The Relationship Of Dividend Policy and Share Price Volatility: A Case in Vietnam

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Taking the initiative of debatable relationship between dividend policy and share price volatility and addressing the limitation of statistical model of the previous papers in the context of Vietnam, this paper was conducted to practically test that relationship by additionally controlling some variables. A sample of 141 listed non-finance companies in Ho Chi Minh Stock Exchange from 2011 to 2016 was employed. The paper utilized fixed effect model after thoroughly checking mutlticollinearity, endogeneity and causality problems of the dataset. It reveals that the dividend payout and dividend yield have statistically significantly negative impact on share price volatility.

Key Words: Dividend policy; Dividend Yield; Dividend Payout; Share Price Volatility; Emerging Markets.

JEL Classification Numbers: G32, G35.

1. INTRODUCTION

Dividend policy refers to divide a companys earnings into dividend payment to shareholders and reinvestment into new opportunities (Gordon, 1959). It appears essential and controversial to all financial management decisions in such a modern corporate finance. It is worth being concerned by not only managers but also investors. From the managers perspective, maintaining liquidity for daily operation and ensuring financial health for future capital investment of companies are expected by adjusting dividend policies (Roy, 2015; Hakeem and Bambale, 2016). Besides, they also send signals to all investors in terms of revenue generation ability (Allen and Rachim, 1996) and market expansion (Ross, 2013). Meanwhile, basing on the information related to dividend payment, the investors can evaluate the firms value by using some dividend-related models. In other words, div-

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idend policy drives the expectation (i.e. demand and supply) in markets that will fluctuate the shares prices. Particularly in Vietnam, it consumes an attribute of instability that mainly depends on foreign capital investment (Vinh, 2014). As a result, the investors are very sensitive to various information available in the market. Thus, the topic of the relationship between dividend policy and share price volatility is in need of discussion.

Theoretically speaking, although the topic has been conducted in various contexts, both developed and emerging markets, the research findings appear inconsistent over time. While Hakansson (1982) and Uddin and Chowdhury (2005) confirmed the irrelevance of dividend policies and share price volatility in emerging markets, Ball, et al. (1979) and Baker, et al. (1985) both rejected that relationship did exist in developed markets, Australia and United State respectively. More interestingly, the relevance between dividend policies and share price volatilities differently varies over time in such a particular market like United State, so this relationship has been concerned in different times and institutional contexts as well. Besides, this paper also responses to the call of empirically testing some dividend-related theories into different institutional contexts regarding Gordon (1959) and Miller and Modigliani (1961).

In such a specific context of Vietnam, some relevant previous papers still admit the limitation of statistical models which employ Ordinary Least Square to analyze the panel data. Those linear regression models anticipate a huge effect of outliers and they also assume data must be independent from each other. Last but not least, not accounting for the variance among groups of industry and time periods in estimators is still a weakness of the used models (Aalen, 1989). To handle those drawbacks, fixed effect was employed in this paper to process the panel data from 2011-2016 after thoroughly conducting various diagnostic tests. It is expected to increase the validity and reliability of the papers results (Hsiao, 1985).

2. LITERATURE REVIEW

2.1. Dividend policy and share price in general

Dividend policy has been getting attention from many scholars and practitioners since the middle of the last century. It appears sensible because the policy directly relates to capital structures which can be employed to minimize the cost of capital and then increase the companies values (Ross, 2013). Moreover, having information related to dividend policy enables the investors to make right investment decisions based on their own judgment. What is more, dividend policy relates to several vital matters of corporations ranging from share valuation to agency problem (Gordon and Shapiro, 1956; Lintner, 1956).

