Corporate Governance and the Accuracy of Analysts' Earnings Forecast in Vietnam

Hanh Minh Thai, Trang Ha Thi Thu(✉), Son Pham Ngoc, and Anh Mai Thi

School of Economics and Management, Hanoi University of Science and Technology, Hanoi, Vietnam
trang.hathithu@hust.edu.vn

Abstract. The paper aims to examine the influence of corporate governance on the accuracy of analyst's earnings forecasts in Vietnamese stock markets. Although previous studies have examined the influence of corporate governance on the accuracy of analysts' earnings forecasts, there has been no study in Vietnam where the financial markets are having high growth rate of development. In the paper, we investigate the impact of corporate governance on the analysts' forecast accuracy using panel regression. Our sample comprises 386 firm-years for the period of 2015–2020. Corporate governance is studied through the roles of state, institution, board and management ownership, board size, board independence, board gender diversity, CEO duality and female CEO/chairman. The results show that state ownership has a negative impact and institutional ownership has a positive effect on analysts' earnings forecast accuracy whereas other corporate governance characteristics are insignificant.

Keywords: corporate governance · analysts' forecasts · board size · female CEO · board independence · state ownership · institutional ownership · managerial ownership · emerging country

1 Introduction

In recent years, a series of financial scandals of large enterprises appeared to shake the world. In 2015, Toshiba was found to have inflated its financial results by $1.2bn over the previous seven years[1]. In 2011, the executives at Olympus were found to have falsified documents to hide a loss of nearly $1.7 billion[2]. In 2014, the executives at British grocery retailer Tesco fell into a serious scandal when they announced that its profits had been overstated by £263m[3]. These financial statement frauds made the analysts' forecast based on the financial statements negatively affected. Increasing the quality of disclosure or the quality of financial statements and non-financial information seems to have contributed to improved analysts' forecast accuracy (Glaum et al., 2013, Zheng et al.,

[1] https://www.bbc.com/news/business-40260419
[2] https://www.bbc.com/news/business-23955003
[3] https://www.bbc.com/news/business-37536538

© The Author(s) 2023
P. Tra Lam and P. Quang Huy (Eds.): ICECH 2022, AEBMR 238, pp. 442–466, 2023.
https://doi.org/10.2991/978-94-6463-150-0_29

2022). If the forecast results are far from the actual results and the investors rely on the forecast results, the investment risk will be high. According to the OECD[4], corporate governance plays an important role in ensuring information disclosure and transparency, including financial accountability. Therefore, it is interesting to investigate the impact of corporate governance on the accuracy of earnings forecasts from analysts. Previous empirical studies have investigated the relationship between corporate governance and the quality of financial analysts' information around the world (Adut et al., 2011, Sakawa et al., 2022, Almeida and Dalmácio, 2015, Chahine et al., 2021). Sakawa et al. (2022) find that internalization lowers reliance on analyst forecasts while foreign ownership and bank ownership increases reliance on analyst forecasts of MNEs in Japan. Almeida and Dalmácio (2015) show that strong corporate governance enhances the financial reporting process and consequently the quality of analysts' forecasts in Brazil. Chahine et al. (2021) find that the disclosure of CSR-related nonfinancial information reportedly improves analysts' forecast accuracy, and the moderating effect of CSR is more pronounced in domestic rather than multinational firms. Our paper study on various corporate governance characteristics including state, institution, board and management ownership, board size, board independence, board gender diversity, CEO duality and female CEO/chairman, which adds knowledge to the literature on impacts of corporate governance on the analyst' forecast accuracy. In Vietnam, previous studies on corporate governance have examined the roles of corporate governance on capital structure (Nguyen et al., 2021), firm value (Connelly et al., 2017), intellectual capital (Tran et al., 2020), stock price synchronicity (Nguyen et al., 2020a, 2020b), firm performance (Kubo and Phan, 2019). Although several studies have focused on corporate governance, the impacts of corporate governance have not been examined in Vietnam. Therefore, it is interesting to investigate the impact of corporate governance on the forecast accuracy of analysts in an emerging country with less information disclosure and analysts' forecast play an important role.

In the paper, we investigate corporate governance characteristics including state, institution, board and management ownership, board size, board independence, board gender diversity, CEO duality and female CEO/chairman. Our sample includes 386 firm-years, representing 171 separate firms from 2016 to 2020. Panel regression is applied to study the impacts. The results show that analysts' forecast accuracy was negatively related to state ownership and positively related to institutional ownership. Other characteristics do not affect the accuracy of analysts' earnings forecast.

The paper proceeds as follows. Section 2 discusses the institutional background. Section 3 review the recent literature and the hypotheses. Section 4 describes the sample and methodology. Section 5 provides the results, and section 6 is the conclusion.

[4] https://www.oecd.org/daf/ca/corporategovernanceprinciples/45034702.pdf

2 Institution Background

2.1 The Accuracy of Analysts' Forecasts in Vietnam

Profit forecast by securities company in Vietnam (Agriseco, MBS, SSI, VCSC, FPTS, BSC,...) is forecasted by the method of technical analysis, the forecast results are presented in the report "analysis business analysis/company analysis" on the homepage of that securities company. Nguyen et al. (2013) provide empirical evidence that when forecasting a firm's future earnings, security analysts tend to be influenced by their predictions of future earnings, the company's past records and then make adjustments based on that value. As a result, additional errors are generated that make the forecast less accurate. According to An (2019), the forecasting ability among securities companies in Vietnam (SSI, VCSC, MBS, BSC and FPTS) is not significantly different. Profit forecast by the business itself is presented on the annual report. The seller's reports are often skewed with low accuracy, profits forecasted by internal enterprises have low accuracy (An, 2019). Nguyen et al. (2013) had provided concrete proof that anchoring, and adjustment bias is one of the factors contributing to the forecasting error and affecting the quality of analysts' evaluations in Vietnam. Similar to Nguyen et al. (2013), Tran (2016) has applied Variance decompositions (VDCs), which expresses the predictable portion of exchange rates (stock prices) changes on the forecast error variance in stock prices (exchange rates).

2.2 Corporate Governance in Vietnam

In Vietnam, corporate governance has appeared in legal documents. For the first time in the law on securities (November 26, 2019), corporate governance clarified at a preliminary level the principles and contents. After that, corporate governance was further clarified in the Enterprise law 2020 (June 17, 2020) where the contents of corporate governance such as the size of the board of directors, and shareholders' interests ... are clarified. Most recently, corporate governance was clarified in Circular 166/2020 (December 31, 2020) - guiding Decree 155/2020, in which corporate governance issues including internal regulations on corporate governance, operating regulations of the board of directors, and operating regulations of the supervisory board are specified. According to Article 29, Circular no. 116/2020/TT-BTC dated December 31, 2020, the chairman of the board of directors cannot concurrently be the director (general director). In addition, the minimum number of board of directors is 3 and the maximum is 11, which is regulated in Article 154, enterprise law dated June 17, 2020. The Article 137 (Enterprise law 2020) stated that the minimum number of independent members is 20% of the members of the board of directors and the law does not stipulate the maximum number of members. Furthermore, the Article 88 - Enterprise Law 2020 has provisions on state ownership in state-owned enterprises (SOEs). However, there are no specific regulations on state ownership in joint stock companies. According to the World Bank (2021), it is necessary to strengthen the corporate governance framework for SOEs to ensure more proactive state ownership and supervision functions to reduce the risks faced by the public sector.

