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Impact of Board Characteristics and State Ownership on Dividend Policy in Vietnam*

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Abstract

The relationship between board characteristics and state ownership on dividend policy has been carefully examined in the literature in developed and emerging markets. This paper would seem to be the first to analyse the impacts of board gender diversity and state ownership in the Vietnam market for the following: (1) the number of female directors on the boards of directors is about 25%, which is the highest among South-East Asian countries; and (2) Vietnam has not fully transformed into a market economy, so the state ownership in the listed firm is apparent. Therefore, it is worth trying to examine the impacts of board gender diversity and state ownership on dividend policy in Vietnam. This paper illustrates that the female CEO and female CEO duality decrease the dividend ratio, while chairwomen tend to use dividend ratio as a tool to manage the company. Moreover, Boards of Directors (BODs) with more than three female members usually decrease the dividend payout ratio. The empirical findings are consistent with agency theory, as managers increase payouts to reduce free cash flow and agency costs in firms. The results also indicate that there is an inverse relationship between state ownership and the dividend payout ratio. It is due to higher state ownership allows firms to access external debts easily, so these firms pay high dividends to reduce agency costs. Moreover, governments perceive dividends from holding capital in listed firms as a source of revenue for the state budget. Therefore, firms with higher state ownership are more likely to increase dividend payouts.

Keywords: Dividend policy, State ownership, Female CEO and duality, Board gender diversity.
JEL: J16, K38, M14.

1. Introduction

Recently, various gender diversity studies have focused on the effects of having a female CEO or female board member on firm performance (Ahern and Dittmar, 2012; Dezsö and Ross, 2012; Matsa and Miller, 2013), as well as risk-taking behaviour (Faccio et al., 2016). Furthermore, recent research has suggested that female executives can have a strong influence on specific governance policies. Shaukat et al. (2016) argue that female directors concentrate on corporate social responsibility, Miller and Triana (2009) find that female executives also invest more in research and development programs, while Faccio et al. (2016) note that female executives take fewer debts and make less risky financial decisions.

There is also evidence that female leaders tend to exert a more positive impact on the workplace environment than do their male colleagues (Carter et al., 2003; Adams and Ferreira, 2009), and that the quality of conference discussion on complex situations is also enhanced as a result of the presence of female directors.

The relationship between having a female director and the stock dividend yield has been intensively examined in the finance industry. Chen et al. (2017) examined data from 1691 companies in the USA between 1997-2001, and the results showed that the dividend yield increases with the number of female executives. Ye et al. (2019) use linear regression models for data from 8876 companies in 22 countries between 2000-2013 to conclude that a significant relationship exists between gender diversity and higher stock dividend yields.

Al-Rahahleh (2017) examines the impact of board members with gender diversity on the company's dividend policy using data from financial companies listed on the Amman Stock Exchange between 2009-2015. The results suggest that higher gender diversity would have a positive effect on dividend policy. Gyapong et al. (2019) have consistent findings with the above literature when they apply the fixed-effects model to analyze data from 326 non-financial companies listed on the Australian Securities Exchange between 2009-2014.

In striking contrast, Saeed and Sameer (2017) point out that having an additional female board member would lead to lower dividend yields in three developing markets, namely India, China, and Russia, based on data from 552 countries between 2007-2014.

In addition to gender diversity, state ownership also has an impact on dividend policy. Berle and Means (1991) suggest that state ownership encourages managers to make decisions that may not maximize the shareholder value. Shleifer and Vishny (1986), McConnell and Servaes (1990), Zingales (1994) suggest that there is a strong relationship between the ownership structure and firm performance in the US and other financial markets. Duygun et al. (2018) analyzed the dividend policy of 369 companies from Indonesia, and the results showed that government-owned companies pay higher dividends than do family-owned companies.

Wang and Yung (2011), Wang et al. (2011) also suggests that firms with higher state ownership have a higher likelihood of paying more dividends. Le and Le (2017) examine 180 listed companies on the Vietnam stock exchange between 2009-2013, and their empirical results show that companies paid higher dividends when the government was the largest shareholder.

On the other hand, Ben-Nasr (2015) observed a negative relationship between dividend policy and state ownership by analyzing data from 43 multinational corporations between 1985-2007. The author also indicates that state-owned enterprises tend to over-invest instead of paying dividends or buy back shares.

