a mean value of 0.75 and a median value of 0.56. Both the mean and median values of Tobin's Q are slightly lower than one, which means the market value is lower than the book value. The average Tobin's Q of the sample in this study is lower than the mean value of Tobin's Q (0.85) during the period 2019–2020. This is reasonable, as this reflects the rise of the Vietnam stock market after the financial crisis of the COVID-19 pandemic.

Table 4. Descriptive statistics of variables used in the study

Variable	Obs.	Mean	Median	SD	Min.	Max.
<i>lnQ</i>	906	0.75	0.56	0.66	0.06	2.69
<i>ROA</i>	906	0.05	0.03	0.07	(0.14)	0.31
<i>ROE</i>	906	0.10	0.06	0.11	(0.15)	0.39
<i>Total_cg</i>	906	0.65	0.68	0.14	0.32	0.92
<i>Total_cgw</i>	906	0.66	0.66	0.10	0.39	0.90
<i>Cg_ros</i>	906	0.58	0.60	0.15	0.20	0.89
<i>Cg_rost</i>	906	0.63	0.75	0.34	–	1.00
<i>Cg_dat</i>	906	0.66	0.66	0.12	0.29	0.92
<i>Cg_reob</i>	906	0.74	0.76	0.11	0.38	0.94
<i>Cg_reob_dual</i>	906	0.31	–	0.46	–	1.00
<i>Cg_reob_none</i>	906	0.59	0.60	0.18	–	100.00
<i>lnFSIZE</i>	906	29.53	29.47	1.07	27.76	32.15
<i>lnfAGE</i>	906	1.45	1.46	0.35	0.58	2.50
<i>lnLEV</i>	906	(0.0024)	0.10	1.27	(2.93)	2.79

Source: Authors' own

Table 4 summarizes basic descriptive statistics of CG indicators, ROA, ROE, Tobin's Q (TBQ), instrumental variables and control variables from the year 2021. The total CG index (total_cg) calculated with the unweighted calculation method score ranges from 0.32 to 0.92 with a mean of 0.65 and a standard deviation of 0.68, while the weighted total CG index (total_cgw) does not differ much and exhibits a range of scores from 0.39 to 0.90 with a mean of 0.66 and a deviation of 0.66. Here, for checking the robustness of the research results, the total index calculated with the weighted method is only used for comparison with the total governance index calculated with the unweighted method. In addition, the variable lnQ is obtained through a natural logarithm, and its mean value is 0.75. The variable lnLEV is also taken as a decimal logarithm, so the mean value is -0.0024 .

Figures 1 and 2 show the scores of the total CG index and of the component indexes over the years. The data show that, concerning the four OECD principles (2015), the results reveal consistent progress across the principles and a higher score with average scores of over