3 Literature Review and Hypothesis Development

3.1 Literature Review

The Accuracy of Analysts' Earnings Forecasts

Earnings per share (EPS) is calculated as a company's profit divided by the outstanding shares of its common stock, which is an indicator of a company's profitability. Investors often use this measure and use analysts' forecast on earnings to make their investment decision. Analysts estimate of what companies will do in the future, based on projections, models, subjective evaluations, market sentiment, etc. The analysts rely not only on financial statements but also on their individual subjective inputs. Consensus estimates among different individual analyst assessments are often important to investors. The accuracy of analysts' forecasts is measured by the forecast error is calculated as the difference between the absolute value of the actual EPS of year and the forecasted EPS. According to Gerakos (2013), profit forecasting made using ordinary least squares gives more accurate results. According to Monahan (2018), due to the limitations of time series models, they are no longer the default choice. Instead, recent studies tend to use panel data approach. These approaches allow the researcher to combine cross-sectional and time series data to generate earnings forecasts. Therefore, they are more flexible than time series models, and they have multiple priorities."

When the profit forecast is too positive, the investor's expected return increases. According to Zhang et al. (2022), analysts attract potential customers by increasing forecast accuracy and serve existing customers with optimistic forecasts. However, investors should note that forecast results change over time and analyst sentiment (Jiang et al., 2022). When investors see the higher the expected return, the psychology immediately wants to decide to invest, and this is an inefficient investment. Previous research has investigated various issues related to the accuracy of forecasts on tax, revenues and sale of analysts (Kim and Sangwan, 2021). They document that matching's association with analysts' earnings forecast accuracy is stronger than matching's association with analysts' sales forecast accuracy. Lee (2021) studies the effects of analysts' tax expense forecast accuracy and finds that firms with high analysts' tax expense forecast accuracy engage in lower levels of tax avoidance than firms with low forecast accuracy; this relationship is greater for firms in countries with weaker investor protection.

According to Rahman et al. (2019), there are 3 groups of factors that affect the accuracy: (i) The group of factors that promote the accuracy of analytical forecasts. These factors include: Analyst characteristics, company characteristics, economic conditions, customer satisfaction, political connections, etc. Chourou et al. (2021) found that analysts' forecasts are influenced considerably by policy uncertainty. Forecast error increases significantly with economic policy uncertainty (EPU); (ii)The quality of financial statements. It includes the following factors: Audit quality, company earnings quality, company goodwill, etc. Eliwa et al. (2021) found that higher earnings quality leads to more analysts following, less dispersion of analysts' forecasts, and more accurate forecasts from analysts. The accounting standards applied at the company the analyst chooses to forecast (IFRS, difference of GAAP Accounting Standards). While the IASB eliminated virtually all discrepancies between US GAAP and IFRS regarding segmentation reporting. Aboud et al. (2018) found the quality and quantity of segmentation

information relevant to more accurate earnings forecasts by IFRS 8. Demmer et al. (2015) found a positive association between the mandatory adoption of IFRS and an increase in the accuracy of financial forecasts.

Corporate Governance

According to OECD (2015), corporate governance is "a set of relationship between a company's management, its board, its shareholders, and other stakeholders that provide the structure through which the objectives of the company are set attained and monitored". Corporate governance models around the world have changed significantly (OECD, 2021). Among more than 40 OECD countries (OECD, 2021), many specify a minimum number of board members, others have a maximum membership, however, most do not. regulations on the maximum number of members. Regarding the minimum number of members, with countries such as Indonesia, the Republic of Ireland and Malaysia, the minimum number of members is 2. In particular, in Switzerland, the minimum number of members is 2. The minimum number of members is 1. For the remaining countries such as the US, UK... the minimum number of members of the board of directors is 3. Regarding the maximum number of members, for countries such as Brazil, Colombia..., the number of members. maximum members from 5 to 21 members. With the remaining countries such as the US, UK... there is no regulation on the maximum number of members. Out of 50 OECD countries (OECD, 2021), most of the top countries have specific regulations on the minimum number or percentage of non-independent members of the board of directors. Countries such as Czech Republic, Luxembourg, Germany... do not have specific regulations on the percentage or minimum number of independent members. Most of the remaining countries have specific regulations. Israel, Norway, Korea, Netherlands, USA, UK... require the minimum number and percentage of independent members in the Board of Directors to be 50%. Countries like Russia, Turkey, Singapore, Peru, Mexico, Malaysia... only require 33% and less. In the OECD 50 countries (OECD, 2021), separation of the CEO and the chairman of the board is encouraged in some countries, mandatory in others, and not specified in others. . Specifically, countries like Argentina, Austria, Canada, China, France, Germany, Hungary, Indonesia... have no requirements. Countries like Australia, Hong Kong, New Zealand... encourage this separation. And countries such as Brazil, Greece, the Netherlands... oblige you to have this separation.

3.2 Hypothesis Development

Corporate governance play an important role in determining the quality of the financial statement, which is the input of the forecasts. Good corporate governance increases the accuracy of managers' earnings forecasts and induces a favorable stock price response following the announcement of the earnings reports reliable predictor (Karamanou and Vafeas, 2005). The corporate governance features examined include state, institution,

board and management; board size, board independence, board gender diversity, CEO duality and female CEO/chairman.

State Ownership

The SOE often care about social goals in addition to economic goals. Therefore, the higher the state ownership, the more supervision is required for the preparation and presentation of financial reports. Previous studies find that the state ownership has positive impacts on the quality of financial statements (Lin, 2011; Wang and Yung, 2011; Ayemere et al., 2015). State ownership has special privileges due to political connections, so SOEs have low governance and audit quality in the public sector (Bruton et al., 2015). That is, the higher the state ownership, the higher the possibility of income manipulation/fraud, the lower the quality of financial reporting. However, Guo and Ma (2015) and Nguyen et al. (2020a, 2020b) show that state ownership is positively related to income management. SOE managers have different power bases and conflicting views, thus encouraging incentives for earnings management (Poli, 2015). Meanwhile, financial statements are the basis of information for analysts to make forecasts, so the quality of financial statements has a positive impact on forecast accuracy (Glaum et al., 2013). Hence state ownership has an impact on forecast accuracy. State ownership is a significant ownership type in Vietnam (Nguyen et al., 2020a, 2020b). Compared with other types of ownership structures, state ownership has special privileges due to their political ties or access to markets. Nga et al., (2020) provided empirical evidence in Vietnam that state ownership has a positive impact on financial reporting quality. Duyen (2019) also shows that companies with lower state ownership tend to have a relatively higher proportion of specific risks. Tam et al. (2019) find that private enterprises are more likely to "manipulate" their reported earnings than state-owned enterprises in the Vietnamese financial market. Therefore, we propose the following hypothesis:

H1: State ownership has a positive impact on the analysts' forecast accuracy.

Institutional Ownership

Institutional ownership can increase corporate information asymmetry (Liu et al., 2018). Analysts strategically allocate their attention to firms with more extensive institutional ownership (Liu et al., 2022). Institutional ownership is endogenous and could bias inference results of the analysts' dispersion (Hwang et al., 2022). Therefore, we state the hypothesis as follows:

H2: Institutional ownership has a positive/negative impact on the analysts' forecast accuracy

Managerial Ownership

Managers can meet or beat the analysts' forecast (Mabsali et al., 2021). When the managers have ownership in the firms, they have further power to do that. Therefore, they can lower the analysts' forecast accuracy.

