ORIGINAL PAPER

DOI: 10.26794/2587-5671-2025-29-4-225-235
JEL G14, G41, C10

The Impact of Dividend Policy and the COVID-19 Pandemic on Stock Price Volatility

L.C.M. Phuong
Industrial University of Ho Chi Minh City, Ho Chi Minh, Vietnam

ABSTRACT

The **purpose** of this article is to examine how dividend policy and the COVID-19 pandemic impact stock price volatility in the Vietnamese stock market. Panel data regression **method** was performed on a data set of 402 companies in 9 industries in the period from 2010–2021. **The results** show that the COVID-19 pandemic in 2020 has played a significant role not only in increasing stock price volatility, but dividend policy as well. The pandemic in 2021 has had an impact on reducing stock price volatility. Moreover, stock price volatility is also affected by the factors related to company characteristics such as the ratio of long-term debt to assets and company size. At the industry level, financial services and pharmaceuticals, and healthcare are the industries with the highest and lowest stock price volatility among the 9 research industries, respectively. Based on the research results, the article offers **some implications** for interested parties and participating in the Vietnamese stock market.

Keywords: COVID-19; dividend policy; stock price volatility; industry; Vietnam

For citation: **Phuong L.C.M. The impact of dividend policy and the COVID-19 pandemic on stock price volatility. *Finance: Theory and Practice*. 2025;29(4):225-235. DOI: 10.26794/2587-5671-2025-29-4-225-235**

INTRODUCTION

One of the risks that investors face when holding stocks is stock price volatility [1]. Stock price volatility drives uncertainty about future corporate profit growth [2]. Baskin [3] argues that dividend policy is one of the causes of stock price volatility in the stock market. Experimental results in some countries show that there are scientists that support [4] or do not support [5] this view. This fact shows the diversity of results on the impact of policies on stock price movements in different countries.

Recently, the COVID-19 pandemic initially has caused a global health crisis, but the persistence of the pandemic has increased the systemic and total risks of financial markets [6]. The pandemic has caused volatility in stock prices in many countries around the world [7].

Vietnam is considered to be one of the 10 countries with the best COVID-19 pandemic management strategy in the world [8]. It is an economic model for emerging economies post-pandemic [9] and is on the way to becoming the best-positioned country to attract investment capital after the pandemic [8]. Therefore, a deeper understanding of Vietnam's economy, financial market, and stock market is essential for investors interested in this country.

Emerging stock markets are often highly volatile and their efficiency is lower than developed stock markets [10]. This observation is true for Vietnam [11, 12], a frontier market with the goal of becoming an emerging stock market in the near future. Thus, the potential to mitigate risks, identifying important factors that cause stock market volatility is essential.

In fact, there have been studies on the impact of the COVID-19 pandemic or dividend policy on the stock market [11–14]. However, there is still a lack of comprehensive research on the impact of both of these factors on the Vietnamese stock market. This fact motivated the author to conduct a research on how the Vietnamese stock market is affected by dividend policy in the context of the COVID-19 pandemic.

The results of the study have confirmed that stock price volatility in the Vietnamese stock market in the period 2010–2021 is affected by dividend policy. Moreover, the COVID-19 pandemic occurring in 2020–2021 also affected stock price volatility in this market. Unlike other stock markets, the study's findings show that the COVID-19 pandemic increased stock price volatility in 2020 but it decreased stock volatility in 2021 even when the model used variables control (operating efficiency, ratio of long-term debt to total assets, asset growth and enterprise scale). The research results are empirical evidence that Miller and Modigliani's [15] dividend policy is not yet strong, but it supports the signaling theory. It also provides profound insights for

individuals and organizations interested in the Vietnam stock market.

LITERATURE REVIEW AND EXPERIMENTAL STUDIES

The efficient market hypothesis (EMH) (theory) states that the price of a stock fully reflects information, including its dividend policy. Therefore, stock prices that deviate from their intrinsic value and generate arbitrage profits are a manifestation of market inefficiencies. In underdeveloped stock markets, market efficiency is not guaranteed [10, 16]. Therefore, information about a company's dividend policy, especially when the company pays dividends, can create an investment effect on the stock to capture arbitrage profits. This buying and selling activity of investors causes higher stock price volatility during this time period.

The certainty theory of utility was first put forward by Lintner in 1956, who argued that "having one bird is more valuable than seeing two in the bush" [17]. The utility theory explains that investors prefer to receive dividends in the short term rather than waiting for capital gains over a longer period of time. In other words, the certainty of receiving dividends (one bird in hand) is more valuable than waiting for uncertain future capital gains (two birds in the bush) [18]. The theory of utility suggests that the dividend payout ratio and firm value are proportional [19].

There are two opposing views on the relationship of interests between managers and shareholders. Miller and Modigliani's [15] assumption states that there is no conflict of interest between managers and shareholders because managers are perfect representatives of shareholders. In contrast, the agency cost perspective posits that managers often favor managers without being objective when comparing their interests and those of shareholders.