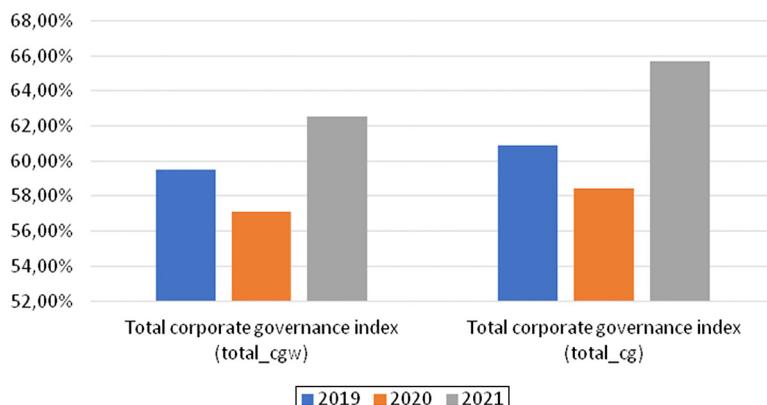


Figure 1. CGI index period 2019–2021

Source: Authors' own

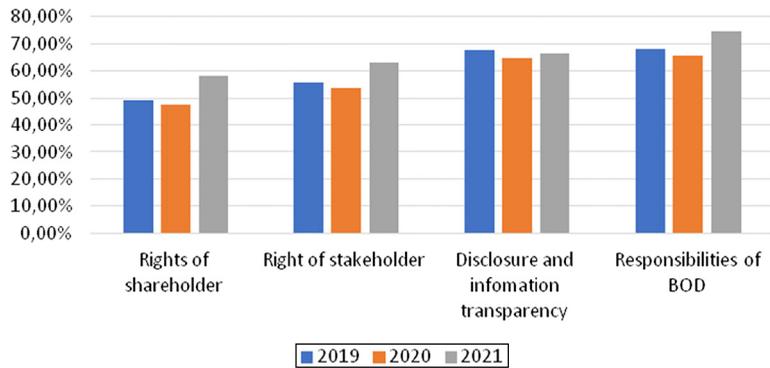


Figure 2.
CG component
indexes period 2019–
2021

Source: Authors' own

50%. Furthermore, the responsibilities of the BOD index, which has met the minimum requirement of good practice, is 60%. The rights of shareholders index scores about 50% in 2019–2020, but in 2021 it increases to nearly 60%. The increase in points in this principle is that the examined companies properly paid dividends to shareholders as committed in the minutes of the General Meeting of Shareholders. In addition, the companies observed a specific payment time. According to OECD regulations, dividend payments must be made within 30 days from the date of the General Meeting of Shareholders. Such practice increases shareholder confidence. In general, the CG practice of listed companies in Vietnam has improved compared to the assessment of IFC (2012) and ADB (2013).

Considering the time of the listing of the enterprises examined, the assessed enterprises have an average number of 4.57 trading years. Out of this, companies under three years of trading account for about 15%, over seven years account for about 4%. About 75% of firms have registered between 3 and 7 years, which marks the end of the evaluation list.

Figure 3 shows that the distribution of the total CG scores tends to skew to the right, similarly to previous years, which confirms that most enterprises show higher-than-average quality.

The trend line in Figure 4 shows that firms with higher market capitalization and total assets tend to have better quality. Larger businesses, interpreted on the basis of market capitalization or total assets, often have more complex business activities because of the diversity and specificity in industries, areas of operation, as well as the number of shareholders, investors, member companies and affiliated companies. Therefore, strengthening CG activities, especially practicing the CG code, helps large enterprises to meet the provisions of the law better, aids them in improving operating efficiency, reduces risks and develops sustainably.

On the other hand, complying with legal regulations and applying advanced CG practices require enterprises to have time to supplement financial and human resources. As a result, large enterprises often have better capabilities and resources to do these tasks. Figure 5 shows that firms with a lengthy listing period do not necessarily have better CG capabilities.

4.2 Measurement model

Table 5 presents correlation coefficients between variables in the same year. In general, the total CG index (total_cg) and the component CG variables are positively correlated with ROA, ROE and tobinQ. In addition, Table 4 also shows that the magnitude of the correlation coefficient used to compare the impact results between the unweighted and weighted total CG index is not much different.

