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# Effect of dividend policy on stock price volatility of companies listed on the stock market of Vietnam



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## ABSTRACT

The decision on dividend policy is considered an important decision in financial management and dividend policy is always an issue attracting the attention of investors. The purpose of this research is to identify the impact of dividend policy on the stock price volatility of companies in the stock market of Vietnam. Understanding this matter helps companies to choose an appropriate dividend policy and at the same time helps investors have an overview to make the most suitable and optimal investment decisions. The research has built a regression model to assess the impact of dividend policy on stock price volatility of companies listed on the stock market in Vietnam. The strength of this research is to use the E-view software in quantitative analysis to build a panel data regression model. At the same time, the researchers used the Hausman test to select the appropriate model compared to other research. Research data is collected using a sample size of 100 companies in all industries (except companies in the banking and finance industry) listed on two stock exchanges HOSE and HNX from 2015 to 2020. With the application of E-view software in quantitative analysis to build table data regression models, the article has built a regression model to determine the relationship and level of impact of dividend policy on the stock price volatility of companies. The research results show that the variables of dividend policy have no impact on stock price volatility, which is totally in contrast to previous studies in Vietnam.

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## 1. Introduction

In recent years, investors in Vietnam's stock market have paid great attention to dividend policy. In addition to paying attention to investment performance and future development, dividend payment also attracts investors' attention before they decide whether to invest in shares or not. A dividend policy is a policy that determines how much of a company's after-tax profits will be distributed, how much is retained for reinvestment, and how much is used to pay dividends to shareholders. For enterprises, dividend policy is used as a regulating tool between distributed profit and retained profit so as to meet both the investment and development capital needs of the business and

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the requirements of shareholders to attract capital from investors. With the ultimate goal of maximizing the value of the company, businesses often attention to improving their business value. However, many companies are not properly aware of the importance of dividend policy and have no clear and strategic directions for profit distribution policy.

The stock price is considered by many investors as an important criterion for making a decision when investing in shares. Stock price fluctuations originate from many different factors such as The law of supply and demand, information about Vietnam's macroeconomic situation, investors' 'herd' psychology-fear or greed, rumors about buying and selling shares of large domestic and foreign organizations, or possibly manipulating stock prices. In particular, an event that is considered prominent in the past is the one happening on August 10, 2017, the derivatives market officially opened to operate as a risk-hedging tool, contributing actively to stabilizing the primary market. Currently, the derivatives market has two derivative products on the primary assets: The VN30 stock index and the 5year government bond, in which the Government bond futures contract is a proprietary product for institutional investors.

In addition, since the beginning of 2020, the COVID-19 pandemic appeared and has developed in a complicated manner, seriously affecting all countries in the world. Vietnam's economy has a large openness and deepening international integration, so it has suffered many negative impacts of the epidemic in the socio-economic fields. Enterprises are severely affected, and many businesses have to suspend operations or go bankrupt, dissolve or reduce the scale of production and business. The epidemic has greatly affected the business activities of listed companies, affecting the dividend payment policy of companies whereby stock prices on the two exchanges HOSE and HNX have significant volatility.

Consequently, this study aims to find out the relationship between dividend policy and stock price volatility in the Vietnamese stock market over the past time. This is also the basis to help regulators, businesses, investors and researchers have a more comprehensive view of stock price movements in Vietnam.

# 2. Literature review and hypotheses

## 2.1. Literature review

## 2.1.1. Theoretical basis

There have been many previous studies as an initial, theoretical basis explaining the relationship between dividend policy and stock price volatility, thus, there are two opposing opinions. There are two schools of theory, independence, and nonindependence of dividend policy.

The theory of dividend policy independence indicates that a company's dividend policy has no impact on stock prices. This theory is based on the assumption that capital markets are perfect, investor behavior is rational, and future sources of returns are certain. A typical example of this school is the study by Miller and Modigliani (1961).