The extant literature examines the empirical relationship between either focus on gender diversity or state ownership on dividend policy. Moreover, they provide mixed findings on the impact of gender diversity and state ownership on stock dividend policy. A report from the Boston Consulting Group in 2017 indicates the number of female directors on the board of directors is about 25%, which is the highest among South-East Asian countries. Therefore, it is worth examining the impact of female directors on dividend policy in Vietnam.

As Vietnam has not yet fully transformed into a market economy, state ownership in listed firms is apparent. Thi paper uses data from 514 companies listed on the Vietnam stock exchange

between 2007-2017. The empirical findings from the paper emphasizes how the growing gender diversity on the BOD and state ownership could affect the dividend policy of listed companies in Vietnam.

2. Literaure Review

2.1 Board Gender Diversity and Stock Dividend Policy

Al-Amarneh et al. (2017) examine the effect of gender diversity on the dividend policy of 13 listed companies in the Amman Stock Exchange between 2005-2014. The research showed that BOD with gender diversity pays higher cash dividends because female directors could settle investor requirements better. However, the BOD tnds to become more conservative during a financial crisis, so they will retain capital and reduce dividends because female executives have a strategy of taking less risk.

Adams and Ferreira (2009) suggest that female CEOs attend conferences more frequently and were more diligent than male CEOs. Eckel and Füllbrunn (2015) recommend that women are more cautious than their male counterparts, so their decisions are less radical and do not show overconfidence. Companies with more female CEOs have lower financial leverage ratios because female executives tend to engage in lower debts. and also select less risky investment decisions and portfolios (Faccio et al. 2016).

Arshad et al. (2013) and Obradovich and Gill (2013) suggest that CEO duality had a significant impact on dividend policy, but they do not show how CEO gender might play a role in dividend decisions. Román-Martínez et al. (2012) claim that female CEOs could use their managing ability to cooperate with managers for personal benefits,, in which case stock dividends are reduced.

Chen et al. (2017) study the role of gender in BOD on the stock dividend policy of companies listed on the US stock exchange between 1997-2001. The empirical findings show that companies with female CEOs had a higher dividend payouts, as they tended to stock dividends as a monitoring

tool in companies with weak corporate governance. The authors emphasized the influence of individual female CEOs on dividend yields.

Ye et al. (2019) evaluated the correlation between gender diversity in BOD and stock dividends. The empirical results suggest that BOD with gender diversity use stock dividends to reduce agency costs. Specifically, both the number and ratio of female members in BOD affect dividend policies.

2.2 Capital Structure and stock Dividend

Chen and Dhiensiri (2009), Wang and Yung (2011), Wang et al. (2011), and Bradford et al. (2013) examine the impact of state ownership on the dividend policy of listed firms in China. Chen and Dhiensiri (2009) and Wang and Yung (2011) find a positive relationship between state ownership and dividend payouts, and argue that firms with higher state ownership could raise external capital quickly, so they tend to increase payouts. Similarly, Bradford et al. (2013) shows that state-owned enterprises paid higher dividends than private companies in China by explaining that the private sector had financing constraints, so they would pay fewer dividends.

Similarly, Duygun et al. (2018) show that companies with higher state ownership pay greater dividends because the Indonesian Government considers dividends from state ownership as an essential source of revenue, apart from the unavoidable corporate tax. On the other hand, Ben-Nasr (2015) indicates the negative relationship between State ownership and dividend yield, and shows that the negative impacts are more robust, especially in countries with weak protection mechanisms for investors.

2.3 Hypotheses

According to Chen et al. (2017), and Ye et al. (2019), BOD with higher gender diversity pay higher dividends. Moreover, Li and Srinivasan (2011), Wintoki et al. (2012) also argue that BOD with both male and female directors would improve business administration and better protect the interests of shareholders which, in turn, would encourage higher dividend payout. Al-Amarneh et al. (2017) argue that BOD with gender diversity would pay lower dividend yields during a financial

crisis. Furthermore, Román-Martínez et al. (2012) observe that the number of female CEOs have a negative influence on company dividend decisions.

As the relationship between board gender diversity and dividend payout is mixed, we propose the following testable hypotheses:

H_{A0}: Gender diversity in the BOD does not influence dividend payouts;
H_{A1}: H_{A0} is not correct.