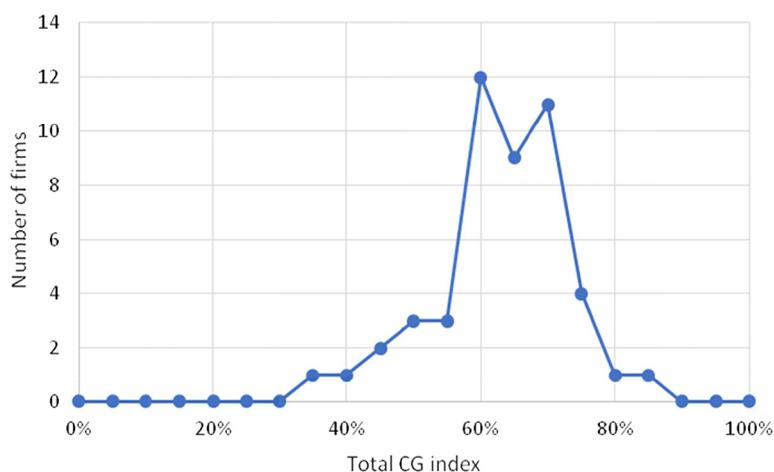


Figure 3.
Distribution of CG scores

Source: Authors' own

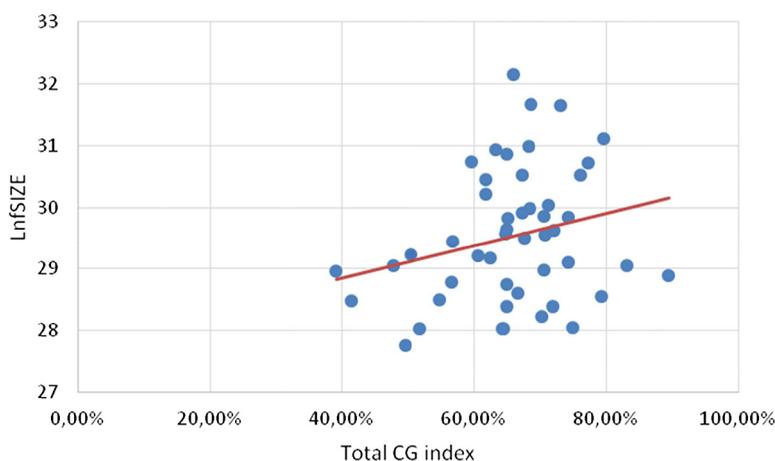


Figure 4.
Relationship between firm size and CG Index

Source: Authors' own

4.3 Hypothesis testing result

The study presented in this research paper investigated the relationship between CG mechanisms and financial performance in the context of the Vietnamese market. As shown in Table 5, the study found that the index of equal treatment of shareholders (cg_esth) had an inverse relationship at a 5% significance level with lnq (after endogenous treatment), which indicates that large shareholders taking control of listed companies can positively impact the company's value. This outcome can be attributed to the fact that large shareholders possess greater voting rights and can make quick and timely investment decisions, thereby increasing company value. Conversely, minority shareholders may struggle to seize business opportunities that arise rapidly.