The theories belonging to the school of nonindependence of dividend policy include The bird in the palm theory, signaling theory, agency cost theory, and customer group effect theory. The bird in the palm theory emphasizes that an investor prefers cash flow from dividends to cash flow from capital gains because future capital gains can yield higher returns than current dividends but no guarantee is certain. Signaling theory shows that dividend payments carry information, which signals to investors about the company's prospects and leads to an increase in stock prices. Due to the existence of information asymmetry between managers and investors, investors always hold less information than managers, so dividends are considered the most effective tool to communicate internal information. The agency cost theory arises when there is a conflict of interest between the manager who is the

user of the assets and the shareholder in the company who is the owner of the assets. Dividend payments can serve to realign the interests of the parties and minimize conflicts between managers and shareholders. The customer group effect theory states that investors are viewed as customers with different preferences and different individual needs. Therefore, changing the dividend policy in the absence of a major unsatisfied customer group will have a negative impact on the stock price. Supporters of the non-independence school of dividend policy include such authors as Black and Scholes (1974), Asquith and Mullins (1983), Baskin (1989), Allen and Rachim (1996), and Ramadam (2013). These studies all argue that the theory of dividend policy independence is unrealistic and stock price volatility is related to the dividend policy of the company.

# 2.1.2. Experimental studies

In addition to the mentioned theories, previous empirical studies have also provided evidence on the relationship between dividend policy and stock price volatility of companies listed on the stock market.

Miller and Modigliani (1961) proved that under certain conditions of perfect capital markets, all dividend policies are the same, and dividend policy has no effect on stock prices. Miller and Modigliani (1961) argued that dividend policy has no impact on firm value, that future cash flows from investing activities are the sole determinant of firm value, and net income distribution policy of the company into dividends and retained earnings are not important.

Research by Black and Scholes (1974) used the capital asset pricing model to evaluate the impact of dividend policy on the return that investors receive after adjusting for risk and taxes. The author has come to the conclusion that there is no relationship between dividend policy and stock price.

Baskin (1989) used a dataset of 2,344 US-listed companies for the period from 1967 to 1986 to study the direct relationship between dividend policy and stock price volatility using a regression method. The author concludes that dividend policy has a direct impact on stock price volatility, so managers can employ this relationship to adjust risks to attract investment.

Khan et al. (2011) studied the effect of dividend payments on stock prices by sampling 55 companies listed on the Pakistani stock exchange. The obtained results show that dividend yield, earnings per share, return on equity, and profit after tax is positively related to stock prices.

Research by Phung (2015) on the impact of dividend policy on corporate stock prices with data collected from companies listed on Vietnam's HOSE in the period 2008-2013. The results of the study show that dividend policy is one of the major factors affecting firm value, although the impact method for each firm in each period is different.

Đặng and Phạm (2015) collected data on 165 companies listed on the Vietnamese stock market

from 2009 to 2013 to study the effect of dividend policy on the volatility of the stock price. By using a regression model, and fixed effects for panel data, the study shows a positive relationship between dividend yield, dividend payout ratio, and stock price volatility.

Research by Singh and Tandon (2019) used a sample of data collected from companies listed on the Indian stock market with many industries in the period 2008-2017. The research results show that the dividend policy has a significant impact on the market price of the stocks.

Research by Hồ and Hồ (2021) is carried out on the influence of dividend policy on stock prices of companies listed on Vietnam's stock market. The author uses the FGLS regression method on panel data of 100 companies listed on HOSE and HNX in Vietnam, finding out evidence of the impact of dividend policy on stock prices to support the theory of bird in palm and signaling theory.

On the basis of an overview of empirical studies, it can be seen that the studies focus on finding out the relationship between dividend policy and stock prices, but the extent of the impact of dividend policy on stock prices is different depending on the research period, economic characteristics, legal regime, and market nature of each country, thus dividend policy has different impacts on listed stock price volatility.