Meanwhile, share price volatility is seen as systematic risk dealt with by the investors who own ordinary shares (Hussainey, et al., 2011). Specifically, it is measured by the rate of change in the price of a certain share over a given period of time. Gordon (1963) stated that the lower the amount of risk is, the better the investment is. By the nature of most risk-averse investors, they tend to prefer less risk. In other words, if the extent of share price volatility of a given stock is low, it can lead to a high desirability. Consequently, there are a great number of studies exploring the relationship between dividend policy and share price volatility. However, they are still in debate. Its worth discussing two main prominent perspectives, irrelevance and relevance theories of dividend policy — share price volatility relation. According to Miller and Modigliani (1961), there is no relationship between dividend policy and share price. It argued that the value of a company depends only on its earnings that derive from reinvesting into new opportunities. Besides, it is not affected by the split between retained earnings and dividend payment (Magni, 2010). Since investors can sell a part of their equity porfolio, they do not worried about dividend policy of a firm. In other words, it is believed that the firm can be valued basing on its income generated from investment decisions. That theory is also supported by some empirical researches (Black and Scholes, 1974; Adelfila, et al., 2004; Uddin and Chowdhury, 2005). In general, those papers have assumptions of rational investors and perfect capital markets (i.e. nonexistent transaction costs or taxes performed, freely available and costless information, divisible securities, etc.). In such an emerging market like Vietnam, it consumes an attribute of a weak capital market (Vinh, 2014). The market is less transparent and flotation costs significantly affect on most transactions (Vo, 2012; Hakeem and Bambale, 2016). The finding of irrelevant relationship between dividend policies and share price, therefore, appears inapplicable in the institutional context of Vietnam.

On the other hand, Clientele Effect indicates that the dividend policy somehow affects share price movement. It assumed that the investors are attracted by some specific groups of company regarding their own references (e.g. high or low tax brackets; lifecycle of a business, etc.). When those companies decrease their dividend payout, the group of dividend-seeking investors tends to exit their positions that consequently makes those stocks prices go down to a certain extent and vice versa. Pettit (1977) empirically proved that the investors with a reference of paying low income tax appear very sensitive to high dividend-paid stocks in the market. Having less transparent information in Vietnamese market (i.e. weak form), the sensitivity of the market is very high. Regarding Phan and Zhou (2014), it argued that the changes of investment environment (policy, strategies, operation, etc.) impact on the spychological attitudes (overconfidence, excessive optimism, psychology of risk and herb behavior) in Vietnamese stock market.

Those factors were practically illustrated to significantly drive the investment decisions of the investors. In other words, Clientele Effect sounds applicable in the context of Vietnam to advocate the impact of dividend policy on share price fluctuation.

Advocating the relevance theory between dividend policy and share price volatility, Lintner (1956), Gordon (1959), Gordon (1963) proved that the investors tend to prefer dividends rather than capital gains due to their uncertainty. Its commonly known as Bird-in-hand theory. The theory is also supported by some empirical researches Gordon and Shapiro (1956) and Walter (2013). Besides, Kao and Wu (1994) also examined dividend as signaling mechanism which can be utilized by firms to send a message to stockholders and other stakeholders in the market. Indeed, having more information related to the firms strategies and potential future income, the managers of the company have an advantage of information asymmetry which probably manipulates investors expectations through dividend-related information. It enables the firm to shape the investors behaviors regading their expected strategies (Miller and Rock, 1985).

Looking at the other side of the Bird-in-hand theory, it has been empirically observed that the growth rate of dividend payment appears lower than the inflation rate in the long run, so dividend policy seems not to impede the long-term-goal investors making investment decisions. Additionally, tax payment for capital gains is relatively lower than for dividend receipt, so with the argument of Tax Preference Theory, the investors prefer to capital gains due to its tax advantage (Allen, et al., 2000). However, in such an imperfect market (i.e. there is an exist of information asymmetry issue), its moderately hard to predict the future of the companies and the whole market. In the other words, the potential value or capital gains for those stocks sounds less certainty than dividend payment. Consequently, dividend policy sounds relevant to share price volatility in the context of Vietnam.