H3: Managerial ownership has a negative impact on the analysts' forecast accuracy

Board Independence

According to *agency theory*, shareholders and managers both want to maximize their own interests. In many cases, corporate representatives do not always act in the best interests of shareholders. Because of this conflict of interest, the board of directors is required to exercise oversight over management's activities, including the preparation and presentation of financial statements. The executives with close relationships with board members are highly likely to abuse power (Dao et al., 2022). Therefore, the presence of independent directors can independently supervise and advise managers and help reduce agency cost (Brickley & Zimmerman, 2010). According to Beasley (1996), companies with more independent members have better information transparency. Phuong et al. (2020) find that independent directors do not affect financial reporting quality in Vietnam. However, Nga et al. (2020) provided empirical evidence that independent directors have a positive impact on financial reporting quality. Meanwhile, Glaum et al. (2013) showed that increasing the quality of financial statements contributed to improved forecast accuracy. Therefore, we propose the hypothesis:

H4: Board independence has positive impact on the analysts' forecast accuracy.

CEO Duality

Duality of power is defined as the union of the positions of board of directors' chairperson and the CEO of the firm in the same person (Gove et al., 2017). Based on the agency theory, Shleifer and Vishny (1997) have shown that the supervision, management, and operation of the board of directors is the work that helps to avoid the situation that managers for their own interests cause damage to the business. A duality CEO can hide mistakes that non-executive members of the board of directors may not be able to detect. Therefore, in order for the board to achieve the highest supervisory efficiency, the function should be independent. Previous studies related to CEO duality show that the experience of CEO and chairman has a negative impact on the quality of financial statements. Agrawal and Chadha (2005) found a positive relationship between duality and the probability of income-dominating behavior. Efendi (2007) argues that a material error will occur in an enterprise where the chief executive officer is also the chairman of the board of directors. Smaili and Labelle (2013) also argue that duality causes anomalies in financial statements.

Studies in Vietnam has shown that CEO duality has a negative impact on financial reporting quality (Phuong et al., 2020). Meanwhile, Glaum et al. (2013) showed that increasing the quality of financial statements contributed to improved forecast accuracy. Because CEO duality can affect the quality of financial statement, it affects the accuracy of the analysts' forecast. Therefore, we propose the below hypothesis:

H5: CEO duality has negative impact on the analysts' forecast accuracy.

Board Size

Board size has a decisive influence on the effectiveness of supervisory management (Thuy et al., 2021). The smaller the board size, the less effective the management's

oversight of the preparation and presentation of the financial statements increases the potential for earnings manipulation/fraud, leading to a reduction in the quality of the financial statements. financial statements (Kao and Chen, 2004). According to information asymmetry theory, information asymmetry occurs when one party has less information than the other or has incorrect information. In governance activities, managers who directly manage will know corporate information but intentionally hide it, causing adverse choices for shareholders and moral hazard of managers. The lack of information from these organizations will make investors not fully understand the business situation of enterprises, securities business activities, market trends, leading to incorrect investment decisions.

No studies in Vietnam have investigated the impact of the board of directors on analysts' forecast accuracy. According to Tan & Duong (2016), an enterprise with a large board of directors is the cause of the possibility of material misstatements in the financial statements. Glaum et al. (2013) have demonstrated that the quality of financial statements has a positive impact on forecast accuracy. Previous studies find negative impact on financial reporting quality (Phuong et al. 2020), positive impact Nga et al. (2020). We propose the hypothesis as follows:

H6: Board size has positive/negative impact on analysts' forecast accuracy

Female CEO/Chairman and Board Gender Diversity

According to Datta et al. (2022), female CEOs significantly improve analysts' forecast accuracy. Female CEOs have more dominant impact across all firms due their broader authority. Their impact is pronounced only for firms with more opaque information. Besides, Lokani (2019) find that firms with female CEOs tend to make conservative earnings forecasts, especially in a perceived positive situation. They are more likely to forecast earnings conservatively in a perceived negative situation. These will make the information provided more accurate and affect the analysts' earnings forecast. We propose the hypothesis as follows:

H7: Female CEO/chairman/board gender diversity has positive impact on analysts' forecast accuracy

4 Data and Methodology

4.1 Data

In attempting to give the insight information about the financial markets to customers, many Vietnamese securities such as Bao Viet Securities (BVSC), MB Securities… conduct a monthly (or monthly) business/financial analysis report. In such reports, the analyst gave their estimation on the variability of stock market in near future and estimates of annual earnings per share (EPS). The data on their estimation of firm's EPS are collected to serve for purpose of this study. Our sample data contains 386 reports covering 171 companies listed on the HNX and HOSE exchanges from 2016 to 2020. Besides, to explore the relationship between the quality of analyst's report and firm's corporate governance, we collect data of estimated companies on the report collection from their

published financial reports, board of directors' reports, and annual reports from 2016 to 2020 as well. Our final dataset is an unbalanced panel data, consisting of 19 variables of interest from 171 Vietnamese firms covering 49 industries (four-digit code according to Vietnam Standard Industrial Classification (SIC)).

4.2 Methodology

The research adopts the model proposed by Byard (2006) to investigate the association between analysts' forecast accuracy and governance quality after controlling for firms' ownership structure, other factors that affect analyst accuracy by following regression:

$$\begin{aligned} \boldsymbol{ACURACY_{it}} = & \boldsymbol{\alpha_0} + \boldsymbol{\alpha_m} \sum_{m=1}^{11} \boldsymbol{CG\_Variables_{it}} + \boldsymbol{\beta_n} \sum_{n=1}^{5} \boldsymbol{Control\_Variables_{it}} \\ & + \boldsymbol{\theta_t} \sum_{t=1}^{5} \boldsymbol{YR_t} + \boldsymbol{\tau_k} \sum_{k=1}^{49} \mathbf{IND}_t + \boldsymbol{\lambda HORIZ_{it}} + \boldsymbol{\varepsilon_{it}} \end{aligned} \tag{1}$$

where,

- $ACCURACY_{it}$ measures the analysts' forecast accuracy for firm i in time t
- $CG\_Variables_{it}$ measure corporate governance quality for firm i in time t proxied by 11 variables.
- $Control\_Variables_{it}$ indicate characteristics of firm, including 4 variables.
- YR_t and IND_t are fixed effect of time and industries.
- $HORIZ_{it}$ is the average number of days between the forecast date and the actual earnings announcement date.

4.2.1 Measuring Forecast Accuracy

The term "forecasts" refers to estimates of annual earnings per share (EPS) provided by analysts, Hutira (2016). Forecast accuracy is the confidence level of the forecast about EPS. We measure analysts' forecast accuracy (ACCURACY) similar to Byard (2006). Specifically, for each firm-year, we estimate ACCURACY as the absolute difference between the actual EPS value and the analyst's EPS:

$$ACCURACY = (-1)\frac{|FCAST - ACTUAL|}{PRICE} \tag{2}$$

where,

- ACTUAL is the actual annual earnings per share (EPS) reported by Vietstock database;
- FCAST is mean forecast EPS made by the numbers of analysts following a firm;
- PRICE is the closing stock price one day before the consensus analyst forecast.

The ACCURACY is interpreted as a measure of the bias of analysts. When the value of ACCURACY is more negative, their forecasts are less accurate.

4.2.2 Measures of Corporate Governance Quality

Corporate governance quality for firms is proxied by 11 variables as listed in Table 1. Our three governance quality indicators are based on board characteristics. Because ownership structure may function as a complement to or a substitute for board characteristics in the overall governance system, we include control variables for firm ownership structure (Core et al., 1999). For ownership structure, we provide three controls: BOARD_1%, MGT_OWN%, INST_OWN%, STATE_OWN% and BOARD_OWN%. BOARD_1% and MGT_OWN% are to identify if firm's outstanding stocks owned by a director, CEO is more than 1% or not, where as the INST_OWN%, STATE_OWN% and BOARD_OWN% indicate the percentage of stock hold by the institutional investors or by the state, by the board respectively.