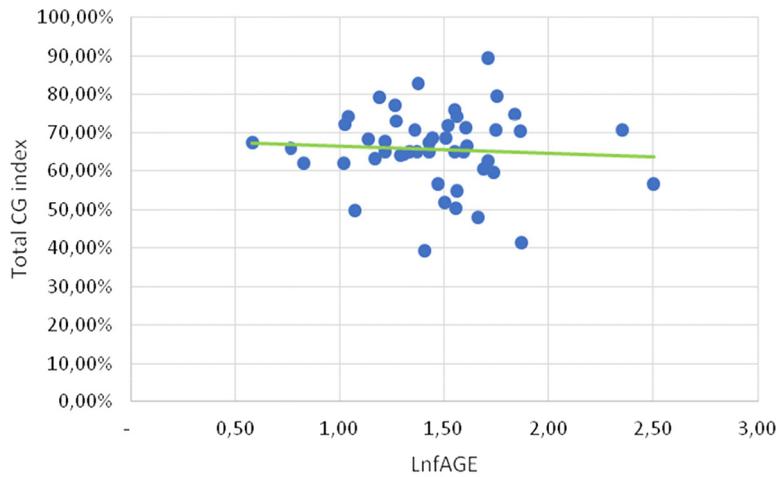


Figure 5.
Relationship between
firm age and CG
Index

Source: Authors' own

Pair-wise correlation coefficients	Cg_ rosh	Cg_ rost	Cg_ dat	Cg_ reob	ROA	ROE	Tobinq	lnfsize	lnlev
<i>Cg_ rosh</i>	1.0000								
<i>Cg_ rost</i>	0.3448	1.0000							
<i>Cg_ dat</i>	0.2991	0.5496	1.0000						
<i>Cg_ reob</i>	0.3412	0.1996	0.2535	1.0000					
<i>ROA</i>	0.2699	-0.1297	-0.0587	0.0267	1.0000				
<i>ROE</i>	0.1680	-0.1824	-0.1059	0.0866	0.8295	1.0000			
<i>TobinQ</i>	0.1284	0.0826	0.1645	0.2231	0.6107	0.5810	1.0000		
<i>lnfsize</i>	0.2137	0.2969	-0.0210	0.1017	-0.0374	-0.0068	-0.0897	1.0000	
<i>lnlev</i>	0.0506	0.1606	-0.1972	0.0384	-0.3141	-0.0106	-0.3366	-0.3366	1.0000

Note: According to this table, *cg_ rost* (stakeholder roles) has an inverse relationship with *ROA* and *ROE*. This means that when stakeholder roles increase, it would decrease financial performance, and when *cg_ rost* decreases, it would increase financial leverage with correlation value of 0.1297 in comparison to 0.1824. However, it is less than 0.8. So, variables are less correlated with each other. This shows that the relationship between these two variables is weak. In addition, it has been observed that the disclosure and transparency aspect of *cg_ dat* is inversely correlated with the financial performance of the firm, specifically in terms of return on assets (*ROA*) and return on equity (*ROE*) with correlation value of 0.0587 and 0.1059

Table 5.
Pair-wise correlation
coefficients

Source: Authors' own

Furthermore, the study used a regression model to examine the relationship between the financial performance variable, *ROE* and *CG* mechanisms. The results revealed that the shareholder rights index (*cg_ rosh*) and the board responsibility (*cg_ reob*) had a weak positive relationship with *ROE* (at a significant level of less than 10%). This finding suggests that companies with good shareholder rights and a responsible board of directors tend to have higher book-based financial performance (*ROE*) levels. The conclusions of the study are consistent with prior research (Connelly *et al.*, 2012; Leuz and Verrecchia, 2000) and highlight the significance of effective *CG* mechanisms in enhancing financial performance.

Table 6 shows that regression models with financial efficiency variables, including *ROA*, occur endogenously in the model through the Durbin Wu–Hausman test, in which the index

of transparency (*cg_dat*) has a relationship. For example, 1% strong positive correlation with *lnq* in the same year, the correlation coefficient of this relationship is 26.43 after endogenous treatment compared to 0.613 in the fixed effects model (FEM) model before endogenous treatment.

In summary, the positive relationship between transparency disclosure and financial performance as measured by Tobin's Q reveals that companies' alterations in their disclosure practices not only help investors reduce the representation risk formed from information asymmetry but also functions as a measure to better control and monitor managers as well as minimize opportunistic behaviors of managers. In this way, companies primarily focus on making decisions that are in the best interest of the shareholders: this enhances these companies' value to investors, which thereby increases the value of the company. This finding is consistent with previous studies ([Durnev and Kim, 2005](#); [Klapper and Love, 2004](#)).

5. Discussion

This section presents the regression analysis results for companies listed on the Vietnam stock exchange in the period 2019–2021. In addition, descriptive statistics on the main independent variables, i.e. CG indicators and the dependent variables, i.e. the financial performance of the study, are presented in this section.

The paper's main objective is to determine the relationship between CG performance scores and firm financial performance. Moreover, the methods used to check for possible errors in the regression model are also detailed. These tests are intended to increase the reliability of the research results. Finally, an explanation of the research results is offered.

The positive correlation between *cg_dat* and company size means that the more transparent the company is, the more volatile the stock price will be in the market. This shows that companies' increasing awareness about information transparency compared to the past has created trust in investors, which increased the investment wave in potential companies by domestic and foreign investors (due to limited stockholding volume) during the research period. In addition, when the quality and quantity of information are improved, significant changes in stock prices in the market can be achieved by investors who surf the market and hold stocks for a short period. When a company publishes good information about growth opportunities or future investment potential, this increases its attractiveness to other investors and causes its share price to increase. At this point, wave investors will sell the stock. Therefore, the transparent disclosure of information attracts investors, thereby causing stock price fluctuations in the market. This result is consistent with the characteristics of the Vietnamese stock market during the research period and is in line with previous studies ([Lang and Lundholm, 1993](#); [Leuz and Verrecchia, 2000](#)).