2.2. Hypothesis development

Generally speaking, based on those arguments mentioned above, the dividend policy is probably relevant to share price volatility in such a research institutional context in Vietnam. There are two most-well known measurements for dividend policy: payout ratio and dividend yield. Firstly, employing multiple regression model, Baskin (1989), Allen and Rachim (1996), Nazir, et al. (2010) and Hussainey, et al. (2011) revealed a significantly negative impact of dividend payout and dividend yield on share price volatility in the US (1967-1986), Australia (1972-1985), Pakistan (2003-2008) and the UK (1998-2007) respectively, while Asghar, et al. (2011) proved the positive ones also in Pakistan (2005-2009). The negative impact of dividend payout on share price volatility could be explained by

signalling effect and Bird-in-hand theory. Accordingly, it is argued that the investors enable to predict the potential growth and investment opportunities of the firms by referring dividend payout. In other words, a higher dividend payout will reduce the risk associated with future capital gains (Diamond, 1967).Thus, the higher payout ratio is, the lesser volatile the share price is. For the positive relationship mentioned above by Asghar, et al. (2011), it used the sample of only 5 main sectors in Karachi Stock Exchange (Pakistan) while the other paper studied by Nazir, et al. (2010) consumed all listing companies in the same stock exchange. The bigger the sample is, the more accurate and higher extent of generalization the findings are (Krejcie and Morgan, 1970). We conducted this paper in the context of emerging market in Vietnam with a sample of all listing companies in Ho Chi Minh Stock Exchange, so it is plausible to propose:

H1: There is a significantly negative impact of dividend payout on share price volatility

Meanwhile, the negative association of the dividend yield and share price volatility could be explained by duration effect and arbitrage effect (Baskin, 1989). Dividend yield is expressed as the percentage of dividend relative to its share price. When a given stock has a high dividend yield, its fluctuation of discount rate has less impact on the dividend yield. Indeed, the higher dividend yield probably sends a signal of near-term cash flows, so it is expected to have a less volatility in share price (Gordon, 1959). Additionally, in an inefficient financial market, the investors with superior information can enjoy the benefits from mispricing. The excess return can be subordinate of dividend yield and price discount rate (Black and Scholes, 1974; Baskin, 1989). In the same line of argument of the papers institutional context, it is sensible to hypothesize that relationship as:

H2: There is a significantly negative impact of dividend yield on share price volatility

3. METHODOLOGY

3.1. Sampling method

The papers sample consists of 141 firms listed in Ho Chi Minh Stock Exchange (HOSE) over 6-year period form 2011-2016. HOSE is the biggest official stock market in Vietnam with the highest listing standards and market capitalization. As a result, it is considered a driver which appropriately represents for the whole market performance (Phan and Zhou, 2014). With regard to the sample size, 846 observations for 6 years commit the generalization of the sample (Tabachnick and Fidell, 2007). Those selected ones also satisfy the following properties to ensure the paper validity, realiability and generalization:

(i) The sample excludes all firms belonged to financial sector, such as insurance, banking, real estate and security brokerage. They consume a distinct attribute of corporate structure and revenue models indicated by extraordinary performance indicators, such as Return-On-Assets and Return-On-Equity (Le and O'Brien, 2010). Thus, it can be seen as outliers for the paper.

(ii) Those firms must have their publicly audited annual financial statements and pay dividend both consecutively from 2011 to 2016. It aims at generating a strongly balanced dataset which can handle some technical problems and then build more accurate model.

Those selected firms belong to 13 industries with the following attributes (Table 1).

TABLE 1.