Gender diversity may affect the efficiency of the board of management at both the personal and group levels. At the individual level, it is understood that women and men are different in how they can improve the efficiency of the BOD. For example, Adams and Ferreira (2009) observe that female CEOs are more diligent and joined conferences more frequently than did their male counterparts. According to Bernardi and Arnold (1997), male executives tend to pay greater attention to their incomes and career promotion opportunities, and were more likely to bypass regulations to achieve success, while female leaders preferred to follow laws and principles. Gul et al. (2011) recognizes that female directors are more sensitive to moral and ethical issues. Moreover, women have a lower risk preference than do males (Charness and Gneezy, 2012).

From these observations, we propose a second hypothesis:

H_{B0}: There are no differences between males and females in dividend decisions;
H_{B1}: H_{B0} is not correct.

Researchers have mixed findings on the relationship between State ownership and dividends. Nizar Al-Malkawi (2007), Duygun et al. (2018), Reyna (2017), Ramli (2010), Chen and Dhiensiri (2009), Wang and Yung (2011), Wang et al. (2011), and Bradford et al. (2013) indicate that higher State ownership would lead to higher dividend payouts. On the other hand, Setia-Atmaja et al. (2009) and Ben-Nasr (2015) argue that State ownership has a negative relationship with dividend yields.

Therefore, we suggest a third hypothesis:

H_{C0}: State ownership does not affect company dividend yield;

H_{C1}: H_{C0} is not correct.

3. Data and Methodology

3.1 Data

We collected the required data from the library of Ton Duc Thang University, Vietnam, and followed the suggestions in Fama and French (1992) to exclude financial and public utilities firms, and applied Winsorizing to mitigate extreme value and outliers in the sample as they can lead to biased estimates and inferences. The final data sample includes 4635 observations from 514 companies that are listed on the Vietnam Stock Exchange from 2009-2017.

We used the Panel Data method in the empirial analysis for the following reasons. Hsiao (1985), Klevmarken (1989), and Solon (1989) suggest that the Panel Data model presents data with detailed information and figures with specific complications that are sufficient for empirical research. According to Baltagi (1997), the Panel Data model provides more data than do other statistical models, has higher fluctuations, and reduces the existence of severe collinearity among the explanatory variables.

If and when it I required to analyse shifts in samples over time, the Panel Data model has the advantage of examining the repetition of diagonal units. The Panel Data model can detect and tmeasure the non-observant effects better than the poure time series model and the cross-section model. In view of these advantages, the Panel Data model is widely used in research and scientific analysis.

3.2 Variable Definitions

For the dependent variable, we follow Chen et al. (2017) and choose the Dividend Payout Ratio, which is the ratio of the total amount of dividends paid to shareholders relative to the net income

of the company (DIVNI). Dividend relative to revenue (DIVSL) is another dependent variable that is used to examine a company's stability.

Independent explanatory variables in the empirical analysis include two components, namely gender diversity in the Board of Administration (BOA) and State ownership of the company (STATE OWNERSHIP). We measure gender diversity based on the definitions given in Chen et al. (2017) and Ye et al. (2019).

According to Leary and Michaely (2011) and Harford et al. (2008), Financial Leverage and Return On Sales (ROS) affect company revenues; Earnings Per Share (EPS) reflects fluctuations in the company value, so EPS influences dividends of the company. Ye et al. (2019), Leary and Michaely (2011), and Harford et al. (2008) also observe that Cash Per Share is another indicator of dividend yield. Based on the previous studies, we choose the control variables, as shown in Table 2.

3.3 Model Specifications

In order to explore the influence of gender diversity on dividend yield, we consider the following basic Model 1:

$$\textbf{(1)}\quad DIVNI_{it} = \alpha + \beta_1 BOARDSIZE_{it} + \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \varepsilon_{it}$$

Moreover, we include the control variables into Model 1 to obtain Model 2:

$$\textbf{(2)}\quad DIVNI_{it} = \alpha + \beta_1 BOARDSIZE_{it} + \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \beta_8 LEV_{it} + \varepsilon_{it}$$

In Model 2, we add Leverage (LEV) or financial leverage, the ratio of total debt to total assets (Leary and Michaely, 2011; Harford et al. 2008). Previous studies have shown that companies with high leverage paid fewer dividends (Jensen et al. 1992). The empirical results show that companies with higher leverage face higher financing costs, so they have to retain cash to meet debt

obligations. Furthermore, these companies would be monitored closely by their creditors. Consequently, excessive financial leverage has negative impacts on company profits, so that dividends will also be affected.