Therefore, the conflict of interests between these two groups is expressed by agency costs [20] and is reflected by dividend policy and stock price [21]. Business cycles and agency costs influence the volatility of stock returns [21].

Signaling hypothesis explains the compensation of asymmetric information between managers and shareholders through dividend policy announcements [22]. This implies that dividends are positively correlated with the level of information that investors receive [22]. To get money to invest in a promising new project, a company may have to cut its dividend. However, the company was punished by the market for doing this because investors believed the dividend cut was bad news [23]. The news of increasing dividends is considered good news because it presents a more positive outlook than the company. On the contrary, the news of dividend reduction is a signal that the business is facing difficulties, so it is considered as negative news. As a result, managers are often very reluctant to cut dividends even when they should [17].

Experimental Studies

Researching on the US stock market during the period 1967–1986, Baskin [3] showed that dividend yield and stock price volatility have an inverse relationship. In the work [3] the author also used dividend payout ratio, but this variable suffered from high multicollinearity, so it was then removed from the research model. Dividend yield plays a vital role in stock price volatility even when the model uses controls for size, earnings volatility, and debt ratio. Using five industry dummy variables found that utilities/oil had lower stock price volatility, while mining/oil, wholesale/retail, financial, and services, stock prices are more volatile than the industrial sector [3].

When studying 173 companies which were classified into 5 different industries during the period 1972–1985, after controlling for size, leverage, earnings volatility and growth Allen and Rachim [24] showed that the dividend payout ratio impacted on stock price volatility in the Australian stock market. The dividend yield variable is also used in the research model of [24] but does not affect stock price volatility. In addition, important factors affecting stock price volatility in the Australian stock market during this period include size, leverage and earnings volatility. In the work [24] the author argue that the majority of larger firms carry more types of debt, which explains the positive relationship between stock price volatility and size. The results of [24] support the suggestion of [3] that dividend policy can affect stock price volatility.

When studying the impact of dividend policy on stock prices in the period 2003–2012, Zainudin et al. [25] emphasized that this policy plays an important role in explaining stock price volatility of industry. In

addition, the stock price volatility of this industry over 10 years is also affected by income fluctuations.

Zainudin et al. [25] separate the data into three subsamples to assess the impact of the 2007–2008 global financial crisis. The results have demonstrated that dividend yield does not significantly impact stock price volatility in any subsample, the impact of dividend payout ratio and earnings volatility on stock price volatility in the three previous periods, during and after the crisis are similar to the full 10–year sample. In the work [25] researchers argue that it is possible to rely on dividend policy to predict stock price volatility of industrial product manufacturing companies in Malaysia, especially in the post-crisis period.

Using a 10-year data set on the UK stock market, Hussainey et al. [26] show that dividend policy significantly impacts stock price volatility of non-financial firms. Higher dividend yield, lower dividend payout ratio cause higher stock price volatility and vice versa. Additionally, companies in the 1998–2007 period characterized by higher market capitalization, lower debt ratios, and lower earnings volatility had lower stock price volatility. However, when using industry dummy variables in the research model, only the dividend payout ratio and debt ratio still have an impact on the stock price changes of these companies.

Focusing on the stocks of banks in the Mediterranean region, Camilleri et al. [27] show the increasing (decreasing) role of variables representing dividend policy in explaining changes in stock price changes in different data samples during the period 2001–2006. If we exclude the period of the 2008–2009 financial crisis, the dividend payout ratio plays a more important role than the dividend yield when explaining volatility, but the roles of these two explanatory variables are interchangeable for the entire study sample.

Researching the Tanzanian stock market from 2009–2019, Lotto [28] states that the stock prices of industrial companies are significantly affected by their dividend policies. Stock volatility is higher when the dividend payout ratio is lower or the dividend yield is decreasing. In addition, firms with higher size, higher year-over-year change in total assets, and lower debt-to-equity ratio have lower stock price volatility [28]. Although in the Model specification Lotto [28] the Earnings per Share (EPS) variable is mentioned, however, the regression equation and the following sections of this article do not mention the EPS variable. Therefore, the impact of earnings per share on the share price volatility of the industry in this study is unknown.

Research on the Vietnamese stock market in the period 2008–2015, Phan and Tran [13] show that dividend yield, size has a significant negative impact on stock price volatility. No significant impact of dividend payout ratio factors, income fluctuations, debt ratio, asset growth, and ownership structure (foreign ownership and state ownership) on stock price volatility has not been found. Unlike Lotto [28], Phan and Tran [13] used a diverse dataset with many industries, a larger number of companies (480 companies), and adding a control variable is the impact of income fluctuations on stock price volatility. However, Phan and Tran [13] have not shown the advantage of using multiple industries in the data sample, which is assessing the level of stock price volatility between industries.