# 2.2. Hypotheses

Based on theoretical and empirical research on factors affecting stock price volatility, the author has established a hypothesis about the factors affecting stock price volatility of companies listed on the stock market in Vietnam as follows:

- Stock Price Volatility (PV): PV is used as a dependent variable in the model. To calculate the stock price volatility, it is necessary to define the stock market price as the stock's market closing price at the end of each year during the sample period. This indicator is used widely in the empirical study by Đặng and Phạm (2015).
- Dividend payout ratio (DR): DR is the percentage of the company's profits that are substracted to pay to shareholders as dividends during the year. Stocks with high and regular dividend payout

ratios always attract the attention of investors. The general sentiment of investors wants to get "real money" from their investment in addition to the potential increase in the share price. For value investors, the company's dividend payment history is always a major factor when considering an investment. There is a positive relationship between stock price and dividend payout ratio. This result is similar to the studies of Phung (2015) and Hồ and Hồ (2021).

- Dividend Yield (DY): People often compare dividends with stock price factors to consider how attractive investment is. The dividend yield is the most accurate measure of the return that investors get per dollar of capital actually spent, businesses with attractive dividend yield will attract more investors. The dividend yield is influenced by two factors, the market price of the stock and the dividend level. Đặng and Phạm (2015) showed that in small-sized enterprises, which are on the rise and pay dividends at a more attractive level, the stock price fluctuates according to a growing trend in the future
- Business size: Compared to small firms, large firms have easier access to external capital markets and are willing to pay higher dividends. According to the classical theory, the variable Size is negatively related to stock price volatility, large-scale firms tend to have less price volatility than small-sized firms.
- Growth rate (Growth): Measured by the growth rate of total assets, this is a control variable to test the correlation with stock price volatility.
- Debt leverage (Debt): Is considered as the ratio of long-term debt divided by total assets. Financial leverage is a useful tool to amplify return on equity or increase earnings per share, but also potentially increases the risk for owners. Therefore, leverage is considered a factor affecting stock price volatility.
- Earnings Volatility (EV): Professional investors are very interested in corporate profits, which is a strong factor affecting stock prices. Profits reflect a company's well-being, and profit fluctuations reflect a firm's sustained growth.

Table 1 shows a summary of the researchhypotheses.

	Table 1: Summary of research hypotheses					
Variables	Symbol	Measurement				
1. Stock price volatility	PV	$= \frac{Highest \ Price \ in \ year - Lowest \ Price \ in \ Year}{\left(\frac{Highest \ Price + Lowest \ Price}{2}\right)}$				
2. Dividend payout ratio	PR	(Dividend per share)/(Earnings per share)				
3. Dividend yield	DY	(Dividend per share)/(Market price )				
4. Enterprise size	Size	Ln(Total asset value)				
5. Asset growth rate	Growth	(Total value of assets at the end of the year - Total value of assets at the beginning of the year )/(Total value of assets at the beginning of the year)				
6. Ratio of long-term debt to total assets	Debt	(Long-term debt )/(Value of total assets)				
7. Income volatility	EV	Profit before tax and interest for each year – Average value of Profit before tax and interest for 6 years				

# 3. Research models

Based on theory and previous studies, the econometric model which is selected to evaluate the impact of dividend policy on stock price volatility of listed companies in Vietnam's stock market is:

Overall regression model:

 $Y = \beta_1 + \beta_t X_t + u_i$ 

where, Y is Dependent variable;  $X_t$  is The independent variables affect the dependent variables;  $\beta_1$  is The coefficient of freedom;  $\beta_t$  is Regression coefficient( $t = 2 \div n$ );  $u_i$  is Random error.

In the specific regression model of the study, the dependent variable is PV stock price volatility. The independent variables include: (1) Dividend payout ratio (PR); (2) Dividend Yield (DY); (3) Enterprise size (Size); (4) Asset growth rate (Growth); (5) Long-term debt to total assets (Debt), (6) Income volatility (EV).

### 3.1. Model building and testing

The parameters of the regression model were estimated by E-view software.

• Overall regression model:

 $(PV)_i = \beta_1 + \beta_2 PR_i + \beta_3 (DY)_i + \beta_4 LOG(Size)_i + \beta_5 (Growth)_i + \beta_6 (Debt)_i + \beta_7 (EV)_{I+} u_i$ 

• Overall regression function:

 $(PV)_i = \beta_1 + \beta_2 PR_i + \beta_3 (DY)_i + \beta_4 LOG(Size)_i + \beta_5 (Growth)_i + \beta_6 (Debt)_i + \beta_7 (EV)_I$ 

## 4. Research methods

Using the tabular data regression method with the fixed effects technique selected after conducting the Hausmantest test, the author surveyed data including 600 observations with 100 companies listed on two HOSE exchanges and Vietnam's HNX in the period 2015 to 2020. The companies selected in the sample belong to all industries (except companies in the banking and financial sector) and satisfy the condition that they have paid dividends continuously for at least 5 years since 2015. Data source Data was collected from financial statements of companies, Bloomberg, cafef.vn, and through the author's calculations.