4.2.3 Control Variables – Determinants of Analysts' Forecast Accuracy

We incorporate controls for firm-specific variables of analyst forecast accuracy based on previous research such as firm size (LN_SIZE) (Yua et al., 2020), the number of analysts following a firm (FOLLOW) (Bhushan, 1989), or LOSS - a dummy variable equal to one for loss years (Abarbanell and Lehavy, 2003). We used the standard deviation of actual EPS as control variables for firm's earnings volatility. In addition to these firm characteristic determinants of forecast accuracy, we also control for the forecast horizon (HORIZ) by the average number of days between the forecast date and the actual earnings announcement date (Yua et al., 2020). Table 1 provides the description of all variables used in the model.

5 Result Discussion

5.1 Descriptive Statistics

Table 2 reports descriptive statistics on all variables used in model. Summary statistics on board characteristics show that the CEO holds the role of chairman in 12% of firms in our sample. BOARD_SIZE has an average of 6.48, with the smallest being 3, the largest being 11, and the quartiles Q1, Q2, and Q3 being 5, 6, and 7 respectively. The average percentage of independent directors sitting on the board (BOARD_IND%) is 71.15%. Furthermore, 61% of our companies have block holder on the board of directors. The average of GENDER_CEO and GENDER_CHAIRMAN is 90% and 84%, which means that the number of male CEOs and CHAIRMAN is dominant in Vietnamese firms. The average percentage of female members in board is 17.44% with a maximum value of 80%, a minimum value of 0%, quartiles of Q2, Q3 of 16.67% and 28.57%. Interestingly, 61% of firms have a director who owns more than 1% of the outstanding stock on average. There is a great variation in proportion of outstanding stocks owning by management between firms (with mean = 6.26% and standard deviation=11.17%). Regarding the ownership, number of firms in sample owned by institutional investors (41.23%) is relatively high in compare with state ownership (13.8%) and board ownership (19.87%). Finally, the average LOSS is 0.02, which means that only 2% of companies report losses in period 2016–2020.

Table 1. Definition of variables

Variables	Definitions
ACCURACY	is a measure of analyst forecast accuracy;
	calculated as follows: (−1) * (|Mean Forecast - Actual EPS|/StockPrice)
Measures of corporate governance quality	
DUAL_CEO	is a dummy variable equal to one when the CEO is also the chair of the board, and zero otherwise
BOARD_SIZE	is the number of member of the board
BOARD_IND%	is the percentage of board members that are independent directors
GENDER_CEO	is a dummy variable equal to one if the gender of CEO is male, and equal to zero otherwise.
GENDER_CHAIRMAN	is a dummy variable equal to one if the gender of the chairman is male, and equal to zero otherwise.
FEMALE%	is the percentage of board members that are the female
BOARD_1%	is a dummy variable equal to one if a blockholder owning more than one percent of the firms' stock sits on the board
MGT_OWN%	is the percentage of stock hold by management
INST_OWN%	is the percentage of stock hold by institutional investors
STATE_OWN%	is the percentage of stock hold by the state
BOARD_OWN%	is the percentage of stock hold by the board
Control Variables	
LN_SIZE	is the natural log of market capitalization
EPS_VOL	is the standard deviation of earning (actual EPS) over the prior five years, scaled by stock price at the start of the fiscal year
LOSS	is a dummy variable equal to one in firm-years where a loss is reported (actual EPS < 0), and equal to zero otherwise
HORIZ	is the number of days between the date of the consensus analyst forecast and the eventual earnings announcement date
FOLLOW	is the number of analysts following a firm

5.2 Correlation Analysis

Table 3 reports a Pearson correlation analysis. As expected, we can see that there is significantly positive correlation between analyst's forecast accuracy with firm's size (LN_SIZE). In addition, forecast accuracy is negatively correlated with firm's losses (LOSS) and length of predicted interval (HORIZ) at high level of significance. Some of our corporate governance variables correlate with other corporate governance variables, but some do not. Specifically, BOARD_IND% is correlated with DUAL_CEO, BOARD_SIZE, DUAL_CEO is correlated with BOARD_1%,

Table 2. Summary statistics

Variables	Obs	Mean	Std.Dev	Min	Q1	Q2	Q3	Max
ACCURACY	220	−0.08	0.15	−1.65	−0.09	−0.04	−0.02	−0.01
DUAL_CEO	301	0.12	0.32	0.00	0.00	0.00	0.00	1.00
BOARD_SIZE	257	6.48	1.53	3.00	5.00	6.00	7.00	11.00
BOARD_IND%	257	71.15	16.65	20.00	60.00	71.43	83.33	100.00
GENDER_CEO	238	0.90	0.30	0.00	1.00	1.00	1.00	1.00
GENDER_CHAIRMAN	257	0.84	0.36	0.00	1.00	1.00	1.00	1.00
FEMALE%	257	17.44	17.87	0.00	0.00	16.67	28.57	80.00
BOARD_1%	301	0.61	0.49	0.00	0.00	1.00	1.00	1.00
MGT_OWN%	256	6.26	11.17	0.00	0.07	1.04	9.21	75.50
INST_OWN%	257	41.23	28.72	0.00	14.99	41.00	64.31	96.77
STATE_OWN%	257	13.80	25.48	0.00	0.00	0.00	7.00	96.77
BOARD_OWN%	255	19.87	23.49	0.00	1.03	10.96	31.50	97.82
LN_SIZE	245	28.90	1.80	24.57	27.53	28.82	29.97	33.47
FOLLOW	302	1.52	1.04	1.00	1.00	1.00	2.00	7.00
LOSS	257	0.02	0.12	0.00	0.00	0.00	0.00	1.00
HORIZ	284	380.28	238.78	4.00	214.88	326.50	485.00	1612.00
EPS_VOL	241	0.11	0.33	0.01	0.03	0.05	0.09	4.01

MGT_OWN%, INST_OWN%, STATE_OWN%, GENDER_CEO is correlated with GENDER_CHAIRMAN, FEMALE%... In addition, they are also correlated with variables our control. Specifically, DUAL_CEO correlates with LN_SIZE, FOLLOW, EPS_VOL...

5.3 Regression Results

5.3.1 Tests

According to Wooldridge (2010), pooled OLS is employed when you select a different sample for each period of the panel data. As expected, the result of F-test for the selection of Pooled and FEM model suggests the favor of pooled OLS regression rather than data panel regression (F-statistic = 1.18 with p-value = 0.2336). Thus, we decide to use pooled OLS estimation method.

