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**The relationship between dividends policy and stock price volatility – Evidence from  
Chinese listed companies**

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by

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## **The Relationship between Dividends Policy and Stock Price Volatility--- Evidence from Chinese Listed Companies**

### **ABSTRACT**

This study is going to test the impact of dividend policy on share price volatility and it uses non-financial companies listed in Chinese stock market as sample. At the end, 363 companies from all listed companies in Chinese capital market are selected and the data is from 2013 to 2016. The paper takes dividend payout ratio as the proxy for dividend policy to test the relationship between dividend policy and share price volatility by applying multiple regression. The study used the regression model developed by Lashgari and Ahmadi (2014), which adds control variables of firm size, earning volatility, leverage, and growth rate to the model. The results show significant positive relationship between share price volatility with dividend payout ratio. Moreover, among control variables firm size has the most obvious impact on share price volatility with a negative relationship, while neither of the relations between the leverage and price volatility, earnings volatility and price volatility are significant.

**Key Words:** dividend policy, share price volatility, dividend payout ratio

**JEL Classification:** G35; H54

## I. INTRODUCTION

This paper is going to explore the impact of dividend policy on the movement of stock price. Dividend policy refers to the principled approach adopted by the general meeting of shareholders or the board of directors of a company to all matters related to dividends. It involves a series of decisions made by a company about whether to pay dividends, how much dividends to pay and when to pay dividends. Dividend payout ratio and dividend yield are two main measurements of dividend policy. In this paper, dividend payout ratio is used as the proxy of dividend policy, and the standard deviation of stock price within a certain period of time is used as the price volatility.

Dividend policy plays a crucial role in the company's operation, which is related to the long-term development of the company, shareholders' expectation of investment returns and the rationality of capital structure. On the one hand, reasonable dividend policy can provide funds for firms' expansion, on the other hand, it can establish a good image for the company, attract potential investors and creditors, and realize the maximization of the shareholders' wealth. China has an emerging capital market, which has been developing rapidly for more than 20 years. A variety of potential problems aroused during this period. What is particularly criticized is the serious hyping sentiment in the stock market, which will hinder the establishment of investors' rational investment concept and the healthy development of the market itself. Some Chinese scholars attributed this situation to the poor dividend payment of listed companies and the long-term existence of non-distribution of profits. It can be seen that as one of the core financial issues of a company, dividend policy may be an important consideration for stock price fluctuation for the managers of a listed company. Therefore, for the rapidly growing market as well as the companies that have been listed

on the stock market, what dividend policy can appropriately promote the long-term development of the company and the stability of the stock market price is an area that deserves explored and standardized.

Many researchers have studied in this field but there is not much research has been done on the Chinese stock market. Dividend payout ratio is one aspect of dividend policy. Previous researches has been controversial about the relationship between dividend payout ratio and share price volatility. Some of the studies detected positive relationship between payout ratio and share price volatility while others suggested positive effect of payout ratio on price volatility. This study took 363 Chinese non-financial listed companies from 2013 to 2016 as the research sample to conduct statistical analysis and empirical research on the impact of dividend policy on stock price volatility.

This paper use statistic description, coloration analysis and multiple regression to conduct the empirical research. The results show that dividend payout ratio, the independent variable has significant positive effect on share price volatility which is consistent with the conclusion of Zakaria et al. (2012) and Profilet (2013), though inconsistent with the hypothesis and the conclusion of studies of Habib et al. (2012) and Hashemijoo et al. (2012). The results of the study suggest that companies with higher dividend distribution at the end of the year tend to have higher stock price in this year. In addition, firm size has the most impact on share price volatility among all the control variables and induces a significant negative influence on volatility of share price.

The study provides evidence that dividend payout ratio, as a game between the retention and distribution of net profit, does have a certain impact on stock price volatility. Therefore, this study provides a reference and basis for the managers of companies, especially the managers of listed companies, on how to formulate dividend policy and also provide them with suggestions on

improving their decision-making.

This study does not break down the scope of the company, such as the type of company and the specific region of the company in China. In addition, only the data from 2013 to 2016 are collected to make analysis and judgment. Therefore, whether the positive relationship between dividend payout ratio and share price volatility in Chinese listed companies do exist and what factor cause this phenomenon remains to be discussed. Future studies are encouraged to focus on data for more years and make a detailed study of different regions and types of companies in China. In order to get more convincing and accurate results, it is also encouraged to add more control variables to improve the regression model.