The article runs the model with E-view software and uses the least-squares method (OLS) to determine the regression coefficient  $\beta$ i. On the basis of the results obtained when running the program, the author writes equations of factors affecting stock price volatility. Then test the fit of the model, that is, test  $\beta$ i to know if the independent variable can explain the dependent variable or not. Evaluate the fit of the model through the adjusted coefficient of determination R2 (Adjusted R Square) to determine the explanatory ability of the model in practice.

#### 5. Research results

#### 5.1. Scale test

Table 2 provides descriptive statistics on stock price movements, dividend policy-related variables, and other control variables; the results show the characteristics of each variable such as mean, maximum, minimum, and standard deviation. Notice that all variables have a positive mean during the research period.

The data in Table 2 show that the dependent variable PV varies from 0.16% to 138.83%, with an average value of 52.58% showing the stock price volatility of companies listed on Vietnam's stock market from 2015 to 2020 averaged 52.58%. The average dividend payout ratio of the researched enterprises is 24.95%, showing that most of the enterprises only use less than 30% of their profit after tax in the period for paying dividends.

#### 5.2. Regression results

Using E-view software according to Panel data, to ensure the normal distribution, we put the Size variable in logarithmic form, the regression results are shown in Table 3 and Table 4.

		Table 2: Descriptive statistics of research variables					
Variables	Ν	Minimum	Maximum	Mean	Std. Deviation		
PV	600	0.001665	1.388332	0.525821	0.239520		
PR	600	0.00	6.60	0.2495	0.4562		
DY	600	0.00	51.968504	1.410539	4.366343		
Size	600	10.612575	14.625831	12.480075	0.735857		
Growth	600	-1.000000	206.982702	0.616708	8.594712		
Debt	600	0.00	0.685911	0.117230	0.138753		
EV	600	-0.179920	3.886866	0.116433	0.228383		
Valid N (listwise)	600						

#### 5.2.1. Using the Hausman test to select the model

Hausman test is used to choose between two models Random Effect Model and Fixed Effect Model. This is essentially a test of whether unique errors are correlated with the explanatory variables. Table 5 shows the Hausman test results. Hypothesis testing:

**Ho:** There is no correlation between the explanatory variables and the random component (choose RandomEffect)

**H1:** There is a correlation between the explanatory variables and the random component (select FixedEffect)

Testing to remove 4 variables PR, DY, Growth, and EV from the original regression model, we have the following results in Table 6.