Jahfer and Mulafara [29] studied the impact of the relationship between stock price volatility and dividend policy of 56 non-financial companies listed on the Colombo Stock Exchange of Sri-Lankan from 2009–2013. Jahfer and Mulafara [29] show that dividend yield and asset growth positively affect stock price volatility, the size of the impact is significantly negative, but have not found the impact of long-term debt ratio on stock price volatility. Although Jahfer and Mulafara [29] used data from 20 business sectors, due to data limitations (only 56 companies were collected), these two authors cannot compare the impact of factors affecting stock price volatility between sectors.

Nazir et al. [30] studied 73 companies (excluding banks) listed on the Karachi Stock Exchange (Pakistan) during the period 2003–2008. Using 438 observations to regress panel data on a fixed effect model (FEM) showing higher dividend payout ratio, lower dividend yield, lower firm size and lower earnings volatility, then lower stock price volatility. Stock price volatility is negatively affected by two dividend proxy variables, but this is not explained by [30] explain in the context of Pakistani stock market.

Similar to [30], Shah and Noreen [31] also studied the relationship between stock price changes and dividend policy in the Pakistani stock market but used a data set for the period 2005–2012. The results of Shah and Noreen (2016) show that stock price volatility of non-financial companies is lower when these companies pay

higher dividends, and dividend yields are higher. Besides, companies with characteristics of greater leverage, larger company size, lower asset growth, earnings volatility and EPS have less volatile stock prices.

METHOD

To achieve the research goal of examining the impact of dividend policy and the COVID-19 pandemic on stock price volatility, this article refers to the models of previous studies. The dependent variable and the two explanatory variables representing dividend policy are measured similarly in the study of Baskin [3]. Variables representing the impact of the COVID-19 pandemic on the Vietnamese stock market are referenced in the study of Phuong [12]. Control variables in research models are measured based on several studies [3, 25, 28].

Based on previous studies related to this topic [3, 12, 25, 28] the article proposes two equations including:

Two research equations are set up as follows:

$$PV_{it} = \beta 0 + \beta 1 DP_{it} + \beta 2 DY_{it} + \beta 3 LDA_{it} + \beta 4 AG_{it} + \\ + \beta 5 SIZE_{it} + \beta 6 C\,20\&21 + \alpha_{it}; \quad (1)$$

$$PV_{it} = \beta 0 + \beta 1 DP_{it} + \beta 2 DY_{it} + \beta 3 LDA_{it} + \beta 4 AG_{it} + \\ + \beta 5 SIZE_{it} + \beta 6 C\,20 + \beta 7 C\,21 + \alpha_{it}, \quad (2)$$

where α_{it} = Error term.

Dependent variable

PV_{it} = Stock price volatility of the ith firm at year t, measured by $\sqrt{\frac{H_i - L_i}{\left(\frac{H_i - L_i}{2}\right)^2}}$,

where H_i and L_i are the highest and lowest adjusted prices in year t of the ith stock, respectively.

Variables evaluating the impact of dividend policy

DP_{it} = The dividend payout ratio is calculated as the dollar value of dividends per share i in year t divided by the income per share in year t.

DY_{it} = Dividend Yield of the ith firm at year t, measured as a percentage of dividends relative to the ith stock price in year t.

Variables assessing the impact of the COVID-19 pandemic.

C^{20}, C^{21}, $C^{20and21}$ = Three dummy variables assess the impact of the COVID-19 pandemic in 2020, 2021 and both 2020 and 2021, respectively, on stock price volatility in Vietnam,

where

$$C^{20} = \begin{cases} 1, & t = 2020 \\ 0, & otherwise \end{cases};$$

$$C^{21} = \begin{cases} 1, & t = 2021 \\ 0, & otherwise \end{cases};$$

$$C^{20and21} = \begin{cases} 1, & t = 2020\,and\,2021 \\ 0, & otherwise \end{cases}$$

Control variables

$SIZE_{it}$ = Firm size of the ith firm at year t, measured by the natural logarithm of the market value for the ith stock at year t.

LDA_{it} = Leverage is measured as the long-term debt of company i in year t divided by the total assets of this company in year t.

AG_{it} = Asset growth is measured as the difference in total assets at the end of the year compared to the beginning of the year divided by the total assets at the beginning of the year of this company in year t.

Estimation method and tests: This article applies regression method on panel data to test the impact of dividend policy and the COVID-19 pandemic on stock price volatility in the Vietnam stock market. This regression method has been used in studies in the US, UK and Australian stock markets [3, 24, 26].

Tests: First, the pairwise correlation coefficient between variables must be checked according to the standards of Farrar and Glauber [32] before entering the regression equation. Second, tests are performed on each estimate. Hausman test is used to choose between FEM and REM [33], F test to choose between OLS and FEM. For heteroscedasticity: Breusch and Pagan [34] test is used for REM, modified Wald test is used for FEM [35, 36]. Wooldridge test [37] was used to detect autocorrelation of the model. Based on the results of testing and correcting violations of the model to determine the most suitable model for the study.