In Model 3 below, we follow Leary and Michaely (2011) and Harford et al. (2008) to add the ROS variable. ROS reflects business efficiency and company financial strengths. An increase in ROS leads to improvements in business performance in order to affect the payout decision.

$$\textbf{(3)}\ DIVNI_{it} = \alpha + \beta_1 BOARDSIZE_{it} + \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \beta_8 LEV_{it} + \beta_9 ROS_{it} + \varepsilon_{it}$$

In Model 4 below, we follow Leary and Michaely (2011) and Harford et al. (2008) to add the growth rate of EPS. Earnings per share is calculated as company profit divided by the outstanding shares of its common stock. EPS directly affects stock price, so that a high EPS shows more robust business performance, with dividends tending to increase:

$$\textbf{(4)}\ DIVNI_{it} = \alpha + \beta_1 BOARDSIZE_{it} + \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \beta_8 LEV_{it} + \beta_9 ROS_{it} + \beta_{10} EPSGROWTH_{it} + \varepsilon_{it}$$

In Model (5) below, we follow Ye et al. (2019), Leary and Michaely (2011), and Harford et al. (2008) in adding CATA to the model. The cash ratio is another element in determining payouts. According to Easterbrook (1984), companies paying high dividends would have less cash in hand for management, thereby reducing agency costs. Retaining a higher cash level significantly affects company dividend payments (DeAngelo et al. 2006):

$$\textbf{(5)}\ DIVNI_{it} = \alpha + \beta_1 BOARDSIZE_{it+}\ \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \beta_8 LEV_{it} + \beta_9 ROS_{it} + \beta_{10} EPSGROWTH_{it} + \beta_{11} CATA_{it} + \varepsilon_{it}$$

In Model (6) below, we add the current ratio, where CUR measures company ability to pay short-term obligations:

$$\begin{aligned}(6)\ DIVNI_{it} = {} & \alpha + \beta_1 BOARDSIZE_{it} + \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} \\ & + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \beta_8 LEV_{it} + \beta_9 ROS_{it} \\ & + \beta_{10} EPSGROWTH_{it} + \beta_{11} CATA_{it} + \beta_{12} CUR_{it} + \varepsilon_{it}\end{aligned}$$

Inclusion of all the available variables leads to the final regression in Model 7 below:

$$\begin{aligned}(7)\ DIVNI_{it} = {} & \alpha + \beta_1 BOARDSIZE_{it} + \beta_2 FCEO_{it} + \beta_3 FCHAIR_{it} + \beta_4 FCEODUAL_{it} \\ & + \beta_5 FD1_{it} + \beta_6 FD3_{it} + \beta_7 STATEOWNERSHIP_{it} + \beta_8 LEV_{it} + \beta_9 ROS_{it} \\ & + \beta_{10} EPSGROWTH_{it} + \beta_{11} CATA_{it} + \beta_{12} CUR_{it} + \varepsilon_{it}\,.\end{aligned}$$

3.4 Research Methodology

Hwang et al. (2013) uses Panel Data and the Hausman specification test in estimating and testing the model specifications to examine the influence of financial leverage on dividend policy. Okoye et al. (2016) rexamines dividend policy, and uses the methods as used in Hwang et al. (2013). With samples presented in the Panel data, we use the Hausman test to select either the fixed effects model (FEM) or the random effects model (REM).

The sample data are collected from 514 companies listed on Vietnam stock exchange between 2009-2017. There is substantial variation among the values of some of the the variables. CUR and EPSGROWTH have high variation, whereas the other variables do not have such substantial changes over time.

Table 3 provides the summary statistics of the variable. BOARDSIZE has a maximum value of 11, a minimum value of 0, a mean value of 5.934, which shows that, on average, the Board of Administration generally has six members. The highest number of board members is 11, while a value of 0 indicates that a company did not declare the information.

FCEO, FCHAIR, FCEODUAL, FD1, and FD3 are all dummy variables, having a maximum value of 1 and a minimum value of 0. FCEO, FCHAIR, FCEODUAL, and FD3 have very low mean values of 0.078, 0.117, 0.034, and 0.075, respectively. These numbers show that, for companies listed on the Vietnam stock exchange, less than 20% had female executives holding important roles, such as CEO or chair of the board, or both.

FD1 has a mean value of 0.545, which indicates that just over one-half of the companies in the sample have at least one female director as a member of the board.