Table 3. Pearson correlations

	ACCURACY	DUAL_CEO	BOARD_SIZE	BOARD_IND%	GENDER_CEO	GENDER_CHAIRMAN	FEMALE%	BOARD_1%	MGT_OWN%	INST_OWN%	STATE_OWN%	BOARD_OWN%	LN_SIZE	FOLLOW	LOSS	HORIZ	EPS_VOL
ACCURACY	1																
DUAL_CEO	0.08	1															
BOARD_SIZE	0.03	−0.08	1														
BOARD_IND%	−0.04	−0.40***	0.28***	1													
GENDER_CEO	−0.02	−0.02	−0.01	0.14**	1												
GENDER_CHAIRMAN	0.01	0.05	−0.08	−0.06	0.39***	1											
FEMALE%	−0.01	−0.04	0.05	−0.02	−0.29***	−0.57***	1										
BOARD_1%	0.01	0.24***	0.10*	−0.05	−0.03	−0.1	0.17***	1									
MGT_OWN%	0.03	0.28***	−0.11*	−0.25***	0.06	−0.05	0.02	0.33***	1								
INST_OWN%	0.07	−0.23***	−0.13**	0.11*	−0.06	0.11*	−0.09	−0.48***	−0.07	1							
STATE_OWN%	−0.02	−0.21***	0.03	0.08	0.08	0.13**	−0.1	−0.33***	0.08	0.60***	1						
BOARD_OWN%	−0.06	−0.02	0.04	−0.01	−0.01	−0.07	0.11*	0.52***	0.59***	−0.08	0.1	1					
LN_SIZE	0.16**	−0.12*	0.39***	0.25***	−0.15**	−0.13**	0.08	−0.03	−0.08	0.24***	0.26***	0.03	1				
FOLLOW	0.06	−0.14**	0.20***	0.16***	−0.02	−0.09	0.03	0.13**	−0.03	−0.03	0.04	0.21***	0.37***	1			
LOSS	−0.16**	−0.05	0	0.01	0.04	0.05	−0.12**	0.01	0.15**	0.03	0.04	0.1	0.04	0.02	1		
HORIZ	−0.30***	−0.09	−0.12*	0.05	0.00	0.01	0.04	0.00	0.04	0.00	−0.11*	0.09	−0.09	−0.03	0.14**	1	
EPS_VOL	−0.04	0.22***	−0.14**	−0.01	0.06	0.06	−0.09	0.06	0.14**	−0.14	−0.08	0.03	−0.24***	−0.07	0.01	−0.03	1

***, **, and * denote significant at 0.001, 0.01 and 0.05 levels.

Table 4. Variance inflation factor-VIF

Variable	VIF	1/VIF
BOARD_OWN%	2.38	0.420935
MGT_OWN%	2.22	0.450656
INST_OWN%	2.2	0.455116
STATE_OWN%	2.13	0.469452
BOARD_1%	1.96	0.509639
GENDER_CHAIRMAN	1.61	0.619368
LN_SIZE	1.59	0.629979
DUAL_CEO	1.57	0.637686
FEMALE%	1.54	0.649382
BOARD_IND%	1.49	0.671292
FOLLOW	1.36	0.736907
BOARD_SIZE	1.35	0.742419
GENDER_CEO	1.27	0.788716
EPS_VOL	1.19	0.841894
LOSS	1.17	0.851195
HORIZ	1.15	0.870235
Mean VIF	1.64	

5.3.2 Testing the Violation of Hypotheses in the Model

Table 4 shows the VIF value for each variable in the model. The VIF value of the variables is less than 10, and the mean of the VIF is 1.64. Therefore, the selected model does not have problem with multicollinearity among independent variables.

5.3.3 Estimation Results

Table 5 reports the results estimated from Eq. (1) with ACCURACY as the dependent variable. In general, the results indicate a significant impact of firm's size and firm's losses in the past on accuracy of forecasted EPS as expected. Since the analysts tend to adjust their estimate based on firm's historical records. The market capitalization (LN_SIZE) is one of vital indicator which has significant negative effect to forecast accuracy (with t-stat = 0.01 and p-value < 0.001). In term of losses, if firms announced their losses in previous period, the accuracy in forecast would be decreased by 0.1498 (with t-stat = 0.09, p-value < 0.05), relatively strong impact to dependent variable in comparison to other factors in the model. As expected, the forecast horizon (HORIZ) has impact to forecast accuracy at high level of significance (t-stat = 0.00 with p-value <0.001). This happens as common problem occurring in forecast models in which accuracy of forecast heavily depends on the predicted interval. In our case, if the longer predicted interval is, the higher error forecast is. Regarding to FOLLOW variables, although there

are some research identified that a larger analyst following is associated with greater forecast accuracy (Mikhail, Walther, and Willis 1997; Alford and Berger 1999), it is not our case. Forecasted EPS data in this study is collected from analysis reports of securities companies, where the forecasting ability is significantly indifferent according to research conducted by An (2019). Therefore, the results indicate there is no significant impact of number of analysts following a firm on their estimate accuracy.

Next, we verify the impact of corporate governance variables on the accuracy of earnings forecasts. The direction of these effects is shown by the sign of the corporate governance variables. Contrary to our H3 hypothesis, there is no impact of DUAL_CEO on ACCURACY. It means that the quality of financial information does not depend on the duality of managers. Unexpectedly, the BOARD_SIZE and BOARD_IND% also have no impact on forecast accuracy, rejecting the proposed H2 hypothesis. It is also suggested that gender (GENDER_CEO, GENDER_CHAIRMAN, FEMALE%), large number of shareholders (BOARD_1%) have negligible impact on the analyst's forecast quality.

Considering the impact of ownership to forecast accuracy, the results confirm the significant impact of state ownership (STATE_OWN%) and institutional investor ownership (INST_OWN%) on forecast accuracy. The estimated coefficient of state ownership is -1.32 and it is significant at 5% level, means that an increase in state ownership reduces the analyst's forecast quality due to untransparent financial information in state firm. This is consistent with our hypothesis (H4). The reason for this may come from the information asymmetry when there is a lot of state involvement. The information asymmetry in Vietnam is much higher than in the UK (Huynh et al., 2020), so further influence from the state will lead to a decrease in the quality of financial information, thereby reducing the quality of financial information analysts' forecasts. Institutional ownership (INST_OWN%) significantly explains the accuracy of analyst' forecast (estimated coefficient=1.02, t-stat = 0.00, p-value$<$0.05). It implies that an increase in the percentage of institutional ownership will increase the quality of financial information. According to Vo (2016), increasing institutional ownership reduces stock return volatility, which reduces stock return volatility leading to financial stability. Consequently, analysts' forecast quality will be increased.

5.4 Robustness Tests

5.4.1 Sub-sample Analysis - HOSE and HNX

In a further test, we divided our sample into two groups, the company listed in HNX and HOSE exchanges. We investigate the influence of corporate government on analysts' forecast accuracy between these groups.

Table 5. Pooled cross-sectional OLS regression analysis of analyst forecast accuracy and corporate governance [N = 246]

VARIABLES	**ACCURACY**[5]
DUAL_CEO	4.24
	(0.04)
BOARD_SIZE	−4.46
	(0.01)
BOARD_IND%	−0.18
	(0.00)
GENDER_CEO	20.5
	(0.04)
GENDER_CHAIRMAN	0.39
	(0.04)
FEMALE%	−0.02
	(0.00)
BOARD_1%	21.62
	(0.04)
MGT_OWN%	2.18
	(0.00)
INST_OWN%	1.02*
	(0.00)
STATE_OWN%	−1.32**
	(0.00)
BOARD_OWN%	−0.61
	(0.00)
LN_SIZE	17.91***
	(0.01)
FOLLOW	5.09
	(0.01)
LOSS	−149.85*
	(0.09)
HORIZ	−0.20***
	(0.00)

(*continued*)

[5] Coefficient estimates shown are multiplied by 1000

Table 5. (*continued*)

VARIABLES	ACCURACY
EPS_VOL	−12.04
	(0.03)
CONSTANT	−539.63
	0.22

This table displays the results of our OLS regression analysis on the impact of corporate governance on analysts' forecast accuracy. Observational cluster includes 246 observations by year from 2016–2020. For our test, we regress the accuracy of forecast on experimental variables to capture aspects of corporate governance and variables. control for factors that determine the accuracy of analysts' forecasts. Our regression analysis also includes dummy variables for firm and year fixed effects.