Variable	Coefficient	Std. Error	t-Statistic	Proh
C	-1.172670	0.601531	-1.949475	0.0518
PR	0.003116	0.036679	0.084963	0.9323
DY	0.002030	0.003641	0.557619	0.5774
SIZE	0.138522	0.048472	2.857774	0.0044
GROWTH	-0.001050	0.001315	-0.798862	0.4248
DEBT	-0.349409	0.148586	-2.351557	0.0191
EV	0.063041	0.046472	1 356561	0.01755
	Effects	Specification	1.550501	0.1755
	Cross-section fixed (dummy	variables)		
R-squared	0.279362	Mean dependent var		0.52540
Adjusted R-squared	0.125879	S.D. de	pendent var	0.23950
S.E. of regression	0.223921	Akaike info criterion		0.00412
Sum squared resid	24.71928	Schwarz criterion		0.78191
Log likelihood	104.7654	Hannan-Ouinn criter.		0.30692
F-statistic	1.820154	Durbin-Watson stat		2.39884
Prob(F-statistic)	0.000012			
	Table 4: Regression resu	Its with random effect	model	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	0.390079	0.203277	1.918951	0.0555
PR	0.025739	0.032743	0.786101	0.4321
DY	-0.001931	0.003369	-0.573347	0.5666
SIZE	0.010263	0.016384	0.626413	0.5313
GROWTH	0.000524	0.001110	0.471692	0.6373
DEBT	-0.048670	0.082993	-0.586440	0.5578
EV	0.076352	0.042590	1,792735	0 0735
	Effects Spe	ecification	1.7 727 33	0.0733
			S.D.	Rho
Cr	oss-section random		0.075127	0.1012
Id	liosyncratic random		0.223921	0.8988
	Weighted	Statistics		
R-squared	0.008078	Mean depe	endent var	0.406019
Adjusted R-squared	-0.001976	S.D. dependent var		0.226752
S.E. of regression	0.227001	Sum squa	Sum squared resid	
F-statistic	0.803483	Durbin-W	atson stat	1.94614
Prob(F-statistic)	0.567416			
	Unweighte	d Statistics		
R-squared	0.007618	Mean dep	endent var	0.525403
Sum squared resid	34.04061	Durbin-Watson stat		1.744034
	Table 5: Hau	sman test results		
Test Summa	Test Summary Chi-So Statistic Chi-So			Prob.
Cross-section ra	ndom	22.415710	6	0.0010
	Cross-section random	effects test comparisons:		
Variable	Fixed	Random	Var(Diff.)	Prob.
PR	0.003116	0.025739	0.000273	0.1711
DY	0.002030	-0.001931	0.000002	0.0041
SIZE	0.138522	0.010263	0.002081	0.0049
GROWTH	-0.001050	0.000524	0.000000	0.0019
DFBT	-0 349409	-0.048670	0.015190	0.0234
FV	0.063041	0.076352	0.000346	0.0147
ш¥	0.00071	0.070004	0.000010	0.771
	to remove 4 variables PR. D'	Y, Growth, EV from the	original regression mo	del
Table 6: Testing t	,	DD DV CDOWTU EV	<u> </u>	
Table 6: Testing t	Redundant Variabl	es: PR DY GROW TH EV		
<b>Table 6:</b> Testing t	Redundant Variabl 0.819879	es: PR DY GROWTH EV Prob. F	(5,599)	0.5376
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio	Redundant Variabl 0.819879 5.424097	es: PR DY GROW TH EV Prob. F Prob. Chi-	(5,599) Square(5)	0.5376 0.3663
<b>Table 6:</b> Testing 1 F-statistic Log likelihood ratio Variable	Redundant Variabl 0.819879 5.424097 Coefficient	es: PR DY GROWTH EV Prob. F Prob. Chi- Std. Error	(5,599) Square(5) t-Statistic	0.5376 0.3663 Prob
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148	es: PR DY GROW I H EV Prob. F Prob. Chi- Std. Error 0 532300	(5,599) Square(5) t-Statistic -1,835711	0.5376 0.3663 Prob. 0.0670
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.122959	es: PR DY GROW TH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042959	(5,599) Square(5) -1.835711 2 899992	0.5376 0.3663 Prob. 0.0670
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE DEPT	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 0.255047	es: PR DY GROW TH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147912	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.46659	0.5376 0.3663 Prob. 0.0670 0.0040