STATEOWNERSHIP has a maximum value of 0.78, a minimum value of 0.001, and a mean value of 0.17, which suggests that the average State ownership in the sample is 17%.

LEV has a maximum value of 0.914, a minimum value of 0.044, and a mean value of 0.502, which means that, on average, one dollar in assets is used to invest 0.502 dollars in debt.

ROS has a maximum value of 0.605, a minimum value of -0.707, and a mean value of 0.222, which means that one dollar in revenue leads to 0.222 dollars in profit.

EPSGROWTH has a maximum value of 19.615, a minimum value of -23.758, and a mean value of 3.785, which indicates that the average growth rate of earnings per share is 378.5%.

CATA has a maximum value of 0.258, a minimum value of 0.001, and a mean value of 0.045, which suggests that for each dollar in asset, the company has 0.045 dollars in cash.

CUR has a maximum value of 16.011, a minimum value of 0.383, and a mean value of 2.203, which shows that a company has 2.203 dollars in short-term asset funds to cover short-term debt. When this variable is more significant than 1, it shows that company ability to pay short-term debt is secured.

4. Empirical Results and Discussion

4.1 Collinearity

High collinearity arises in the data set when there are close linear dependencies among the independent explanatory variables. In short, it is a potential problem with the data, and not with the model specifiction. In Table 4, we present the Pearson correlation matrix to check the collinearity among the independent variables. Kim (2019) suggests arbitrarily that, when the correlation coefficient between two variables is greater than 0.7, there is a potential collinearity issue. Table 4 shows that there are no correlation coefficients greater than 0.7. Therefore, it seems that the variable selection is appropriate and should not affect the empirical results, namely the estimates and theirstatistical significance, that are presented below.

Consider the Variance Inflation Factor equation (VIF):

$$VIF_j = \frac{1}{1-R_j^2}$$

in which R_j^2 is the R^2 value obtained by regressing the X_j on the remaining variables. According to Hair et al. (1998), if the VIF factor is higher than 10, that means the model has severe collinearity. However, the evaluation criteria of 10 are more suitable in engineering and physics topics that do not use the Likert scale. On the other hand, in social science research, it seems that when VIF is greater than 2, the model is deemed to have high collinearity.

As there is a large number of quantitative explanatory variables in the models, the quantitative variables will use a VIF value of 2, and qualitative variables will use a VIF value of 10. Table 3 shows that the VIF of all the qualitative variables is less than ten, and the VIF of all the quantitative variables are less than 2, which means there is no severe collinearity among the variables in the alternative model specifications.

4.2 Hausman Specification Test

In order to choose between the FEM (Fixed Effects) and REM (Random Effects) models, we perform the Hausman specification test to choose between them, namely:

H_0: Error and independent variables are not related;
H_1: H_0 is not correct.

Table 5 indicates that the p-value is 0.2597, which is greater than 0.05, so we do not reject the null hypothesis, H_0, so that the REM model will be used in all cases in the empirical analysis.

4.3 Heteroskedasticity

After performing the Breusch-Pagan test for heteroskedasticity in the residuals of the estimated model, the result in Table 6 show that heteroskedasticity is present when Prob. F(12,3182) is less than α = 5%. Heteroskedasticity is a correctable flaw in the model which can affect the validity of the empirical results.

4.4 Main Empirical Findings

After resolving the presence of heteroskedasticity in the model, we have the following results:

Table 7 indicates that 79.3% of the range of the dependent variable DIVNI (dividend payout ratio) is accounted for by the independent explanatory variables in the model

The FCEO and FCEODUAL variables are critical findings in the empirical outcomes. Table 7 shows that the two variables are inversely related to the dividend payout ratio. If the CEO is female, the dividend payout ratio decreases by 13.3%; if a female CEO takes the duality position, the dividend payout ratio decreases by a smaller amount of 3.6%.

Women tend to take less risk than men, so they are less likely to raise external capital. Consequently, they are more likely to retain profits for reinvestment and development, so the payout ratio is reduced accordingly. The empirical findings are consistent with the results in Lyness and Thompson (1997), and Faccio et al. (2016)

Table 7 also shows the positive relationship between dividend payout and the FCHAIR variable. Specifically, companies with chairwomen increase the dividend payout ratio by 15.1%. This finding is consistent with those in Arshad et al. (2013), Obradovich and Gill (2013), who suggest that chairwomen tend to take less risk than their male counterparts, retain a higher proportion of profits, and use dividend payments as an administrative method.