$ACURACY = \alpha_0 + \alpha_1 DUAL\_CEO + \alpha_2 \text{BOARD}\_SIZE + \alpha_3 BOARD\_IND\% + \alpha_4 GENDER\_CEO + \alpha_5 GENDER\_CHAIRMAN + \alpha_6 FEMALE\% + \alpha_7 BOARD\_1\% + \alpha_8 MGT\_OWN\% + \alpha_9 INST\_OWN\% + \alpha_{10} STATE\_OWN\% + \alpha_{11} BOARD\_OWN\% + +\alpha_{12} LN\_SIZE + \alpha_{13} FOLLOW + \alpha_{14} LOSS + \alpha_{15} HORIZ + \alpha_{16} EPS\_VOL + \theta_t \sum_{t=1}^{5} YR_t + \sum_{t=1}^{49} \tau \text{IND}_t + \varepsilon$

***, **, and * denote significant at 0.001, 0.01 and 0.05 levels.

Table 6 shows the estimated results by pool OLS regression. With the firm listed in HNX, analysts' forecast accuracy (ACCURACY) is related to three out of the eleven measures of governance quality. Specifically, the coefficient on GENDER_CHAIRMAN is significantly positive, means that male chairman increases the quality of financial information which increasing the level of forecast accuracy. We also find that forecast accuracy significantly decreases with the percentage of female on the board (FEMALE%) and increases with the percentage of stock hold by the institutions (INST_OWN%). In contrast, with the firm listed in HOSE, however, we cannot find any significant relationship between governance quality and forecast accuracy. The difference in law environment can be set off this result.

Table 6. Pooled cross-sectional OLS regression analysis of analyst forecast accuracy and corporate governance: SUB- sample analysis - HOSE and HNX

VARIABLES	ACCURACY[6]	
	HNX	HOSE
CONSTANT	−1710.18*	−482.73**
	(0.82)	(0.20)

[6] Coefficient estimates shown are multiplied by 1000

(*continued*)

Table 6. (*continued*)

VARIABLES	ACCURACY	
	HNX	HOSE
DUAL_CEO	214.21	13.11
	(0.24)	(0.03)
BOARD_SIZE	−52.43	0.06
	(0.03)	(0.00)
BOARD_IND%	2.52	.06
	(0.00)	(0.00)
BOARD_1%	80.60	26.87
	(0.10)	(0.03)
GENDER_CEO	9.41	34.70
	(0.18)	(0.04)
GENDER_CHAIRMAN	516.19*	−10.87
	(0.27)	(0.03)
FEMALE%	−4.91**	0.41
	(0.00)	(0.00)
MGT_OWN%	−1.89	0.92
	(0.01)	(0.00)
INST_OWN%	2.38*	0.58
	(0.00)	(0.00)
STATE_OWN%	−1.00	−0.83
	(0.00)	(0.00)
BOARD_OWN%	2.80	−0.28
	(0.00)	(0.00)
LN_SIZE	45.55	13.02*
	(0.03)	(0.01)
FOLLOW	−34.99	1.17
	(0.041)	(0.01)
LOSS	0.00***	−181.89**
	(0.00)	(0.086)
HORIZ	−2.09*	−0.09*
	(0.00)	(0.00)
EPS_VOL	−166.06	−0.42
	(0.20)	(0.03)

This table displays the results of our OLS regression analysis on the impact of corporate governance on analysts' forecast accuracy with sub-sample by HNX and HOSE.
****, **, and * denote significant at 0.001, 0.01 and 0.05 levels.*

5.4.2 Sub-sample Analysis – Based on the Number of Analysts

In this part, we divided our sample into two groups: The firm with the number of analysts following is one and the firm with the number of analysts following is more than one. We want to investigate the difference between two groups.

Table 7 shows the effects of corporate governance on analysts' forecasts accuracy fro each sub-sample. We find that forecast accuracy significantly increases with the percentage of the institutions (INST_OWN%) with the firms with following by one analyst and decreases with the firm with following by many analysts.

Table 7. Pooled cross-sectional OLS regression analysis of analyst forecast accuracy and corporate governance: SUB- sample analysis – FOLLOW is 1 and > 1.

VARIABLES	**FOLLOW**	
	>1	**1**
CONSTANT	−537.78**	−117.08
	(0.26)	(0.19)
DUAL_CEO	2.32	−83.67
	(0.04)	(0.06)
BOARD_SIZE	−6.75	−2.39
	(0.01)	(0.01)
BOARD_IND%	−0.61	0.43
	(0.001)	(0.00)
BOARD_1%	21.38	−18.93
	(0.04)	(0.03)
GENDER_CEO	30.42	31.57
	(0.05)	(0.04)
GENDER_CHAIRMAN	−9.71	−15.78
	(0.05)	(0.03)
FEMALE%	−0.26	0.03
	(0.00)	(0.00)
MGT_OWN%	1.89	1.58
	(0.00)	(0.00)
INST_OWN%	1.43**	−0.74*
	(0.00)	(0.00)
STATE_OWN%	−1.77**	−0.08
	(0.00)	(0.00)
BOARD_OWN%	−0.78	−0.12
	(0.00)	(0.00)
LN_SIZE	19.75**	6.03
	(0.01)	(0.01)

(*continued*)

Table 7. (*continued*)

VARIABLES	FOLLOW	
	>1	1
LOSS	−136.57	0***
	(0.10)	(0.00)
HORIZ	−2.21***	−0.14***
	(0.00)	(0.00)
EPS_VOL	−3.86	−797.24***
	(0.04)	(0.17)

This table displays the results of our OLS regression analysis on the impact of corporate governance on analysts' forecast accuracy with sub-sample by number of analysts following a firm.
****, **, and * denote significant at 0.001, 0.01 and 0.05 levels.*

5.4.3 Sub-sample Analysis – State Ownership and Non-state Ownership Firm

In further examination on impact of corporate governance, we conduct analysis on firms owned by state and non state firms (private firms). The sample is divided into two groups: The firm with the percentage of stock hold by the state is zero and the firm with the percentage of stock hold by state is more than zero.

Table 8 shows the effects of corporate governance on analysts' forecasts accuracy. For group of non-state firms, we find that the forecast accuracy increases with the percentage of stock hold by the institutions (INST_OWN%), the percentage of stock hold by the management (MGT_OWN%) and decreases with the percentage of stock hold by the board (BOARD_OWN%) at high level of significance. Whereas there is no evidence on the relationship of corporate governance on forecast accuracy for the group of state-owned firms.

Table 8. Pooled cross-sectional OLS regression analysis of analyst forecast accuracy and corporate governance: SUB-sample analysis – STATE_OWN% is zero and non zero.

VARIABLES	ACCURACY[7]	
	Non-state firms	State owned firms
CONSTANT	−616.39***	−756.25
	(0.16)	(0.73)
DUAL_CEO	−13.87	94.46
	(0.02)	(0.20)
BOARD_SIZE	−0.01	−25.26
	(0.01)	(0.03)

(*continued*)

[7] Coefficient estimates shown are multiplied by 1000

Table 8. (*continued*)

VARIABLES	ACCURACY	
	Non-state firms	**State owned firms**
BOARD_IND%	−0.60	1.15
	(0.00)	(0.00)
BOARD_1%	21.51	−50.78
	(0.03)	(0.13)
GENDER_CEO	33.00	21.03
	(0.03)	(0.13)
GENDER_CHAIRMAN	−9.17	15.16
	(0.03)	(0.12)
FEMALE%	−0.41	2.48
	(0.00)	(0.003)
MGT_OWN%	3.12***	6.08
	(0.00)	(0.01)
INST_OWN%	1.06**	0.03
	(0.00)	(0.00)
BOARD_OWN%	−1.00**	−0.58
	(0.00)	(0.002)
LN_SIZE	21.06***	26.52
	(0.01)	(0.03)
FOLLOW	−1.73	14.30
	(0.01)	(0.04)
LOSS	−66.42	−557.76
	(0.07)	(0.45)
HORIZ	−0.19***	−0.19
	(0.00)	(0.00)
EPS_VOL	−7.55	246.14
	(0.02)	(0.77)

This table displays the results of our OLS regression analysis on the impact of corporate governance on analysts' forecast accuracy with sub-sample by state-owned firms and non-state firms.
****, **, and * denote significant at 0.001, 0.01 and 0.05 levels.*

6 Conclusion

Our results show that there is a negative effect of state ownership and a positive effect of institutional ownership on the analyst's forecast accuracy. Other corporate governance features are insignificant. The investors can consider the roles of two types of ownership

when considering the analysts' forecast to make investment decisions. The policy makers can put more policies to improve the corporate governance effectiveness to bring more transparent environment which provide high quality financial statements for the analysts' forecasts. The analysts should consider their bias when forecasting the earnings of firms with different corporate governance characteristics.