The score of transparency disclosure and information index in 2021 decreased compared to 2019 and 2020, mainly due to the impact of the COVID-19 epidemic, which prompted many businesses to apply for an extension to hold the General Meeting of Shareholders. Specifically, 54% of enterprises had to apply for an extension of the date of holding the General Meeting of Shareholders in 2020 due to social distancing reasons, compared with 13% in 2019. According to the LOE, the General Meeting of Shareholders must be assembled annually within four months, which can be extended up to six months following the end of the fiscal year. However, due to the impact of the COVID-19 epidemic, many businesses could not hold meetings within the specified time. The evaluation results show that 149 companies did not hold the General Meeting of Shareholders on time out of the total number of enterprises assessed but disclosed information about the approval to extend the meeting. Among the remaining enterprises, more than 54 licensed enterprises, i.e. the

equivalent of 42%, successfully held a General Meeting of Shareholders within four months. This result shows that the COVID-19 epidemic greatly affected the organization of enterprises' General Meetings of Shareholders as compared to the 2019 rate when the ratio of those organizations that held meetings on time reached 83%.

Finally, the study failed to find a relationship between *cg_rosh* and *cg_reob* and financial performance measured by the market (Tobin's Q or ROA). This result does not confirm the findings of previous studies by [Cheung \(2010\)](#), [Gompers *et al.* \(2003\)](#) or [Klein *et al.* \(2005\)](#), as these scholars have found a positive relationship between *cg_rosh* (shareholder rights) and financial performance as measured by Tobin's Q or stock returns. However, these studies did not find evidence of a relationship between the board of directors' responsibilities and financial performance. Therefore, there is a need for a future study that compares the results of analysis from two different research data sources, including secondary data collected manually and data collected from a direct survey or a qualitative case study or studies. Also, research concerning which aspects of management should be examined would likewise be welcome.

5.1 Implications for policymakers

By grading CG for companies listed in Vietnam, the findings show that the compliance level of listed companies with mandatory information disclosure under Circular 121 of the Ministry of Finance is quite good during the evaluation phase of the project. However, because the project uses a set of standards in line with international practices for grading, it must be remembered that international practices apply stricter regulations than Circular 121 in Vietnam. For example, the percentage of independent members must be at least 50%, while Vietnam's regulation is 1/3.

Therefore, policymakers need to research and contribute to the following:

- It is necessary to quickly develop a set of criteria for assessing CG practices for Vietnam to meet international practices and these should be in line with the environment of Vietnam.
- Promulgate specific regulations and stricter requirements concerning international practices on mandatory information to be disclosed, as well as voluntary disclosure of information should be encouraged, especially information pertaining to related parties.
- Periodic disclosure of CG practice scores should be required of listed companies.
- Designate a competent authority to certify the transparency of nonfinancial information disclosed by companies, and this agency should maintain data to help investors and stakeholders and should make such data easily accessible to all researchers for evaluation.
- Provide sanctions for violations of the issuance of late, incomplete or nontransparent disclosure.
- It is necessary to promulgate regulations to protect whistleblowers from company violations (this is also a cultural issue in Vietnam).

5.2 Implications for managers

The empirical evidence of this study supports the view that companies with good CG systems – especially in terms of information disclosure and transparency – will positively contribute to companies' financial performance. Therefore, a good understanding of current

transparency is critical for potential investors, stakeholders, policymakers and international organizations who want to know about transparency and wish to derive more value from these dynamic and receptive economies. However, this study only looked at three years, so there will be a particular limitation regarding the research time frame of disclosure concerning the companies. Nevertheless, this limitation will be overcome in the future because, for international integration, transparent disclosure of company information needs to become a more common practice for listed companies and public companies in Vietnam and this is necessary for sustainable development. Furthermore, good corporate transparency practices must be improved to build a better business environment for attracting domestic and foreign investors and to build trust, honesty and ethical values in the marketplace.