DATA

Companies listed on the Vietnamese stock market from 2010 to 2021 are collected to put into the research model. Selected companies must ensure both

Table 1

Proportion of Industries, Dividend Yield and Dividend Payout Ratio in the Period 2010–2021

Sector	Code	N companies	N firm-years	% sample	N firm-years		Average	
					DP = 0	*DP* ≠ 0	*DY*	*DP*
Industrials	0	148	1776	36.8%	544	1232	0.13	1.90
Technology	1	15	180	3.7%	76	104	0.09	1.68
Oil and Gas	3	3	36	0.7%	7	29	0.06	2.09
Consumer services	4	35	420	8.7%	112	308	0.08	1.50
Pharmaceutical and medical	5	14	168	3.5%	61	107	0.08	2.34
Consumer goods	6	52	624	12.9%	173	451	0.10	2.05
Materials	7	51	612	12.7%	219	393	0.13	1.96
Utilities	8	25	300	6.2%	28	272	0.08	1.58
Real estate	9	39	468	9.7%	268	200	0.10	2.36
Financial services	10	20	240	5.0%	125	115	0.05	1.66
Total sample		402	4824	100.0%	1613	3211	0.10	1.89

Source: Compiled by the author.

audited financial data and continuous transaction data for 12 years. In order to be able to compare stock price movements across industries, the selected companies are categorized by industry.

RESULTS

Through data screening from 2010 to 2021 on the Vietnamese stock market, 402 companies were obtained with enough continuous data to calculate the variables in the proposed research model. These companies are classified into 10 industries (*Table 1*), in which Industrials and Oil and Gas are the industries with the most (1776) and least (36) number of firm-years, respectively. There are 5 industries accounting for less than 8.7%, 4/10 industries accounting for from 8.7% to 12.9% and 01 industry accounting for 36.8%.

Because Industrials accounts for the highest proportion in the research sample, it will be used as the base to compare with other industries in the regression results.

During this period, the number of firms paying dividends predominates over those not paying dividends. Specifically, there are 3,211 firm-years paying dividends, accounting for 66.56% of the entire sample. Except for two industries, Real Estate and Financial Services, 8/10 remaining industries have firm-years that pay higher dividends than firm-years that do not pay dividends. The average dividend yield and dividend payout ratio of the entire market during this period were 0.1 and 1.89, respectively. Of these, two industries with dividend yields higher than the market average include Industrials and Materials. Six industries with dividend payout ratios higher than the market average include Real estate, Pharmaceutical and medical, Oil and Gas, Consumer goods, Materials and Industrials.

Under the impact of the COVID-19 pandemic, compared to the period 2010–2019, firms that did not pay dividends compared to firms that paid dividends in 2020 and 2021 increased, shown by the ratio firm-years that do not pay dividends compared to the number of firm-years that pay dividends are 0.45 respectively; 0.78 and 0.87 (*Table 2*). Consumer goods, Financial services and Real estate are industries with DP in 2020 and 2021 higher than the market average in the period 2010–2019, 2020 and 2021. In contrast, DY and DP of Consumer services, Oil and Gas, and Technology in 2020 and 2021 are all lower than in the period 2010–2019. Materials and Utilities are two industries with DY higher than the market average in 2020. Compared to the entire research period, in 2020, Utilities' DY was the highest, Materials

Table 2

Dividend Yield and Dividend Payout Ratio from 2010 to 2019, 2020, 2021

Variable	2010–2019			2020			2021		
Sector	No/Div	DY	DP	No/Div	DY	DP	No/Div	DY	DP
Industrials	0.38	0.12	1.91	0.78	0.07	1.94	0.90	0.07	1.69
Technology	1.45	0.06	1.98	0.88	0.06	1.45	1.14	0.04	1.52
Oil and Gas	0.20	0.06	2.32	0.50	0.03	0.37	0.50	0.02	0.88
Consumer services	0.33	0.09	1.51	0.52	0.06	1.51	4.67	0.03	1.48
Pharmaceutical and medical	0.52	0.09	2.44	1.00	0.07	1.49	0.75	0.04	1.99
Consumer goods	1.34	0.10	2.03	0.73	0.05	2.29	0.53	0.08	2.07
Materials	0.51	0.14	1.90	0.76	0.08	1.84	0.89	0.09	2.82
Utilities	0.09	0.08	1.62	0.19	0.09	1.22	0.14	0.07	1.49
Real estate	1.19	0.10	2.28	2.00	0.09	2.38	3.33	0.10	3.96
Financial services	1.04	0.05	1.57	1.00	0.05	2.18	1.44	0.05	2.20
Total sample	0.45	0.11	1.89	0.78	0.07	1.85	0.87	0.07	1.95

Source: Compiled by the author.

Note: None/Div is the number of firm-years that do not pay dividends compared to the number of firm-years that pay dividends.