Our study still has some limitations. The results could be more reliable with further robustness tests, especially endogeneity concerns.

References

Aboud, A., Roberts, C., Mansour, Z.A., The impact of IFRS 8 on financial analysts' earnings forecast errors: EU evidence, *Journal of International Accounting, Auditing and Taxation*, Vol. 33, pp. 2–17 (2018)

Adut, D., Duru, A., Galpin, W. L., The role of corporate governance in meeting or beating analysts' forecast, *Journal of Accounting and Public Policy*, Vol. 30, Issue 2, pp. 188–198 (2011)

Agrawal, A., Chadha, S., Corporate governance and accounting scandals. *Journal of Law and Economics*, Vol. 48(2), pp. 371–406 (2005)

Almeida, J. E. F., Dalmácio, F. Z., The effects of corporate governance and product market competition on analysts' forecasts: Evidence from the Brazilian capital market, The International Journal of Accounting, Vol. 50, Issue 3, pp. 316–339 (2015)

An, N. D. H., Do sell-side analysts exhibit differential forecasting accuracy? The case of top securities companies in Vietnam, *Doctoral dissertation*, International University-HCMC (2019)

Ayemere, I. L., Afensimi E.., Audit committee attributes and earnings management: Evidence from Nigeria, *International Journal of Business and Social Research*, Vol. 05 (04), pp. 14–23 (2015)

Badru, B.O., Ahmad-Zaluki,N.A., Wan-Hussin, W.N., Board characteristics and the amount of capital raised in the Malaysian IPO market, *Journal of Multinational Financial Management*, Vol. 42–43,pp. 37–55 (2017)

Beasley, Mark S., An empirical analysis of the relation between the board of director composition and financial statement fraud, *The Accounting Review*, Vol. 71, pp. 443–465 (1996)

Brickley, J.A., Zimmerman, J.L., Corporate governance myths: Comments on armstrong, guay, and weber, *Journal of Accounting and Economics*, Vol. 50 (2–3), pp. 235–245 (2010)

Bruton, G. D., Peng, M. W., Ahlstrom, D., Stan, C., Xu, K., State-owned enterprises around the world as hybrid organizations, *Academy of Management perspectives*, Vol. 29(1), pp. 92–114 (2015)

Byard, D., Li, Y., Weintrop, J., Corporate governance and the quality of financial analysts' information, *Journal of Accounting and Public Policy*, Vol. 25, pp. 609–625 (2006)

CFA Institute, Corporate Governance and ESG: An Introduction, Reading 3 (2017)

CFA Institute Centre for Financial Market Integrity, The Corporate Governance of Listed Companies: A Manual for Investors, 2nd ed. (Charlottesville, VA: CFA Institution) (2009)

Connelly, J. T., Limpaphayom, P., Nguyen, H. T., Tran, T. D., A tale of two cities: Economic development, corporate governance and firm value in Vietnam, *Research in International Business and Finance*, Vol. 42, pp. 102–123 (2017)

Chahine, S., Daher, M., Saade, S., Doing good in periods of high uncertainty: Economic policy uncertainty, corporate social responsibility, and analyst forecast error, *Journal of Financial Stability*, Vol. 56, 100919 (2021)

Chourou, L., Purda, L., Saadi, S., Economic policy uncertainty and analysts' forecast characteristics, *Journal of Accounting and Public Policy*, Vol. 40, Issue 4, 106775 (2021)

Dao, L. T., & Phuc, Doan N., The influence of corporate governance and ownership structure on agency costs: The case of equitized listed companies in Vietnam, *Journal of Financial Research - Marketing*, Vol. 69(3), pp. 28–39. (2022)

Datta, S., Doan, T., Iskandar-Datta, M., Top executives' gender and analysts' earnings forecasts, *Finance Research Letters*, Vol. 47, 102965 (2022)

Demmer, M., Pronobis, P., & Yohn, T.L., Financial statement-based forecasts and analyst forecasts of profitability: The effect of mandatory IFRS adoption. Retrieved from SSRN: http://ssrn.com/abstract=2544566 (2015)

Diem, N.N.P., Huyen, P.T., Nga, T.T.N., The internal characteristics that affect the quality of financial statement information: Empirical evidence in Vietnam, *Journal of Finance and Marketing Research*, No. 58, 08/2020 (2020)

Duyen, L. T. N., Financial reporting quality, corporate governance and idiosyncratic volatility-Evidence from Vietnam, *Doctoral dissertation*, International University-HCMC (2019)

Efendi, J., Srivastava, A., & Swanson, E. P., Why do corporate managers misstate financial statements? The role of option compensation and other factors,. *Journal of Financial Economics*, Vol. 85(3), pp. 667–708 (2007)

Eliwa, Y., Haslam, J., Abraham ,S., Earnings quality and analysts' information environment: Evidence from the EU market, *Journal of International Accounting, Auditing and Taxation*, Vol. 42, 100373 (2021)

Freeman, N. J., Nguyen, V.L., Corporate governance in Vietnam: The beginning of a long journey, Private sector discussions no. 22, World Bank, Washington, DC (2006)

Gerakos, J., & Gramacy, R., Regression-based earnings forecasts, *Chicago Booth Research Paper*, pp 12–26 (2013)

Glaum, M., Baetge, J., Grothe, A., & Oberdörster, T., Introduction of International Accounting Standards, disclosure quality and accuracy of analysts' earnings forecasts, *European Accounting Review*, Vol. 22(1), pp. 79–116 (2013)

Guo, M., Ma, S., Ownership characteristics and earnings management in China, *The Chinese Economy*, Vol. 48(5), 372–95 (2015)

Gyimah, D., Kwansa, N.A., Kyiu, A. K., & Sikochi, A. (Siko)., Multinationality and capital structure dynamics: A corporate governance explanation, *International Review of Financial Analysis*, Vol. 76, 101758 (2021)

Hai, B.X., Nunoi, C., Corporate governance in Vietnam: A system in transition Hitotsubashi, *Journal of Commerce and Management*, Vol. 42 (1), pp. 45–65 (2008)

Huy, T. Q., The linkage between exchange rates and stock prices: Evidence from Vietnam, *Asian Economic and Financial Review*, Vol. 6(7), pp. 363–373 (2016)

Huynh, T.L.Đ., Wu, J., Duong, A.T., Information asymmetry and firm value: Is Vietnam different?, *The Journal of Economic Asymmetries*, Vol. 21, e00147 (2020)

Hwang, C. Y., Wong, K. P., Yi, L., What explains the dispersion effect? Evidence from institutional ownership, Pacific-Basin Finance Journal, Vol. 71, 101698 (2022)