## **II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **Theoretical Review**

How much a company should pay its stockholders has been a key issue concerned by managers. Reducing dividend payments may lead to shareholder dissatisfaction and lower stock prices. However, blindly satisfy dividend payments will lead to a reduction in retained earnings for reinvestment. Whether Dividend policy will affect a firm's value has always been an important research area. Miller & Modigliani (1961) propose irrelevance theory suggesting that dividends are irrelevant. It is argued that firms' value is not affected by retaining earnings or paying them as dividends. Instead, they claim that firms' value is subjected to the firm's future earnings, which comes from company's investment policy. Brennan (1971) also supports the theory that dividends are irrelevant. He makes the conclusion that only based on negating the principle of symmetrical market rationality and the assumption of independence of irrelevant information can the theory be denied. However, the study of Adefila et al. (2004) reveal that dividends affect the firms' value

indirectly. They make the statement that share price of quoted companies is regulated by the Security and Exchange Commission, and therefore, dividend policy itself does not affect firms' value. It will affect the demand for the stock price first and subsequently the value of the firm. In addition, Masum (2014) analyze the data of thirty commercial banks of Bangladesh listed in Dhaka Stock Exchange from 2007 to 2011 and come up with the conclusion that dividend policy does have an effect on stock prices. He add fixed effect and random effect to his analysis and found out significant negative relation between dividend yield and stock price while there is a statistically insignificant negative relationship between retention ratio and stock price.

### **Factors affect stock price volatility**

Stock price volatility is the degree of fluctuation in stock prices.

From an investor's point of view, it is a measure of the uncertainty of stock returns and is used to reflect the risk level of investing in stocks. The higher the volatility, the greater the chance that the stock will rise or fall and the stronger the uncertainty of the yield; and vice versa.

From the perspective of the company, the short-term fluctuation of stock price will have no impact on the nature of the company, because listed companies do not make profits by resell shares. The trading of stocks is only a transfer among investors, so that the price does not affect the funds the company has already raised, but only the profits and losses of investors. Conversely, the performance and decisions of the company itself can affect the rise and fall of the stock price. In the long run, if the company's performance and reputation continues to improve, the company's intrinsic value will continue to grow, and the stock price will rise accordingly.

To explore the impact of corporate behavior on stock price volatility, a bunch of previous studies treated dividend policy as independent variable and conducted research. They collected and analyzed data in different regions and industries, and finally made conclusions. Habib et al.

(2012) suggest there is relationship between dividend policy and share price volatility in Pakistan after the inclusion of size, debt and growth as control variables. Their research also propose that dividend yield is a much more important factor than payout ratio in determining stock price volatility and furthermore, signaling effect is also relevant in determining the share price volatility. Hashemijoo et al. (2012) focus on consumer product companies in Malaysian stock market and detect the significant relationship between share price volatility with both dividend yield and dividend payout ratio. When conducting regression, they add control variables including size, earning volatility, leverage, debt and growth to the model and detect that size is also an important factor that has impact on share price volatility followed by earnings volatility. Similarly, the results of the study based on a sample of publicly quoted companies in the UK conducted by Hussainey et al. (2011) suggest there is relationship between share price volatility with dividend yield and dividend payout ratio, which are the two main proxies of dividends policy. The study add similar control variables like firm's growth rate, debt level, size and earnings to their model and find out that these explain share price volatility as well. Among them, size and debt had the highest correlation with price volatility. In addition, based on findings of Hashemijoo et al. (2012), size and dividend yield have the biggest impact on share price volatility most amongst all of the variables. However, the study of Lashgari and Ahmadi (2014) indicate that leverage, earning volatility and company size do not significantly affect share price volatility. Profilet (2013) use standard deviation of share price to express the stock's volatility as the dependent variable and added dividend yield, payout ratio, size, leverage, and growth as independent variables. By analyzing the financial data of 599 publicly traded firms, Profilet made the conclusion that all of the five independent variables is related to the stock's price volatility. A research conducted by Rashid and Rahman (2008) suggest the relationship between stock price volatility and dividend