The samples industry-based classification

Code	Industry	No. of company
Industry 1	Agriculture, forestry and fishing	6
Industry 2	Mining and quarrying	5
Industry 3	Manufacturing	60
Industry 4	Electricity, Gas, Steam and Air Conditioning Supply	14
Industry 5	Water supply	2
Industry 6	Construction	10
Industry 7	Wholesale and retail trade	22
Industry 8	Transportation and storage	14
Industry 9	Accommodation and food service activities	2
Industry 10	Information and communication	2
Industry 11	Professional, scientific and technical activities	1
Industry 12	Administrative and support service	2
Industry 13	Arts, entertainment and recreation	1
	Total	141

3.2. Variables

Share price volatility (SPV) — Basing on the annual range of adjusted stock prices, it was divided by the squared average of the highest and lowest prices in a particular year. Then, the sqaured root would be taken to calculate the share price volatility. It was used as a proxy for share price volatility rather than standard deviation because the standard deviation might be affected by extreme values (Baskin, 1989).

$$SPV = \sqrt{\frac{HP - LP}{\left(\frac{HP+LP}{2}\right)^2}}$$

Where: HP is the highest price in a year; LP is the lowest price in a year

Dividend payout (DP) – it is one of two main explanatory variables. The calculation was to take Dividend Per Share (DPS) to common stockholders divided by Earnings Per Share (EPS). In other words, it measures the percentage of net income paid out as dividend.

Dividend yield (DY) – it is the remaining independent variable. It is expressed as the percentage of Dividend Per Share compared to its share price at the end of the year.

The paper also incoporated 4 control variables which were studied to have impact on the share price volatility in other institutional contexts.

Firm size (FS) – It was computed by taking natural logarithm of total asset value in order to eliminate size effect to the variables employed in the paper (Tabachnick and Fidell, 2007).

Earnings volatility (EV) — The more volatile the earnings is, the riskier investment the company undertakes. Thus, managers aim at not only maximizing earnings, but also normalizing them that fluctuations would be minimized to the lowest extent. According to Dichev and Tang (2009), it is measured by taking the standard deviation of earnings for the most recent preceding six years for each year.

Long-term debt ratio (LTD) – it was calculated by taking total long-term debts divided by total assets.

Growth in assets (GA) – It is the growth rate of the companys assets during a fiscal year compared to the previous year. It is obtained by the ratio of change of the total assets from the beginning to the end of the year with the total asset value at the beginning.

The data mentioned above were derived from audited financial statements from 2011 to 2016, which were downloaded from the firms respective websites. It confidently ensures the accuracy of those data.

3.3. Regression model specification

In order to accurately test the association between dividend payout, dividend yield and share price volatility with the four control variables mentioned above, the following model was developed:

$$SPV_{i;t} = \alpha + \beta_1 DP_{i;t} + \beta_2 DY_{i;t} + \beta_3 FS_{i;t} + \beta_4 EV_{i;t} + \beta_5 LTD_{i;t} + \beta_6 GA_{i;t} + \varepsilon_{i;t}$$

where $SPV_{i;t}$ is share price volatility of the ith firm at time t; $DP_{i;t}$ is the dividend payout ratio, $DY_{i;t}$ is dividend yield, $FS_{i;t}$ is the firms size; $EV_{i;t}$ is earnings volatility; $LTD_{i;t}$ is long-term debt ratio, $GA_{i;t}$ is growth in assets; α is the intercept, β is the regression coefficient, and ε is the error term.

3.4. Estimation strategy

In this paper, mean centered scores for the main effect variables were used with the purpose of eliminating the multicollinearity possibility (Aiken and West, 1991). Besides, three diagnostic tests were thoroughly examined to check the validity of the papers dataset. First of all, according to Table 2 and Table 3, the predictors Variance Inflation Factor (VIF) are smaller than 10 and the correlations among them are lower than 0.8. They confirmed that there is no existence of multicollinearity problem in the dataset (Mansfield and Helms, 1982; Hair, et al., 2005).

TABLE 2.

Variance Inflation Factor of Explanatory variables

Variable	VIF	1/VIF
DP	1.16	0.861976
DY	1.23	0.814799
FS	1.10	0.905229
EV	1.14	0.874018
LTD	1.08	0.927925
GA	1.07	0.930809

TABLE 3.