Independent Directors Association, https://id.org.ge/index.php/corporate-governance/overview (2022)

Jiang, X.F., Xiong, L., Cen, T., Bai, L., Zhao, N., Zhang, J., Zheng, C.J., Jiang, T.Y., Analyst sentiment and earning forecast bias in financial markets, *Physica A: Statistical Mechanics and its Applications,* Vol. 589, 126601 (2022)

Kao, L., Chen, A., The effects of board characteristics on earnings management. Corporate Ownership & Control. *Australasian Accounting, Business and Finance Journal*, Vol. 1, No.3, pp. 96–107 (2004)

Karamanou, I., Vafeas, N., The Association between corporate boards, audit committees, and management earnings forecasts: An empirical analysis, *Journal of Accounting Research*, Wiley Blackwell, Vol. 43(3), pp. 453–486 (2005)

Kiel, G., Nicholson, G., Tunny, J.A., & Beck, J., Directors at work: A practical guide for boards. NSW, Australia: Thomson Reuters (2012)

Kubo, K., Phan, H. V, State ownership, sovereign wealth fund and their effects on firm performance: Empirical evidence from Vietnam, *Pacific-Basin Finance Journal*, Vol. 58, 101220 (2019)

Lee, Y.J., The effects of analysts' tax expense forecast accuracy on corporate tax avoidance: An international analysis, *Journal of Contemporary Accounting & Economics*, Vol. 17, Issue 2, 100243 (2021)

Lin, T.P., Corporate governance mechanisms and earnings management in transitional countries – evidence from Chinese listed firms, *PhD Thesis*, Queensland University of Technology (2011)

Liu, N., Chen, W., Wang, J., Shi, H. Typhoon strikes, distracted analyst and forecast accuracy: Evidence from China, *Finance Research Letters*, 103359 (2022)

Liu, N., Laing, E., Cao, Y., Zhang, X., Institutional ownership and corporate transparency in China, *Finance Research Letters*, Vol. 24, pp. 328–336 (2018)

Mabsali, Y. K. A., Hayward, R., Eliwa, Y. (2021), Managerial tools used to meet or beat analyst forecasts: Evidence from the UK, *Journal of International Accounting, Auditing and Taxation,* Vol. 43, 100383

Mark, S.B., An empirical analysis of the relation between the board of director composition and financial statement fraud, *The Accounting Review,* Vol. 71, No. 4, pp. 443–465 (1996)

Minh, T.L., Walker, G., Corporate governance of listed companies in Vietnam, *Bond Law Review*, Vol. 20 (2), pp. 1–80 (2008)

Monahan, S. J. (2018), Financial statement analysis and earnings forecasting. *Foundations and Trends in Accounting*, Vol. 12(2), pp. 105–215.

Ngo, M.T., Walter, N., & Ann, J., Government ownership and firm performance: The case of Vietnam, *International Journal of Economics and Financial Issues*, Vol. 4, No. 3, pp. 628–650 (2014)

Nguyen, A. H., Nguyen, L. H., Doan, D. T., Ownership structure and earnings management: Empirical evidence from the Vietnam real estate sector, *Real Estate Management and Valuation*, Vol. 28(2), pp. 37–51 (2020)

Nguyen, A. H., Vu, T. M. T., Doan, Q. T. T., Corporate governance and stock price synchronicity: Empirical evidence from Vietnam, International Journal of Financial Studies. Vol. 8(2), (2020b). https://doi.org/10.3390/ijfs8020022

Nguyen, D.C., Corporate governance in Vietnam: Regulations, practices and problems CIEM-GTZ, Hanoi (2008)

Nguyen, D.H., Trinh, Q.T., & Bui, H.G., The impact of the anchoring and adjustment bias on analysts' forecast in Vietnam stock market, *Journal of Economics and Development*, Vol. 15, No.3, pp. 59 – 76. (2013)

Nguyen, T., Bai, M., Hou, Y., Vu, M. C., Corporate governance and dynamics capital structure: evidence from Vietnam, *Global Finance Journal*, Vol. 48, 100554 (2021)

OECD, Implementing the white paper on corporate governance in Asia OECD Publishing, Paris (2006)

Poli, S. , Do ownership structure characteristics affect Italian private companies' propensity to engage in the practices of "earnings minimization" and "earnings change minimization"?, *International Journal of Economics and Finance*, Vol. 7(6), pp. 193–207. (2015)

Phuong, N. T. T., & Hung, D. N., Board of directors and financial reporting quality in Vietnam listed companies, *International Journal of Financial Research*, Vol. 11(4), pp. 296–305. (2020)

Rahman, M.J., Zhang, J., Dong, S., Factors affecting the accuracy of analyst's forecasts: A review of the literature, *Academy of Accounting and Financial Studies Journal*, Vol. 23, Issue 3 (2019)

Robert, Kim., Sangwan, Kim., Does revenue-expense matching play a differential role in analysts' earnings and revenue forecasts?, *The British Accounting Review,* Vol. 53, Issue 5, 101033 (2021)

Sakawa, H., Watanabel, N., Gu, J., Internationalization and the reliance of analyst forecasts in stakeholder-oriented corporate governance: Evidence from Japanese MNEs, Pacific-Basin Finance Journal, Vol. 73, 101755 (2022)

Shleifer, A. and Vishny, R.W., A survey of corporate governance, *The Journal of Finance* (1997)

Smaili, N., & Labelle, R., Corporate governance and financial reporting irregularities: http://docplayer.net/12149068-Corporate-governance-and-financial-reportingirregularities-nadia-smaili-university-of-quebec-in-montreal-business-school.html. (2013)

Tam, T. M., Minh, L. Q., Khuyen, L. T., & Thanh, N. P., Earnings quality: Does state ownership matter? Evidence from Vietnam, *In the International Econometric Conference of Vietnam,* pp. 477–496, Springer, Cham (2019)

Tan, T.T.G., Duong, T.T., The influence of board characteristics on material misstatement of financial statements: Empirical evidence in Vietnam, *Journal of Asian Business and Economic Studies*, Vol. 27(8), pp. 42–60 (2016)

Tran, N.P., Van, L. T. H., Vo, D. H., The nexus between corporate governance and intellectual capital in Vietnam, *Journal of Asia Business Studies*, Vol. 14 No. 5, pp. 637–650. https://doi.org/10.1108/JABS-01-2020-0007 (2020)

Uyar, A., Fernandes, V., Kuzey, C., The mediating role of corporate governance between public governance and logistics performance: International evidence. *Transport Policy*, Vol. 109, pp. 37–47 (2021)

Vo, X.V., Does institutional ownership increase stock return volatility? Evidence from Vietnam, *International Review of Financial Analysis*, Vol. 45, pp. 54–61 (2016)

Wang, L., and Yung, K., Do state enterprises manage earnings more than privately owned firms? The case of China, *Journal of Business Finance & Accounting*, Vol. 38 (7–8), pp. 794–812 (2011)

World Bank Report on the observance of standards and codes—Corporate governance country assessment: Vietnam World Bank, Hanoi (2006)

Zhang, C., Shride, D.G., Han, D., Wu, Y., Accurate forecasts attract clients; Biased forecasts keep them happy, *International Review of Financial Analysis,* Vol. 81, 102067 (2022)

Zheng, X., Yang, Y., Shen, Y., Labor protection, information disclosure and analyst forecasts: Evidence from China's Labor Contract Law, China Journal of Accounting Research, Vol. 15, Issue 3, 100251 (2022)

Zhou, M., Li, K., & Chen, Z., Corporate governance quality and financial leverage: Evidence from China, *International Review of Financial Analysis*, Vol. 73, 101652 (2021)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.