policy does exist though it indicates that the relationship between stock price volatility and dividend yield is not significant. The study of Okafor and Chijoke-Mgbame (2011) support the fact that dividend policy is relevant in determining share price changes for a sample of firms listed in the Nigerian Stock Exchange. In addition, they reach the conclusion that companies with smaller size, more growth opportunities and higher earnings volatility tend to experience higher share price volatility. Different from most of the previous researchers who use data of listed companies in the exchange, Zakaria et al. (2012) conduct research based on Malaysian listed construction and material companies. The study suggest significant relationship between dividend payout ratio and the fluctuation of share price. However, dividend yield insignificantly influence the movement of the share price. Test on control variables show that companies with larger size and lower leverage tend to have greater share price volatility. The result show no significant influence between investment growth and earnings volatility on the fluctuations of the company share prices.

### **Empirical reviews**

It can be seen from previous studies that dividend yield and dividend payout ratio are the two most used independent variables and the control variables applied in the model are very similar. The results of previous studies vary from each other. Hashemijoo et al. (2012), Hussainey et al. (2011), Profilet (2013), and Okafor and Chijoke-Mgbame (2011) find there is a negative relationship between dividend yield and share price volatility. Among these researchers, Hashemijoo et al. (2012) indicates the relationship is significant. However, Habib et al. (2012) and Rashid and Rahman (2008) state that dividend yield positively affect share price volatility though result of Rashid and Rahman (2008) shows the relationship is not significant. Zakaria et al. (2012) claim the relationship between dividend yield and share price volatility is not significant.

Almost all studies in the past have reached negative correlation conclusions about relationship between dividend payout ratio and share price volatility. However, Zakaria et al. (2012) state that dividend payout ratio significantly positively affect share price volatility. Coincidentally, Profilet (2013) also find the positive relationship between share price volatility and dividend payout ratio.

In all of the control variables, size is one of the most important factors that influence the share price volatility. Almost all of the previous researchers find out negative relationship between firms' size and share price volatility though Lashgari and Ahmadi (2014) claim the effect is not significant. Such consistent results suggest that firms with larger scale have less price volatility, which means investors can choose to buy shares of larger companies in order to take less risk.

Growth rate of a company also affects the stock price volatility. Lashgari and Ahmadi (2014) claim growth rate has significant positive effect on stock price volatility while Profilet (2013) detect negative relationship between growth rate and share price volatility. However, Zakaria et al. (2012) state that the relationship between growth rate and share price volatility is insignificant.

The study of Hussainey et al. (2011) suggests debt has significant positive relationship with price volatility, which means the more leveraged a firm is, the more volatile the stock price will be. By contrast, Lashgari and Ahmadi (2014), Profilet (2013) and Zakaria et al. (2012) detect negative effect of leverage on price volatility, indicating firms with higher leverage will have less volatile stock price.

As mentioned, the study of Okafor and Chijoke-Mgbame (2011) suggest that companies with higher earnings volatility tend to experience higher share price volatility. This is consistent with the result of the study of Hashemijoo et al. (2012) which shows earnings volatility induces significant positive influence on volatility of share price. However, both Lashgari and Ahmadi

(2014) and Zakaria et al. (2012) claim there is no significant relationship.

### **Hypothesis Development**

Based on the above literature review, the following hypothesis is proposed.

**H:** The dividend policy will influence the stock price volatility and there is a negative relationship between the dividend payout ratio and the stock price volatility in Chinese listed companies. In addition, it is assumed that as control variables, size and leverage have negative effect on the price volatility while the growth rate and earnings volatility have positive effect on the movement of stock price.

### **III. RESEARCH METHODOLOGY**

All of the information needed for this research are downloaded from CSMAR, a China official database. CSMAR is used to collect data regarding stock prices, dividend payout ratio, earnings per share before interest and tax, long-term debt and total assets. The study collects data of Chinese listed companies from 2013 to 2016. In addition, it sets the following limitations on the companies. First, all of the companies should have been recorded in CSMAR since 2013 and they should not be in a financial or investing industry. During the research period their stock trading has not stopped and dividends are paid at least once a year during the four years. Thus, the final samples of 363 companies are examined. This study does not averaged the variables for the four years, but add year as fixed effect to the model when regression.