Table 3

Statistical Results Describing the Variables

Variable	N	Mean	Sd	Min	p25	p50	p75	Max
PV	4824	0.29	0.14	0	0.19	0.27	0.37	1.39
DY	4824	0.07	0.11	0	0	0.04	0.09	2.35
DP	4824	1.26	1.52	−1.55	0	1.13	1.74	19.56
SIZE	4824	5.65	1.85	1.19	4.35	5.43	6.71	12.72
LDA	4824	0.07	0.12	0	0	0.01	0.09	0.76
AG	4824	0.107	0.2	−0.69	−0.03	0.05	0.18	2.61

Source: Compiled by the author.

and Pharmaceutical and medical's DY was the lowest.

With 402 companies in the period 2010–2021 creating a balanced panel data set with 4824 firm-years. *Table 3* shows that during this period, there are companies with losses that make dividend payout ratio (DP) negative, and there are companies whose asset value has decreased compared to the previous year, causing the variable AG to have a negative value. The mean and standard deviation of stock price volatility are 0.29 and 0.14, respectively, predicting that there are significant differences in stock price volatility across industries. The average size of the companies is 5.65 and it fluctuates between 1.19 and 12.72 showing the diversity in the size of the companies in the sample.

The results in *Table 4* show that except for the pair (PV, AG) which is not statistically significant, the remaining independent variables are positively correlated with the dependent variable at the 10% significance level. The size variable is significantly correlated with the two variables that represent the dividend policy of the firm. The values of the correlation coefficient between pairs of variables in *Table 4* are all within ± 0.32, and these two ends are within the ± 0.80 value range proposed by Farrar and Glauber [32], so all independent variables are consistent, suitable for inclusion in regression in the research model.

The test results according to the criteria of Hausman [33] show that FEM is consistent with equation (1) and REM is consistent with equation (2). Breusch and Pagan's test [33] and modified Wald's test [35, 36] showed that equation 1 and equation 2 both violated variance in the REM and FEM models. Besides, Wooldridge test [37] shows that both models violate autocorrelation. Therefore, the FGLS estimator is used to overcome the problems of heteroscedasticity and autocorrelation in the regression equations.

Table 4

Correlation Coefficient Matrix Between Pairs of Variables in the Model

Variable	PV	DY	DPS	SIZE	LDA	AG
PV	1					
DY	−0.066*	1				
DP	−0.175*	0.177*	1			
SIZE	−0.312*	−0.203*	0.112*	1		
LDA	0.061*	−0.066*	−0.011	0.216*	1	
AG	−0.0128	0.0052	0.011	−0.005	−0.009	1

Source: Compiled by the author.

Note: * has a significance level of 10%.

The regression results in *Table 5* show that dividend policy and the COVID-19 pandemic have a significant impact on stock price volatility, showing that the Vietnam stock market has not reached the level of strong-form efficiency as assumed of Fama [38] at the same time it does not support the assumption of Miller and Modigliani [15] about dividend policy. However, the level of impact of dividend policy is not the same across industries.

Dividend policy: Companies with higher dividend yields have lower stock price volatility.

This result is consistent with the signal theory, while improving the information level in the stock market. A company that pays a higher dividend has sent a positive signal about their business results to the market. It is this information about dividend policy that contributes to reducing information asymmetry between the company's managers and shareholders. Therefore, the results on the negative relationship between dividend yield and stock price volatility in this study are consistent with previous publications in the US stock market [3], Australia [24], the UK [26]. However, it does not support the research results in Sri-lankan stock market [29] and Pakistani [30].

Besides, dividend payout ratio and stock price volatility have an inverse relationship. Companies with lower dividend payout ratios tend to have more volatile stock prices. The relationship between these two variables in Vietnam in the period 2010–2021 is similar to previous studies [3, 24, 26].

At the industry level: The regression coefficient of the Utilities industry is not statistically different from Baskin [3] on the US stock market, the regression coefficient of the remaining seven industries is compared with the industry. Industry is both substantial and divided into two distinct groups. The level of stock price volatility of the two industries including Consumer Services, Pharmaceuticals and Healthcare is lower than that of stock price volatility of the industrial sector. In contrast, five industries with higher stock price volatility than industry are financial services, oil and gas, real estate and technology.

COVID-19 pandemic: Impact of the COVID-19 pandemic on stock price volatility as measured by dummy variables for two regression models. The regression coefficients of variables C 20 and C 21 in the FGLSs model are statistically significant at the 1% level but have opposite signs. It has shown the difference in the direction of impact of the COVID-19 pandemic in 2020 compared to 2021 on the volatility of listed stock prices in Vietnam. However, variables C 20 and 21 measuring the impact of the pandemic in both years are not statistically significant in the FGLS model. The difference in statistical significance and sign of these dummy variables on the impact of the COVID-19 pandemic on stock price volatility is now relevant to the Vietnamese context and is explained as follows.