FD3 has a negative relationship with dividend payments. When the Board of Directors has at least three female members, the dividend payout ratio is reduced by 20.4%. Román-Martínez et al. (2012) suggest that female board members tend to use their authority for personal benefits, cooperate more closely with managers, and reduce dividend payments.

STATEOWNERSHIP also has an inverse relationship with the dividend payout ratio. When State ownership in a company increases by 1%, the dividend ratio decreases by 8.3%. Setia-Atmaja et al. (2009) and Ben-Nasr (2015) suggest that firms with higher state ownership may access external debts more easily, so that these firms do not pay higher dividends to attract capital from investors. Moreover, these companies use retained earnings to over-invest on impractical projects. In this case, our empirical findings are not consistent with those in Chen and Dhiensiri (2009), Wang and Yung (2011), and Bradford et al. (2013).

EPSGROWTH is inversely proportional to DIVNI. When EPS increases by 1%, the dividend payout ratio decreases by 1.5%. This empirical outcome is not consistent with those in Nizar Al-Malkawi (2007), and Farooq et al. (2009), who suggest that EPS could have a positive effect on company dividend ratios. However, an alternative explanation is that the EPS growth rate and dividend ratio do not have a stable relationship with each other, as the EPS growth rate is affected by multiple factors, such as the change in the number of shares outstanding and the earnings growth rate. When a company decides to issue additional shares, EPS will decrease accordingly.

There is a positive relationship between financial leverage and the payout ratio. When a company increases leverage by an additional 1%, the dividend payout ratio increases by 16.5%. The empirical findings in the paper are consistent with those in DeAngelo et al. (2006). The purpose

of using leverage is to enhance profits, which can accelerate earnings if a company uses leverage appropriately.

However, Rozeff (1982), Jensen et al. (1992), and Ye et al. (2019) observed that companies with high leverage tended to pay fewer dividends since these companies need to retain their earnings to pay debts on time. Furthermore, indebted companies will be monitored tightly by creditors, so these firms may not pay a high dividend as do less levered firms.

ROS is inversely proportional to the dividend ratio. According to the empirical result, when ROS increases by 1%, the dividend ratio decreases by 84.9%. This result is consistent with that in Ben-Nasr (2015) because a higher ROS shows that the firm is in a productive business phases, so it is pursuing development plans and milestones rather than using profits to pay dividends. However, this empirical result is not consistent with that in Easterbrook (1984) and Jensen and Meckling (1976), who find that a company with high earnings would pay higher dividends in order to reduce agency costs that arise from free cash flows.

The cash ratio is inversely proportional to the dividend payout ratio. When the cash ratio increases by 1%, the dividend ratio decreases by 158%. This empirical outcome is consistent with agency theory in DeAngelo et al. (2006), Amidu and Abor (2006), and Ye et al. (2019). This outcome suggests that a firm will pay higher dividends to prevent managers from over-investing and wasting resources, so that it will lead to reductions in the cash ratio.

The current ratio has positive effects on dividend ratio. The empirical results indicate that when the current ratio increases by 1%, the dividend payout ratio increases by 1.5%. A high value of the current ratio means that short-term asset increases while short-term debt decreases, the debt ratio decreases, thereby reducing interest payments, while increasing profits and dividend yield. This empirical finding is consistent with those in Ye et al. (2019).

4.5 Robustness Checks

In order to test the sustainability of the model, we replace the dependent variable DIVNI with DIVSL, and the results are presented in Table 8.

The empirical results presented in Tables 8 and 9 show that all the variables have a statistical significance of 1% when we test sustainability using the alternative dependent variable DIVSL. BOARDSIZE and FD1 do not have statistical significance when we consider the effects on DIVNI, but they have statistical significance when we test the effects on DIVSL. However, the correlation coefficients of BOARDSIZE with FD1 and also with DIVSL are only 0.0004 and -0.0041, respectively.

FCEO, FCEODUAL, FD3, STATEOWNERSHIP, EPSGROWTH, CATA, and CUR all have statistical significant effects on DIVSL and DIVNI. Specifically, FCEO, FCEODUAL, FD3, STATEOWNERSHIP, EPSGROWTH, and CATA are inversely related to DIVNI and DIVSL, while FCHAIR and CUR are proportional to both DIVNI and DIVSL.