Correlation matrix of Explanatory variables

	SPV	DP	DY	FS	EV	LTD	GA
SPV	1.0000						
DP	-0.0892	1.0000					
DY	-0.2134	0.3235	1.0000				
FS	-0.1265	-0.1045	-0.2983	1.0000			
EV	-0.4265	-0.1148	0.0835	-0.0749	1.0000		
LTD	0.2205	0.0015	-0.0457	0.0771	-0.2244	1.0000	
GA	-0.0512	-0.1012	-0.0626	0.0122	-0.1890	-0.0851	1.0000

Second, it is necessary to check the potential endogeneity of DP and DY variables. Durbin-Wu-Hausman tests were employed. With the statistically insignificant results ($p = 0.299$ and $p = 0.15$ respectively for DP and DY), the null hypothesis of Durbin-Wu-Hausman test, which variables under consideration can be treated as exogenous, was accepted. In other words, endogeneity is not a problem in the dataset.

Third, the paper also tested the reverse causality between DP, DY (as dependent variables) and SPV (as a predictor) seperately by using Multivariate Granger analysis (Granger, 1969; Ltkepohl, 2005). F tests of unreported models with $p = 0.44$ and $p = 0.231$ (both are statistical in-

significance) for the impact of SPV on DP and DY respectively verified causality did not appear as a problem in the dataset.

Basing on those mentioned tests above, the dataset is free from multi-collinearity, endogeneity and reverse causality, so General Moment Method (GMM) and Two Stage Least Squares Instrument Variables (2SLS IV) appear unnecessary (Baltagi, 2001; Wooldridge, 2010). In order to robust the accuracy of the estimation method, F test and Hausman test were conducted to select the best method among pooled OLS, fixed and random effect ones. $R^2 = 0.1374$ and $R^2 = 0.081$ of fixed and pooled OLS models respectively have confirmed that fixed effect model is better to measure the papers dataset than pooled OSL. Afterwards, Hausman test with $p = 0.000 < 0.05$ indicated that fixed effect model is a better fit one in comparison with random effect model (Table 4).

TABLE 4.

Hausman Test

| | Coefficients | | | |
| | (b) | (B) | (b-B) | Squrt(diag(V_b-V_B)) |
	Fixed Effect	Random Effect	Difference	S.E.
DP	−0.0294732	−0.0290498	−0.0004234	0.0015697
DY	−1.079517	−1.134328	0.0548111	0.0149149
FS	−0.000977	−0.0010445	0.0000675	
EV	−0.4388314	−0.6945669	0.2557355	0.0504296
LTD	0.0388822	0.0519918	−0.0131096	0.0113252
GA	−0.005954	−0.0115654	0.0056113	0.0009891

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$\chi^2(6) = (b - B)'[(V_b - V_B)^{(} - 1)](b - B) = 31.56$

$Prob > \chi^2 = 0.0000$

4. RESULTS

Table 5 presents statistical description of the dataset. The volatility of stock price varies from 0.04713 to 0.41659 with a mean value of 0.17207 and standard deviation of 0.06942. The dividend payout ratio mean is relatively low by approximately 11% that means the companies use about 11% of earnings after tax paid out as dividends to shareholders. Besides, the mean of dividend yield of 0.01425 with the standard deviation of 1.33% shows that the expected return for the dividend-seeking investors is only 1.43% per year.

Table 6 shows the results of hypothesis tests. The estimation model has a R-square of 0.1374. The results indicated that payout ratio has statisti-

TABLE 5.

Descriptiive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SPV	846	0.17207	0.06942	0.04713	0.41659
DP	846	0.10947	0.19998	0	2.96296
DY	846	0.01425	0.01333	0	0.11429
FS	846	30.0220	5.37406	25.53364	45.48526
EV	846	0.03789	0.03105	0.00028	0.26947
LTD	846	0.09461	0.13538	0	1
GA	846	0.06259	0.37638	−8.30685	0.90726

cally significantly negative effect on share price volatility ($\beta = -0.029, p = 0.002,$), leading to an acceptance of Hypothesis 1. Another independent variable, dividend yield, negatively affects share price volatility in the statistically significant manner ($\beta = -1.080, p = 0.000$), so Hypothesis 2 is also accepted. The significant effect of predictors are also double checked by testing the change of R^2. It reveals that those explanatory factors additionally explain 7.5% of the variance of the share price volatility. Additionally, the test also indicates that firm size and earning volatility both have negative impact on share price volatility in a significant fashion ($p = 0.001$ and $p = 0.000$ respectively). Meanwhile, Long-term debt and growth in assets insignificantly affect the fluctuation of share price by positive and negative signs respectively.