Research results also show that companies with a good CG system, which are specifically responsible for stakeholders such as employees, the environment and products and concurrently offer open and transparent information, will help increase financial performance. Each company – not only listed companies but also small- and medium-sized companies – must develop CG regulations to suit its current situation and should harmonize interests between the company and its stakeholders. In addition, companies need to make regulations on business culture and ethics. In particular, companies need to make regulations concerning equal treatment of shareholders (shown in the table) and should earnestly implement them. This should be so as the lack of such regulations creates a potential source of conflict of interest and conflict of power between major shareholders and minority groups of shareholders, as outlined by agency theory, and it is also a fact that some joint stock companies in Vietnam went bankrupt because of this conflict. Although this proposal is inconsistent with the research results because these results show that there is equal treatment of shareholders of listed companies in Vietnam, the trend of governance – as attested by international practices in developed countries – is to further improve the equal treatment of shareholders.

5.3 Implications for investors

Investors are the ones who can directly or indirectly pressurize companies to strictly and voluntarily implement transparent information disclosure through share price mechanisms. Accordingly, in addition to reviewing company performance based on financial statements, investors need to base their scores on the quality of CG practices concerning each listed company with a view to limiting investment risks.

6. Conclusions

6.1 Evaluations compared with the theories used to build the hypothesis

6.1.1 Agency theory. Shareholders expect managers to make decisions that benefit shareholders. However, managers' priorities are sometimes not the same as shareholders' priorities; their own goals may differ in increasing the company's value. In other words, they want to maximize personal benefits. Because managers' goals are not always about maximizing corporate value, owners may try to monitor and control managers' behaviors and thus, supervisory and control actions incur agency costs of equity. Therefore, the divergence of interests between shareholders and managers can generate agency costs, and if this conflict persists, this can also affect firm performance in the long run.

The last common point of agency theory is that it proposes that if a governance structure is weak, the firm will have significant agency problems, and managers will be able to derive great personal benefits, which can affect the company's financial performance. Therefore, the role of CG is mainly for protecting and enhancing the interests of shareholders and

stakeholders. Through the regression results, the agency theory used in the study has shown the strengthening of the following: the relationship between owners and managers and the relationship between large and small shareholders through the power index of shareholder's rights, the index of equal treatment of shareholders and the responsibilities of the board of directors of listed companies. This situation thereby verifies this relationship with firm performance.

6.1.2 Principle theory. Theoretical and empirical studies show that conflicts occur in those emerging markets and developing countries where regulatory enforcement is weak and investor protection is poor. In this situation, even if the role of significant shareholders helps to reduce conflicts between owners and managers because they have many assets contributed to the company, shareholders must supervise managers closely and request explanations, which causes conflicts between significant shareholders and minority shareholders (owners – owners). Therefore, the research results acknowledge that the division of ownership among major shareholders can reduce the appropriation of interests of minority shareholders, and the majority, therefore, must approve any decision. Therefore, the theory calls for better protection of minority shareholder rights and urges increased transparency.

6.1.3 Stakeholder theory. CG debates the company's responsibility to the community at a more extensive scope. This study shows that stakeholder theory has gained some influence when it comes to assuming that stakeholder management positively contributes to firm performance. In addition, the researchers have found a strong relationship and solidity between CG and financial performance as a result of implementing stakeholder theory. Stakeholders have a significant influence on a company's financial performance. The authors have found evidence that good stakeholder governance leads to enhanced shareholder value. Considering that the relationship between stakeholders present on the board and stakeholders' performance may directly correlate with the company's financial performance, the study's results support the above hypothesis.