In summary, we have replaced the dependent variable with an alternate to test the sustainability of the model. BOARDSIZE and FD1 do not have statistical significance in the model with DIVNI, or they have minimal impacts on DIVSL. Moreover, all the other variables have statistical significance and appropriate economic interpretations. Consequently, the model is sustainable, despite the estimated coefficients being reduced in numerical value.

5. Concluding Remarks

The paper examined the effects of non-financial and financial factors on the dividend payout ratio of listed companies on the Vietnam stock exchange. The analysis focused on gender diversity and State ownership factors. Previous studies about this topic in Vietnam are scarce and generally unavailable, so the present research findings provide fatiual evidence and practical suggestions for public policy in Vietnam.

The empirical results showed that the female CEO and CEO chairwoman decrease the dividend ratio, while chairwomen tend to use the dividend ratio as a tool in managing companies effectively.

Moreover, it was found that BODs with more than three female members tended to decrease the dividend payout ratio.

Following Setia-Atmaja et al. (2009) and Ben-Nasr (2015), we support the theory, H_{C1}: State ownership affects the dividend ratio. The empirical results showed that the dividend ratio decreases when State ownership increases, primarily due to higher state ownership allowing firms to access external borrowing plans easily, so these firms are willing to pay high dividends in order to reduce agency costs.

In conclusion, we suggest that gender diversity in BODs and State ownership influence the dividend payout ratio. The empirical findings can be used to enhance the decisions of investors who want to consider profits through cash dividend payments. The results can be used as a basis for to enhancing corporate governance for listed firms in Vietnam through public regulatory policy, and more widely for countries at similar stages of economic and financial development.

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Table 1

Independent Variable Definitions

Variable	Description	Expected sign
BOARDSIZE	Number of total members in BOA in year t	+/-
FCEO	1 if company's CEO is female, 0 otherwise, in year t	-
FCHAIR	1 if BOA has a chairwoman, 0 otherwise, in year t	+
FCEODUAL	1 if CEO-Chairman is female, 0 otherwise, in year t	+
FD1	1 if company has at least 1 female member in BOA, 0 otherwise, in year t	+
FD3	1 if company has at least 3 female members in BOA, 0 otherwise, in year t	+/-
STATE OWNERSHIP	State ownership (%), in year t	+/-

Table 2

Control Variable Definitions

Variable	Interpretation	Calculation method	Expected sign
LEV	Financial Leverage	Debt to asset ratio	-
ROS	Return On Sales	Operating Profit/Net Sales	+/-
EPSGROWTH	Growth of earnings per share overtime	(EPS this year)/(EPS last year) - 1	+/-
CATA	Cash ratio	Total cash/Total asset	-
CUR	Current ratio	Short-term asset/short-term debt	+

Table 3

Descriptive Statistics

	Number of observations	Average value	Max value	Min value	Standard deviation
BOARDSIZE	3967	5.934	11	0	1.404
FCEO	3967	0.078	1	0	0.269
FCHAIR	3967	0.117	1	0	0.322
FCEODUAL	3967	0.034	1	0	0.181
FD1	3967	0.545	1	0	0.498
FD3	3967	0.075	1	0	0.263
STATEOWNERSHIP	3967	0.170	0.790	0.001	0.235
LEV	3967	0.502	0.914	0.044	0.222
ROS	3967	0.067	0.605	-0.707	0.143
EPSGROWTH	3967	-0.040	19.615	-23.758	3.785
CATA	3967	0.045	0.258	0.001	0.048
CUR	3967	2.203	16.011	0.383	2.287