## The Model

The study uses multivariable regression model to test the hypothesis. The model is as follows. This paper uses the model developed by Lashgari and Ahmadi (2014). ( $\beta_0$  is the intercept,  $\beta_1$ - $\beta_5$  are the regression coefficient and  $\varepsilon$  is the error term.)

$$\mathbf{P-VOL}_{it} = \beta_0 + \beta_1 \mathbf{PAYOUT}_{it} + \beta_2 \mathbf{E-VOL}_{it} + \beta_3 \mathbf{LEV}_{it} + \beta_4 \mathbf{SIZE}_{it} + \beta_5 \mathbf{GROWTH}_{it} + \varepsilon_{it}$$

**P-VOL**<sub>it</sub> = Stock Price Volatility for firm i in year t

**PAYOUT**<sub>it</sub> = Dividend Payout Ratio for firm i in year t

**E-VOL**<sub>it</sub> = Earnings Volatility for firm i in year t

**LEV**<sub>it</sub> = long-term debt and total assets for firm i in year t

**SIZE**<sub>it</sub> = Firm Size for firm i in year t

**GROWTH**<sub>it</sub> = Growth Rate for firm i in year t

$\varepsilon_{it}$  = error

## Description of Variables Used in the Study

### *Dependent Variable: Stock Price Volatility*

This is the dependent variable of the study. This variable is calculated by dividing the annual range of prices with the average of high and low stock prices. The highest and lowest daily stock price data is obtained from CSMAR and it is used to figure out the range of fluctuations and find the highest, lowest, and average stock price for each year. The formula is as follows:

$$(H_{it} - L_{it}) / [(H_{it} + L_{it}) / 2]$$

$H_{it}$  = the highest share price for firm i in year t

$L_{it}$  = the lowest share price for firm i in year t

t indicates years from 2013 to 2016

### ***Independent Variable: Dividend Payout Ratio***

This paper uses dividend payout ratio as a proxy for dividend policy. Dividend payout ratio refers to the ratio of cash dividend and earnings per share of common stock, and this ratio can be obtained and extracted directly from CSMAR under dividend distribution plate.

### ***Control Variables 1: Earnings Volatility***

To calculate this variable, first the data of earnings per share (EPS) is obtained from CSMAR. These figures represent EPS before interest and taxes. Dichev and Tang (2009) state that standard deviation of earnings for the most recent previous five years for each company can be used as earnings volatility in each examined year. The method is applied to this paper. For example, the earnings volatility for 2013 for firm *i* is calculated by taking the standard deviation of EPS before interest and taxes during 2009 to 2013.

$$E-VOL_{it} = \sqrt{\frac{(R_{it}-R_m)^2+(R_{(i-1)t}-R_m)^2+(R_{(i-2)t}-R_m)^2+(R_{(i-3)t}-R_m)^2+(R_{(i-4)t}-R_m)^2}{n-1}}$$

$R_{it}$ = earnings per share for firm *i* in year *t*

$R_m$ = the mean of earnings per share for the most recent preceding five years ending with year *t*

### ***Control Variables 2: Leverage***

This variable is used to reflect the extent a company is leveraged. For calculating this variable, the ratio of total long-term debt (obligations of firm with maturity greater than one year) to total asset is computed for each firm in each year. Figures for long-term debt and total assets are obtained directly from CSMAR.

$$LEV_{it} = LD_{it} / ASSET_{it}$$

$LD_{it}$  = the total long-term debt at the end of the year for firm *i* in year *t*

$ASSET_{it}$  = the total asset at the end of the year for firm *i* in year *t*

### ***Control Variables 3: Firm Size***

This variable represents the scale of the company. Firm size is generally measured by market value or total asset. In this paper, total asset is used as a proxy according to the model of Lashgari and Ahmadi (2014). Specifically, it is measured using the natural logarithm of total asset at the end of the years for each firm in each year. The figure of total asset is downloaded directly from SCMAR.