The variable C 20 has a positive regression coefficient, showing that information about the COVID-19 pandemic has increased stock price volatility in 2020. This is reasonable because investors' fear in the stock market increased rapidly, expressed by increased risk through strong volatility in stock prices, when the COVID-19 pandemic suddenly appeared and spread rapidly across the globe. However, in 2021, with the rapidly increasing rate of the population vaccinated against this epidemic, the efforts of the Vietnamese government and the consensus of the people in controlling the pandemic

Table 5

Regression Results and Tests

Variable	Equation 1		Equation 2	
	VIF	FGLS	FGLSc	VIF
DY	0.898	−0.045***	−0.043***	0.898
DP	0.919	−0.003***	−0.003***	0.919
LDA	0.868	0.082***	0.077***	0.868
AG	0.997	0.000	0.000	0.997
SZE	0.670	−0.029***	−0.027***	0.670
C 20and21	0.970	0.003		
C 20			0.019***	0.977
C 21			−0.030***	0.973
Technology	0.931	0.047***	0.044***	0.931
Oil and Gas	0.960	0.045**	0.041**	0.960
Consumer services	0.864	−0.019**	−0.017*	0.864
Pharmaceutical and medical	0.935	−0.066***	−0.066***	0.935
Consumer goods	0.792	−0.009	−0.009	0.792
Materials	0.839	0.027***	0.028***	0.839
Utilities	0.878	0.004	0.004	0.878
Real estate	0.812	0.032***	0.032***	0.812
Financial services	0.740	0.071***	0.068***	0.740
Mean VIF	1.15			1.14
_cons		0.413***	0.413***	
N		4824	4824	
	Equation 1		Equation 2	
F−test	F(401, 4414) = 8.60 Prob > F = 0.0000		F(401, 4414) = 8.60 Prob > F = 0.0000	
hausman	chi2(6) 152.46 Prob > chi2 = 0.0000; FEM		chi2(8) = 12.77 Prob > chi2 = 0.1202; REM	
Breusch and Pagan	chibar2(01) = 2208.82 Prob > chibar2 = 0.0000		chibar2(01) = 2243.76 Prob > chibar2 = 0.0000	
Modified Wald test	chi2 (402) = 39945.71 Prob > chi2 = 0.0000		chi2 (402) = 44441.42 Prob > chi2 = 0.0000	
Wooldridge test	F(1, 401) = 627.727 Prob > F = 0.0000		F(1, 401) = 656.786 Prob > F = 0.0000	

Source: Compiled by the author.

Note: *, **, *** are significant at 10%, 5% and 1%, respectively.

have caused stock price volatility decreased significantly in 2021 (regression coefficient of variable C 21 is less than zero). Therefore, the rapid change in the direction of impact of the COVID-19 pandemic in these two consecutive years made the aggregate impact of this pandemic over two years (variable C 20 and 21) not statistically significant in the FGLS model.

Control variables: Except for the asset growth variable (AG), which is not statistically significant, the remaining control variables in the two research models all have a significant impact on stock price volatility. At the 1% significance level, an increase in the debt to total assets ratio will lead to an increase in stock price volatility on the Vietnamese stock market, in other words there is a positive relationship between these two variables. This result is similar to research in the UK [26], Tanzania [28]. With 99% confidence, companies with higher market capitalization have lower price volatility, in other words their relationship is inverse. The negative relationship between SIZE and SPV in the Vietnamese stock market is similar to research in the United States [3] and the United Kingdom [26].

CONCLUSION AND IMPLICATIONS

This article studies how the company's dividend policy and the COVID-19 pandemic affect stock price volatility in the Vietnamese stock market during the period 2010–2021. The data set of 402 listed companies in 9 industries used for regression showed that dividend policy and the COVID-19 pandemic both play an important role in explaining stock price volatility. The study's findings have demonstrated that impact of the COVID-19 pandemic on price volatility is different in 2020 and 2021, but cumulatively in both years, the impact of this pandemic is insignificant. Among the studied industries, stock price volatility of the pharmaceutical and medical industries is the lowest, stock price volatility of the financial services industry is the highest. The research results provide in-depth knowledge about stock price volatility in a frontier stock market by industry level and taking into account the context of the COVID-19 pandemic.

For policy management agencies: Stock price volatility are affected by unusual factors such as the COVID-19 pandemic, showing the important role of global issues in volatility in the stock market. This result implies that when unusual problems occur and their impact is widespread, policy managers need to promptly introduce effective control measures to maintain confidence in the stock market. securities and reduce panic in the market. In addition, maintaining clear and transparent information from regulatory agencies helps prevent false information from spreading in the market and strengthens investor confidence.

For businesses: Dividend policy is evaluated as a measure of the information environment on the stock market, so to limit negative issues that may occur on stock prices, the information disclosure department of the enterprises need to maintain a transparent dividend policy, proactively explain changes in this policy and related issues (such as financial situation, debt ratio, etc.) to the market.