Table 4

Pearson Correlations Between Independent Variables

Correlation Probability	BOARDSIZE	FCEO	FCHAIR	FCEODUAL	FD1	FD3	SHNN	LEV	ROS	EPSRATIO	CATA	CUR
BOARDSIZE	1.000000 -----											
FCEO	0.021865 0.1685	1.000000 -----										
FCHAIR	0.085032 0.0000	0.290164 0.0000	1.000000 -----									
FCEODUAL	0.043278 0.0064	0.652523 0.0000	0.510630 0.0000	1.000000 -----								
FD1	0.171708 0.0000	0.255815 0.0000	0.252696 0.0000	0.167866 0.0000	1.000000 -----							
FD3	0.291661 0.0000	0.220039 0.0000	0.338959 0.0000	0.291198 0.0000	0.255866 0.0000	1.000000 -----						
SHNN	-0.084451 0.0000	-0.066125 0.0000	-0.010609 0.5041	-0.038422 0.0155	-0.086682 0.0000	-0.087797 0.0000	1.000000 -----					
LEV	-0.032729 0.0393	-0.054843 0.0005	-0.060338 0.0001	-0.082939 0.0000	-0.128086 0.0000	-0.071674 0.0000	0.060114 0.0002	1.000000 -----				
ROS	0.033194 0.0366	-0.004109 0.7958	0.042700 0.0072	0.040260 0.0112	0.023030 0.1470	0.027119 0.0877	0.025032 0.1149	-0.295361 0.0000	1.000000 -----			
EPSRATIO	0.025989 0.1017	-0.006153 0.6984	0.010624 0.5035	0.012102 0.4461	0.016017 0.3132	0.006951 0.6616	0.027288 0.0857	-0.010676 0.5014	0.253319 0.0000	1.000000 -----		
CATA	-0.010427 0.5115	0.057330 0.0003	-0.004510 0.7764	0.037467 0.0183	0.025440 0.1091	0.020035 0.2071	0.053472 0.0008	-0.086809 0.0000	-0.011505 0.4688	0.054320 0.0006	1.000000 -----	
CUR	0.002924 0.8539	0.029749 0.0610	0.018765 0.2374	0.022454 0.1574	0.043865 0.0057	0.062488 0.0001	-0.046537 0.0034	-0.592462 0.0000	0.247077 0.0000	0.006171 0.6976	0.024113 0.1289	1.000000 -----

Table 5

Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Cross-section random	14.67509	12	0.2597

Table 6

Heteroskedasticity Test

F-statistic	4.597	Prob. F(12,3182)	0.0000
Obs*R-squared	54.446	Prob. Chi-Square(12)	0.0000
Scaled explained SS	1014.134	Sum of squared resid	396151.3

Table 7

Linear Regression

Variable name	Coefficient	T-statistics	Probability
BOARDSIZE	0.003	1.329	0.18392
FCEO	-0.133***	-12.601	0.00000
FCHAIR	0.151***	20.517	0.00000
FCEODUAL	-0.036**	-2.173	0.02987
FD1	-0.003	-0.470	0.63807

FD3	-0.204***	-28.330	0.00000
STATEOWNERSHIP	-0.083***	-7.801	0.00000
EPSGROWTH	-0.015***	-9.241	0.00000
LEV	0.165***	12.339	0.00000
ROS	-0.849***	-37.123	0.00000
CATA	-1.589***	-40.436	0.00000
CUR	0.015***	23.717	0.00000
Constant	0.747***	36.896	0.00000
R2 modification	0.793		
Statistical value F	0.000		
Residual sum of squares	65.588		

Table 8

Robustness Checks

Variable name	Coefficient	t-statistic	Probability
BOARDSIZE	0.0004***	2.796	0.005
FCEO	-0.0023***	-11.602	0.000
FCHAIR	0.0104***	16.868	0.000
FCEODUAL	-0.0093***	-13.168	0.000
FD1	-0.0040***	-22.844	0.000

FD3	-0.0041***	-9.691	0.000
STATEOWNERSHIP	-0.0022***	-5.410	0.000
EPSGROWTH	-0.0015***	-19.722	0.000
LEV	-0.0538***	-43.574	0.000
ROS	0.2265***	55.053	0.000
CATA	-0.1195***	-43.505	0.000
CUR	0.0018***	5.414	0.000
Constant	0.053***	37.049	0.000

Table 9

Comparisons Between Main Results and Robustness Test

Variable	Coefficient (Regression with DIVNI)	Coefficient (Sustainability with DIVSL)
BOARDSIZE	0.003	0.0004***
FCEO	-0.133***	-0.0023***
FCHAIR	0.151***	0.0104***

FCEODUAL	-0.036**	-0.0093***
FD1	-0.003	-0.0040***
FD3	-0.204***	-0.0041***
STATEOWNERSHIP	-0.083***	-0.0022***
EPSGROWTH	-0.015***	-0.0015***
LEV	0.165***	-0.0538***
ROS	-0.849***	0.2265***
CATA	-1.589***	-0.1195***
CUR	0.015***	0.0018***
Constant	0.747***	0.053***