Stakeholder theory governance practices will lead to higher profitability, stability and growth and will thus affect company performance. Therefore, good CG must focus on creating a sense of security, ensuring that the company observes the interests of its stakeholders, such as those of the board of directors responsible for the company and other stakeholders. According to [Jensen \(2002\)](#), stakeholder theory deals with problems caused by multiple goals, as this theory seeks to maximize value in the long run. Furthermore, if management decisions do not consider the interests of all stakeholders, the company cannot maximize its value.

6.1.4 Asymmetric information theory. Because there is information asymmetry between the executives (managers) of the company and shareholders (or investors) or more specifically, it might be the case that corporate managers have informational advantage of the company they operate over shareholders, outside investors and stakeholders, executives tend to take advantage of their position for self-interest. Costs associated with the above self-interest reduce the income of shareholders. Therefore, the authors have found empirical evidence to prove that information asymmetry is one of the essential theoretical bases to explain the complex relationship between directors and shareholders, particularly between directors and general corporate stakeholders.

Therefore, to reduce asymmetric information, many researchers and international organizations, such as the OECD, encourage the establishment of a CG system to create a multidimensional open and transparent information flow (financial, financial materials, [. . .]) between the company and related parties, which thereby helps to reduce conflicts of interest.

The study acknowledges that the CG quality index is essential in attracting external capital for maintaining a high growth rate and for reducing asymmetric information between insiders (shareholders and managers) and outsiders (investors and stakeholders).

6.2 Limitations and recommendations for future study

Concerning this research, several limitations will be discussed. First, because the CG index is established based on an unweighted approach, this may not accurately reflect the importance of each CG principle for different countries because it is a set of general principles. However, culture and practices in Asian countries will differ from those in America or Europe, so the score will be affected by each component index's CG practice score. Nevertheless, unweightedness also has the advantage of easy adoption, transparency and comparability across countries.

Second, the transparency of the reports of nonfinancial information provided by listed companies cannot be checked.

Third, there may be an overlap in information. For example, the shareholder rights index has two questions with the same information as the answer:

- (1) The latest annual general meeting (AGM) minutes record that shareholders have the opportunity to ask questions or raise problems and
- (2) Do the minutes of the latest AGM indeed record questions and answers?

In principle, the minutes of the meeting must record all critical issues that occur during the meeting, so when collecting secondary data, respondents can only base their answers on the same content in the minutes to answer both of the above questions. Therefore, the score will be duplicated or more precisely, the information will be duplicated. Alternatively, the equity treatment and transparency indexes have similar questions regarding dividend policy.

Fourth is the time limit of the research sample: the study could not test the endpoint of the spillover effect of good CG practice on financial performance.

Finally, because the goal of the study only considers a one-way relationship of the impact of the CG index on financial performance, the study – due to data limitations – does not thoroughly address the two-way relationship as do previous overseas studies. Therefore, the following research direction can use a more extended period to examine the spillover effect between the CG index and financial performance. In addition, further research needs to review the two-way relationship between the CG index and the CG, as well as the change in the CG practice quality index and CG performance change. Finally, there is also space for a study to compare analysis results from two different research data sources, including manually collected secondary data and data collected from direct surveys.