For investors: Tracking and updating information on the market and businesses is very important for investors. It helps them limit the impact of information asymmetry before making decisions. Besides, identifying systematic risks (for example, the COVID-19 pandemic) and non-systematic risks (for example, dividend policy and financial factors of the enterprise) also helps investors choose the priority of factors, especially in unusual situations, to make the wisest decisions.

REFERENCES

1. Guo H. Stock market returns, volatility, and future output. *Review. Federal Reserve Bank of Saint Louis*. 2002;84(5):75–86. DOI: 10.20955/r.84.75–86
2. Tauchen G. Stochastic volatility in general equilibrium. *The Quarterly Journal of Finance*. 2011;1(4):707–731. DOI: 10.1142/S 2010139211000237
3. Baskin J. Dividend policy and the volatility of common stocks. *The Journal of Portfolio Management*. 1989;15(3):19–25. DOI: 10.3905/jpm.1989.409203
4. Zakaria Z., Muhammad J., Zulkifli A.H. The impact of dividend policy on the share price volatility: Malaysian construction and material companies. *International Journal of Economics and Management Sciences*. 2012;2(5):1–8. URL: https://www.hilarispublisher.com/open-access/the-impact-of-dividend-policy-on-the-share-price-volatility-malaysian-construction-and-material-companies-2162–6359–2–5–001.pdf

5. Rashid A., Anisur Rahman A.Z.M. Dividend policy and stock price volatility: Evidence from Bangladesh. *Journal of Applied Business and Economics*. 2008;8(4):71–81. URL: http://www.na-businesspress.com/jabe/rashidweb.pdf
6. Baek S., Mohanty S.K., Glambosky M. COVID-19 and stock market volatility: An industry level analysis. *Finance Research Letters*. 2020;37:101748. DOI: 10.1016%2Fj.frl.2020.101748
7. Rouatbi W., Demir E., Kizys R., Zaremba A. Immunizing markets against the pandemic: COVID-19 vaccinations and stock volatility around the world. *International Review of Financial Analysis*. 2021;77:101819. DOI: 10.1016/j.irfa.2021.101819
8. Li G. Vietnam, Cambodia lead ASEAN comeback in Nikkei COVID index. Nikkei Asia. Oct. 10, 2022. URL: https://asia.nikkei.com/Spotlight/Coronavirus/COVID-19-Recovery-Index/Vietnam-Cambodia-lead-ASEAN-comeback-in-Nikkei-COVID-index
9. Malesky E. Commentary: Vietnam makes a model recovery from COVID-19. CNA: ChannelNewsAsia. Dec. 28, 2022. URL: https://www.channelnewsasia.com/commentary/china-vietnam-zero-covid-business-investment-corruption-3169566
10. Kumar P.C., Tsetsekos G.P. The differentiation of 'emerging' equity markets. *Applied Financial Economics*. 1999;9(5):443–453. DOI: 10.1080/096031099332104
11. Phuong L. Industry-level stock returns response to COVID-19 news. *Finance: Theory and Practice*. 2022;26(1):103–114. DOI: 10.26794/2587–5671–2022–26–1–103–114
12. Phuong L.C.M. Factors affecting stock price volatility in Vietnam's oil and gas industry in the period of pre-COVID-19 and COVID-19. In: Nguyen A.T., Pham T.T., Song J., Lin Y.L., Dong M.C., eds. Contemporary economic issues in Asian countries: Proceeding of CEIAC 2022. Vol. 2. Singapore: Springer; 2022:63–78. DOI: 10.1007/978–981–99–0490–7_6
13. Phan T.K.H., Tran N.H. Dividend policy and stock price volatility in an emerging market: Does ownership structure matter? *Cogent Economics & Finance*. 2019;7(1):1637051. DOI: 10.1080/23322039.2019.1637051
14. Phuong L.C.M. How COVID-19 impacts Vietnam's banking stocks: An event study method. *Banks and Bank Systems*. 2021;16(1):92–102. DOI: 10.21511/bbs.16(1).2021.09
15. Miller M.H., Modigliani F. Dividend policy, growth, and the valuation of shares. *The Journal of Business*. 1961;34(4):411–433. DOI: 10.1086/294442
16. Laopodis N.T., Papastamou A. Dynamic interactions between stock markets and the real economy: Evidence from emerging markets. *International Journal of Emerging Markets*. 2016;11(4):715–746. DOI: 10.1108/IJoEM-12–2015–0253
17. Lintner J. Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*. 1956;46(2):97–113.
18. Nizar Al-Malkawi H. Determinants of corporate dividend policy in Jordan: An application of the Tobit model. *Journal of Economic and Administrative Sciences*. 2007;23(2):44–70. DOI: 10.1108/10264116200700007
19. Raza H., Ramakrishnan S., Gillani S.M.A.H., Ahmad H. The effect of dividend policy on share price: A conceptual review. *International Journal of Engineering & Technology*. 2018;7(4):34–39. DOI: 10.14419/ijet.v7i4.28.22386
20. Ross S.A., Westerfield R., Jordan B.D., Biktimirov E.N. Essentials of corporate finance. New York, NY: McGraw-Hill/Irwin; 2004. 656 p.
21. Décamps J.-P., Mariotti T., Rochet J.-C., Villeneuve S. Free cash flow, issuance costs, and stock prices. *The Journal of Finance*. 2011;66(5):1501–1544. DOI: 10.1111/j.1540–6261.2011.01680.x
22. Deshmukh S. The effect of asymmetric information on dividend policy. *Quarterly Journal of Business and Economics*. 2005;44(1–2):107–127. DOI: 10.2307/40473398
23. Fairchild R. Dividend policy, signalling and free cash flow: An integrated approach. *Managerial Finance*. 2010;36(5):394–413. DOI: 10.1108/03074351011039427
24. Allen D.E., Rachim V.S. Dividend policy and stock price volatility: Australian evidence. *Applied Financial Economics*. 1996;6(2):175–188. DOI: 10.1080/096031096334402