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE DEBT	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spi	es: PR DY GROW TH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE DEBT	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy	es: PR DY GROW TH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification variables)	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE DEBT B-squared	Redundant Variabl     0.819879     5.424097     Coefficient     -0.977148     0.123859     -0.365047     Effects Spe     Cross-section fixed (dummy volume)     0.273649	es: PR DY GROWTH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification variables) Mean deputer	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE DEBT R-squared Adjusted R-squared	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy 0.273649 0 126327	es: PR DY GROWTH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification /ariables) Mean depu S.D. doco	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139 0.52582 0.23952
Table 6: Testing 1   F-statistic   Log likelihood ratio   Variable   C   SIZE   DEBT   R-squared   Adjusted R-squared   S.F. of concentration	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy of 0.273649 0.126337 0.232020	es: PR DY GROW TH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification /ariables) Mean depe S.D. depe	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var ndent var dent var	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139 0.52582 0.23952
<b>Table 6:</b> Testing t F-statistic Log likelihood ratio Variable C SIZE DEBT R-squared Adjusted R-squared S.E. of regression	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy of 0.273649 0.126337 0.223880 24.06227	es: PR DY GROW TH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification /ariables) Mean depu S.D. depe Akaike inf	r(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var ndent var o criterion	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139 0.52582 0.23952 -0.00174
Table 6: Testing 1   F-statistic   Log likelihood ratio   Variable   C   SIZE   DEBT   R-squared   Adjusted R-squared   S.E. of regression   Sum squared resid	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy v 0.273649 0.126337 0.223880 24.96086 24.96086	es: PR DY GROWTH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification variables) Mean depu S.D. depe Akaike inf Schwarz	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var ndent var o criterion criterion	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139 0.52582 0.23952 -0.00174 0.74573
Table 6: Testing 1   F-statistic   Log likelihood ratio   Variable   C   SIZE   DEBT   R-squared   Adjusted R-squared   S.E. of regression   Sum squared resid   Log likelihood	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy of 0.273649 0.126337 0.223880 24.96086 102.5230	es: PR DY GROWTH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification variables) Mean depu S.D. depe Akaike inf Schwarz Hannan-Qu	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var ndent var o criterion criterion uinn criter.	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139 0.52582 0.23952 -0.00174 0.74573 0.28923
Table 6: Testing 1   F-statistic   Log likelihood ratio   Variable   C   SIZE   DEBT   R-squared   Adjusted R-squared   S.E. of regression   Sum squared resid   Log likelihood   F-statistic   Drate (E. statistic)	Redundant Variabl 0.819879 5.424097 Coefficient -0.977148 0.123859 -0.365047 Effects Spe Cross-section fixed (dummy v 0.273649 0.126337 0.223880 24.96086 102.5230 1.857612 0.020202	es: PR DY GROWTH EV Prob. F Prob. Chi- Std. Error 0.532300 0.042858 0.147813 ecification variables) Mean depu S.D. depe Akaike inf Schwarz Hannan-Q Durbin-W	(5,599) Square(5) t-Statistic -1.835711 2.889992 -2.469658 endent var ndent var o criterion criterion uinn criter. Vatson stat	0.5376 0.3663 Prob. 0.0670 0.0040 0.0139 0.52582: 0.23952: -0.00174 0.74573: 0.28923: 2.41409:

100

regression function of the model is:

PV = -0.977148 + 0.123859 Size - 0.365047 Debt

with Prob(F-statistic)=0.0000<5% The regression function is suitable.

 $R^2$ =0.273649 indicates that Size and Debt are able to explain 27.4% of the variation of the PV variable.

## 6. Discussion and recommendations

# 6.1. Discussion

Among the six factors, two factors of business size Log (Size) and the ratio of long-term debt to total assets are able to explain the stock price volatility, in which the Size factor has a positive influence and the Debt factor has a negative influence, specifically: Size variable has a positive relationship with price fluctuations, so large-scale enterprises have more price fluctuations than small-scale enterprises. The variable Debt has a negative relationship with stock price volatility, implying that in Vietnam's stock market, when firms increase the use of long-term debt, stock price volatility decreases and companies use little debt and have not taken full advantage of financial leverage.

However, the research results show that dividend policy does not affect stock price volatility. This study has similar conclusions to the study of Miller and Modigliani (1961) on the independence of dividend policy from the value of a company's stock, shareholders are not willing to pay higher prices for dividend payments. Thus, this finding of the study is completely in contrast with the practical studies in Vietnam so far.

The explanation for this conclusion can point to some basic points as follows:

- Stock prices on Vietnam's stock market are influenced by cash flow. Cash flow moves from blue-chip stocks to midcap and then to penny stocks. Cash flow also moves through industries. By observing the movements on HOSE and HNX, the cash flow is circulated from one industry to another and creates stock price fluctuations. For example, cash flow flows from the banking industry to oil and gas, to real estate, to the fertilizer industry, to the coal industry, and seems to be unrelated to the company's dividend policy. With the exception of companies with an impressive dividend payout ratio, their stock price prior to the dividend announcement date will skyrocket in the short term. Large cash flow is the cause of stock price fluctuations, many securities companies have built intelligent systems to detect large cash flow behavior to help investors recognize trading signals before making decisions on investing in shares.
- Investor sentiment on the Vietnamese stock market is an important factor to consider when learning about stock price movements, investor sentiment can be derived from political considerations, macroeconomic information, insider trading information, or stock trading

information of professional organizations. There is a lot of inaccurate and misleading information that greatly affects the psychology of fear or greed of investors, thereby strongly affecting the ups and downs of stock prices. During the research period 2015-2020, The important event affecting the market trend is the Covid 19 pandemic with complicated developments around the world and has caused many consequences to the economy of Vietnam. The unpredictable development of the epidemic has caused the Vietnamese stock market to plunge, investors rushed to sell in panic for a long time despite business results and attractive dividend policies of enterprises. The phenomenon of FOMO in the crowd caused the VN-Index to plummet from 900 points to 650 points.

• There are many negative phenomena in Vietnam's stock market. Some of the remaining problems can be pointed out as follows.

The introduction of the derivatives market in Vietnam, apart from positive advantages, also has shortcomings. Observed during the research period, Vietnam's derivatives market had many unusual volatility sessions, especially in derivative maturity sessions, raising questions about price manipulation by Long or Short parties. The strong impact on the group of stocks in the VN 30 had a strong spillover effect on the whole market, thereby causing unusually significant shocks in the derivative maturity sessions.

In addition, the increase in share price is also due to the sophisticated tricks of some investors who are considered sharks in the Vietnamese stock market through behaviors such as constantly buying and selling, creating fake supply and demand, pushing stock prices to go up and then secretly sell... this behavior causes abnormal price fluctuations and causes heavy losses to investors.

## **6.2. Recommendations**

In short, the stock price on the Vietnamese stock market is not affected much by the intrinsic value of the enterprise, Vietnamese investors do not seem to pay much attention to the dividend policy. With the above research results, the author has given a more comprehensive view of stock price fluctuations in the Vietnamese stock market, which serves as a basis for businesses when choosing a reasonable dividend policy and investors can make the right decisions when buying and selling stocks, and at the same time, the State needs to improve the management role.

## 6.2.1. For companies

Whether the company should pay dividends or not and at what rate is still a controversial issue, however, a number of factors should be considered as follows:

- It is necessary to consider future investment opportunities to help the company be financially proactive and reduce costs due to having to raise external capital. The companies are in the growth phase, so they should consider the appropriate dividend payment to invest capital in potential projects that bring great profits for the business. The profit of the new business is the factor that attracts the attention of investors.
- Dividend policy should be established in a harmonious relationship between investment policy and financing policy and suits the business characteristics of each company in different periods.

# 6.2.2. For investors

To invest effectively, investors need to be equipped with the basic knowledge and experience necessary for the investment process. Finding out the reasons for stock price volatility helps investors have the right view before making investment decisions, avoiding the phenomenon of following the crowd, leading to mistakes that have to be paid in the stock market. Investors need to have a basic assessment of the intrinsic value of the business through stock screening, in addition, it is necessary to consider information about the profits and dividends of the enterprise to choose priorities to invest in companies with high growth potential and clear and stable dividend policies.

## 6.2.3. For state management of the stock market

In addition to ensuring the stable operation of the stock market, the regulatory agency needs to closely monitor and manage unusual fluctuations in stock prices on the stock market. Authorities need to strengthen detection and strictly handle acts of manipulating securities prices in accordance with the law.

## 7. Conclusion

In summary, the article has studied the influence of dividend policy on stock price volatility in Vietnam's stock market through data collected from 100 enterprises in the period 2015-2020. The empirical model shows that there is no correlation between dividend policy and stock price volatility. Based on the above research results, the author has given a more comprehensive view of the volatility of stock prices on the Vietnamese stock market, on that basis, some recommendations are proposed for the regulatory agencies, managers, businesses, and investors.

# **Compliance with ethical standards**

# **Conflict of interest**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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