TABLE 6.

Fixed Effect Model

SPV	Coefficient	Std. Err	t	$P > t$
DP	−0.02947	0.00935	−3.15	0.002
DY	−1.07952	0.13952	−7.74	0.000
FS	−0.00098	0.00030	−3.30	0.001
EV	−0.43883	0.09502	−4.62	0.000
LTD	0.03888	0.02125	1.83	0.068
GA	−0.00595	0.00466	−1.28	0.202
Constant	0.20256	0.01090	18.58	0.000
Observations	846			
R-squared	0.1374			
R-squared change*	0.0750			
F-Statistic	18.56			
Sig.	0.0000			

* Measured between Model 1 with the existence of only SPV and all control variables and Model 2 with all variables (i.e. including DP and DY)

5. DISCUSSION

The papers finding reveals a negative relationship between dividend payout ratio and share price volatility in the context of Vietnam from 2011-2016. This is in line with Diamond (1967), Baskin (1989), Allen and Rachim (1996), Nazir, et al. (2010) and Hussainey, et al. (2011) with Signalling and Bird-in-Hand theory support. What is more, the negative impact of dividend yield on share price volatility is also consistent with Baskin (1989) and Allen and Rachim (1996). Regarding information effect, higher dividend can be considered a signal of firm stability, so the investors tend to perceive the lower extent of risks associated with that kind of stock. It, then, makes the stock price less volatile. It is also supported by the finding of inverse relationship between firm size and share price volatility. Most of the big firms tend to stablize their growth rates (i.e. in stage of mature and declining, the demand of additional capital used for investments would be lower in comparision to the phase of initial and intensive development), so they usually pay higher dividend instead of reinvesting most of their earnings into new projects. Besides, the stability of those big companies seems to be insured by their high and various experience of management and operation. Statistically, the coefficient of Dividend yield also shows that it has the greatest influence on share price volatility among tested variables. For variables having insignificantly direct impact on share price volatility (i.e. long-term debt ratio and growth in assets), its plausible to raise the question whether or not they have indirect effect on share price fluctuation by acting as moderators (Hair, 2005).

6. CONCLUSION

The paper practically informs that the higher dividend payout ratio is, the lesser volatile share price is and the higher dividend yield tends to reduce the fluctuation of share price both in statistically significant manner in the context of all firms listed in Ho Chi Minh Stock Exchange from 2011 to 2016. Particularly, dividend yield is the most important determinant of the volatility of share price. The paper also takes advantage of statistical model in comparison with other previous studies in the same context by employing fixed effect model for panel data after thoroughly examining multicollinearity, endogeneity and causality problems. Thus, the research findings are highly valid and reliable. Not only does it fill out the theoretical gaps for dividend policy in the context of emerging markets like Vietnam in different time period, but also can the managers establish and adjust the dividend policy in order to achieve their stock price target or other related strategies by basing on those findings. Indeed, if the company has been focusing on the risk-averse investors, it can increase the dividend

payment that can narrow the share price fluctuation by sending a signal of lower risk perception to the market. Then, it is able to attract those target investors. For the investors, they can identify the factors (dividend payout, dividend yield, firm size, earnings volatility, long-term debt ratio and growth in assets) affect share price volatility in order to have appropriate investment judgment and decisions. Moreover, to be more accurate in financial behaviors, further studies should be conducted by examining moderating roles of long-term debts and growth in assets factors. Last, psychology-related variables also appear interesting to take into consideration for further studies of dividend policy and share price volatility.

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