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Order no.	Stock code	Order no.	Stock code	Order no.	Stock code
1	ABC	42	CCR	83	FOC
2	ABI	43	CCT	84	FOX
3	ABR	44	CDO	85	G36
4	ACV	45	CDP	86	GHC
5	ADP	46	CFV	87	GLW
6	AFX	47	CHS	88	GSM
7	AGP	48	CKD	89	
8	AMS	49	CLX	90	HAC
9	APF	50	CMD	91	HAF
10	ATB	51	CMP	92	HAN
11	AVC	52	CMW	93	HBH
12	BDG	53	CNT	94	HC3
13	BDT	54	CPA	95	HDW
14	BDW	55	CPW	96	HEM
15	BGW	56	CQT	97	HGW
16	BHA	57	CSI	98	HHV
17	BLI	58	CTR	99	HIG
18	BMJ	59	CTW	100	HJC
19	BMS	60	DBW	101	HNA
20	BMV	61	DCF	102	HND
21	BNW	62	DDN	103	HNE
22	BOT	63	DDV	104	HNF
23	BPW	64	DGT	105	HNR
24	BRR	65	DM7	106	HPI
25	BSA	66	DNA	107	HPW
26	BSG	67	DNH	108	HRT
27	BSH	68	DNN	109	HSM
28	BSL	69	DNS	110	HSP
29	BSP	70	DNW	111	HTE
30	BSQ	71	DP1	112	HTG
31	BSR	72	DRI	113	HTM
32	BTH	73	DSG	114	HTU
33	BTV	74	DSP	115	HTW
34	BWS	75	DVN	116	HU4
35	C21	76	DWS	117	HUG
36	C4G	77	EIC	118	HWS
37	CAB	78	EIN	119	ICF
38	CBI	79	EMS	120	IFS
39	CC1	80	EVF	121	ILA
40	CC4	81	FGL	122	ILS
41	CCA	82	FIC	123	IPA
124	IRC	168	NHT	212	SBH
125	ISH	169	NNB	213	SBL
126	IST	170	NNG	214	SBM
127	ITS	171	NQB	215	SBS
128	KGM	172	NQN	216	SCJ
129	KHA	173	NQT	217	SCY
130	KHB	174	NS2	218	SD3
131	KHW	175	NTC	219	SDD

Table A1.
List of enterprises

(continued)

Order no.	Stock code	Order no.	Stock code	Order no.	Stock code
132	KLB	176	NTT	220	SEA
133	KSH	177	OIL	221	SGP
134	KSV	178	ORS	222	SGS
135	KTC	179	PBC	223	SID
136	KTL	180	PBT	224	SIP
137	LAW	181	PDT	225	SJG
138	LCW	182	PDV	226	SKH
139	LDW	183	PEG	227	SKV
140	LIC	184	PFL	228	SNZ
141	LLM	185	PGV	229	SPD
142	LTG	186	PIS	230	SQC
143	LWS	187	PMW	231	SRT
144	M10	188	PNP	232	SSN
145	MCH	189	POS	233	STH
146	MDF	190	POV	234	STW
147	MEG	191	PPH	235	SVG
148	MH3	192	PQN	236	SVH
149	MHY	193	PRT	237	SWC
150	MIE	194	PSB	238	SZE
151	MKP	195	PSN	239	T12
152	MML	196	PSP	240	TAG
153	MNB	197	PTV	241	TBD
154	MPC	198	PVM	242	TCI
155	MSR	199	PVP	243	TCW
156	MTA	200	PVV	244	TDS
157	MTS	201	PWS	245	THN
158	MVC	202	PXL	246	THP
159	MVN	203	QNS	247	TID
160	NAW	204	QNW	248	TIS
161	NBT	205	QPH	249	TLA
162	NCP	206	QTP	250	TLP
163	NCS	207	RCC	251	TMG
164	ND2	208	RGC	252	TNS
165	NDT	209	RTB	253	TNW
166	NDW	210	S72	254	TSJ
167	NED	211	SAS	255	TTD
256	TTN	279	VHF	302	XPH
257	TTP	280	VHG		
258	TTS	281	VHI		
259	TVN	282	VIN		
260	TVW	283	VIW		
261	UDJ	284	VLB		
262	UPH	285	VLC		
263	VAV	286	VLG		
264	VBB	287	VLW		
265	VCP	288	VNA		
266	VCW	289	VNB		
267	VCX	290	VNP		
268	VEA	291	VOC		
269	VEC	292	VPA		
270	VEF	293	VRG		
271	VET	294	VSN		

*(continued)***Table A1.**

JFRC 32,1						
	Order no.	Stock code	Order no.	Stock code	Order no.	Stock code
46	272	VFC	295	VTE		
	273	VFR	296	VTP		
	274	VGG	297	VTR		
	275	VGI	298	VTX		
	276	VGR	299	WSB		
	277	VGT	300	XHC		
	278	VGW	301	XMC		

Table A1.

Source: Author's own

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