25. Zainudin R., Mahdzan N.S., Yet C.H. Dividend policy and stock price volatility of industrial products firms in Malaysia. *International Journal of Emerging Markets*. 2018;13(1):203–217. DOI: 10.1108/IJoEM-09–2016–0250
26. Hussainey K., Mgbame C.O., Chijoke-Mgbame A.M. Dividend policy and share price volatility: UK evidence. *The Journal of Risk Finance*. 2011;12(1):57–68. DOI: 10.1108/15265941111100076
27. Camilleri S.J., Grima L., Grima S. The effect of dividend policy on share price volatility: An analysis of Mediterranean banks' stocks. *Managerial Finance*. 2019;45(2):348–364. DOI: 10.1108/MF-11–2017–0451
28. Lotto J. Does earnings distribution policy influence corporate stock price instability? Empirical evidence from Tanzanian listed industrial firms. *Cogent Economics & Finance*. 2021;9(1):1953737. DOI: 10.1080/23322039.2021.1953737
29. Jahfer A., Mulafara A.H. Dividend policy and share price volatility: Evidence from Colombo stock market. *International Journal of Managerial and Financial Accounting*. 2016;8(2):97–108. DOI: 10.1504/IJMFA.2016.077947
30. Nazir M.S., Nawaz M.M., Anwar W., Ahmed F. Determinants of stock price volatility in Karachi stock exchange: The mediating role of corporate dividend policy. *International Research Journal of Finance and Economics*. 2010;(55):100–107. URL: https://lahore.comsats.edu.pk/Papers/Abstracts/146–8588087891919227058.pdf
31. Shah S.A., Noreen U. Stock price volatility and role of dividend policy: Empirical evidence from Pakistan. *International Journal of Economics and Financial Issues*. 2016;6(2):461–472. URL: https://dergipark.org.tr/en/download/article-file/363368
32. Farrar D.E., Glauber R.R. Multicollinearity in regression analysis: The problem revisited. *The Review of Economics and Statistics*. 1967;49(1):92–107. DOI: 10.2307/1937887
33. Hausman J.A. Specification tests in econometrics. *Econometrica*. 1978;46(6):1251–1271. DOI: 10.2307/1913827
34. Breusch T.S., Pagan A.R. The Lagrange multiplier test and its applications to model specification in econometrics. *The Review of Economic Studies*. 1980;47(1):239–253. DOI: 10.2307/2297111
35. Baum C. XTTEST3: Stata module to compute Modified Wald statistic for groupwise heteroskedasticity. 2001. URL: https://econpapers.repec.org/software/bocbocode/s414801.htm
36. Baum C.F. Modified Wald statistic for groupwise heteroskedasticity in fixed effect model. Document using the STATA package. 2013. URL: http://fmwww.bc.edu/repec/bocode/x/xttest3.hlp
37. Wooldridge J.M. Econometric analysis of cross section and panel data. Cambridge, MA: The MIT Press; 2002. 741 p. URL: https://ipcid.org/evaluation/apoio/Wooldridge%20-%20Cross-section%20and%20Panel%20Data.pdf
38. Fama E.F. Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*. 1970;25(2):383–417. DOI: 10.1111/j.1540–6261.1970.tb00518.x

ABOUT THE AUTHOR

Lai Cao Mai Phuong — Cand. Sci. (Econ.), Head of Finance Department, Industrial University of Ho Chi Minh City, Ho Chi Minh, Vietnam
https://orcid.org/0000-0002-2947-2488
laicaomaiphuong@iuh.edu.vn

Conflicts of Interest Statement: The author has no conflicts of interest to declare.

The article was submitted on 08.09.2023; revised on 03.12.2023 and accepted for publication on 17.06.2025.
The author read and approved the final version of the manuscript.

Translated by N.I. Sokolova