$$SIZE_{it} = \text{Ln}(\text{ASSET}_{it})$$

### ***Control Variables 4: Growth Rate***

This variable represents the asset growth rate of firms. These figures were obtained by taking the ratio of the change in total assets at the end of the year to the level of total assets at the beginning of the year. The level of asset for each company is recorded in CSMAR.

$$\text{GROWTH}_{it} = \Delta \text{ASSET}_{it} / \text{ASSET}_{it-1}$$

$$\Delta \text{ASSET}_{it} = \text{ASSET}_{it} - \text{ASSET}_{it-1}$$

$\Delta \text{ASSET}_{it}$  = change in total assets at the end of the year for firm i in year t

$\text{ASSET}_{it}$  = total asset at the end of the year for firm i in year t

$\text{ASSET}_{it-1}$  = total asset at the end of the year for firm i in year t-1

#### IV. EMPIRICAL TESTS AND RESULTS AND DISCUSSION

After merging and filtering all the data files downloaded from SCMAR, 363 companies except those in the financial industry from all listed companies in China from 2013 to 2016 have been selected as samples for this study. All companies paid dividends during the four years, and the data were complete without gaps. This paper use Stata to generate all of the tables. The following tables include statistic description, correlation analysis and multiple regression.

**Table (1)**  
**Descriptive Statistics of all variables (N=1452)**

Variable	Obs	Mean	Std. Dev.	Min	Max
Price Volatility (P-VOL)	1452	0.676	0.251	0.181	1.587
Payout Ratio (PAYOUT)	1452	0.339	0.894	0.02	32.407
Growth Rate (GROWT)	1452	0.228	1.34	-0.312	48.847
Firm Size (SIZE)	1452	23.442	1.314	20.517	28.5
Leverage (LEV)	1452	0.102	0.102	0	0.622
Earnings Volatility (E-VOL)	1452	0.291	0.274	0.011	2.327

The descriptive statistics in table (1) provides the mean, minimum and maximum value and standard deviation of the variables that affect the price volatility of Chinese listed companies for the period of 2013 to 2016. As Table (1) shows, the average value of size is the largest among all variables, reaching 23.442, while the smallest is leverage, only 0.102. Size also has the largest standard deviation with value of 1.314 and leverage has the lowest value of standard deviation with figure of 0.102. In addition, growth rate has obviously the largest numerical interval among all variables. The range is 49.159 by calculating the difference between the maximum value and

the minimum value. The numerical interval of dividend payout ratio ranked second, with a relatively large range of 32.387. By contrast, leverage has the lowest range amongst variable with value of 0.622. However, though size has the largest mean, its range is not so high compared to its mean, with the value of 7.983.

**Table (2)**  
**Correlation Analysis amongst Variables**

Variables	(p-vol)	(payout)	(growth)	(size)	(leverage)	(e-vol)
P-VOL	1.000					
PAYOUT	0.062**	1.000				
GROWTH	0.073***	-0.020	1.000			
SIZE	-0.080***	-0.037	0.027	1.000		
LEV	-0.039	-0.031	0.010	0.234***	1.000	
E-VOL	0.007	-0.028	0.011	0.234***	0.073***	1.000

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table (3)**  
**Correlation Analysis at significance of 0.01 level**

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) P-VOL	1.000					
(2) PAYOUT	0.062 (0.018)	1.000				
(3) GROWTH	0.073*** (0.006)	-0.020 (0.458)	1.000			
(4) SIZE	-0.080*** (0.002)	-0.037 (0.158)	0.027 (0.300)	1.000		
(5) LEV	-0.039 (0.141)	-0.031 (0.237)	0.010 (0.708)	0.234*** (0.000)	1.000	
(6) E-VOL	0.007 (0.779)	-0.028 (0.286)	0.011 (0.665)	0.234*** (0.000)	0.073*** (0.005)	1.000

\*\*\* shows significance at the 0.01 level

Table (2) represents the correlation amongst variables under the significance level of 1%, 5% and 10%. Table (3) shows in detail the p-value of the correlation coefficient at the level of 1%. It can be seen from table (2) that stock price volatility and dividend payout ratio are positively correlated with value of 0.062 and it is significant at level of 5%. It means that higher dividend payout ratio will cause higher stock price volatility. It is consistent with the conclusion of Zakaria et al. (2012) and Profilet (2013) while it is inconsistent with the conclusion of other studies of Habib et al. (2012) and Hashemijoo et al. (2012), and it is inconsistent with the expectation of the hypothesis. The results also show that there is a significant positive relationship between company growth rate and price volatility with value of 0.073. It is significant at level of 1%, which is in line with the results of (Masum, 2014) and the expectation. The results also indicate there is a significant negative relationship between price volatility and company size with value of -0.08 and it is significant at level of 1%, which is in line with the expectation. Because larger companies tend to have more public information and it is easier for investors to make stable decisions so that the stock price volatility would be lower. The results also suggest that there is an insignificant negative relationship between price volatility and leverage, which means a company's debt situation do not have much impact on the volatility of its share price. Moreover, the least obvious correlation appears between price volatility and earnings volatility. This finding is consistent with the result of Zakaria et al. (2012) but inconsistent with that of Hashemijoo et al. (2012). In addition, size and leverage have significant positive relationship with value of 0.234 and it is significant at level of 1%. It indicates larger firms tend to have higher leverage. What's more, earnings volatility and size have significant positive relationship with value of 0.234 and it is significant at level of 1%. It implies larger company size leads to greater earnings volatility. Earnings volatility also has significant positive relationship with leverage with the value of 0.073 and it is significant at level

of 1%, which indicates firms with higher earnings volatility tend to have higher leverage and this is kind of abnormal because in generally it is harder for companies with volatile profits to raise money from Banks and other creditors. The significant relationship between the two variables also explains the insignificant relationship that exists simultaneously between them and stock price volatility.

**Table (4): Regression results**

<b>VARIABLES</b>	<b>P-VOL(Random Effect)</b>	<b>P-VOL(Fixed Effect)</b>
<b>Dividend Payout Ratio (PAYOUT)</b>	0.017** (2.317)	0.022** (2.423)
<b>Growth Rate (GROWTH)</b>	0.014*** (2.905)	0.002 (0.310)
<b>Frim Size (Size)</b>	-0.016*** (-2.959)	0.110*** (3.798)
<b>Leverage (LEV)</b>	-0.051 (-0.767)	-0.078 (-0.409)
<b>Earnings Volatility (E-VOL)</b>	0.026 (1.074)	0.053 (0.793)
<b>Constant</b>	1.029*** (8.521)	-1.920*** (-2.822)
<b>Observations</b>	1,452	1,452
<b>Number of stkcd</b>	363	363
<b>R-squared</b>	0.017	0.023
<b>year FE</b>	NO	YES
<b>Adj. R-sq</b>	0.0133	-0.308

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table (4) shows the regression results of the dividend payout ratio (PAYOUT) and stock price volatility (P-VOL) with other control variables. The regressions use random effect model and fixed effect model respectively to come up with the result. The first column of Table (4) exhibits the result using random effect model and the second column exhibits the result using fixed effect model.

Fixed Effect Model provides statistically better results than Random Effect Model. However, according to fixed effect model, only 2.3% of the firm's stock price volatility during the process of the study, by the independent variables of dividend payout ratio, firm leverage, growth rate, firm size and earning volatility can be explained.

As the independent variable, dividend payout ratio is positively related to price volatility and the impact is significant at the level of 5% in both the random effect model and fixed effect model. Not as expected, this is in line with that of Zakaria et al. (2012) and Profilet (2013), which is positive but it is in contrast with that of Habib et al. (2012) and Hashemijoo et al. (2012) which is negative. It shows firms with higher payout ratio tend to have higher price volatility. This result does have some weirdness. In general, if a company takes more money out of its net profit as dividend, it will stabilize the shareholders' mood and investment willingness, and thus stabilize the stock price. However, apparently according to the results of this study, this theory does not hold true among Chinese listed companies. An explanation for possible bias in results is the inconsistency of the time periods of the variables. Generally companies issue dividends at the end of each year, and therefore the data for the dividend payout ratio corresponds to December of each year. However, the time corresponding to the calculated stock price volatility is the whole year. Therefore, such time deviations may lead to inaccurate or deviant results in this study. In terms of firm size, it is positively related to price volatility in fixed effect model but negatively related to

price volatility in random effect model. And the impact is significant at the level of 1% in both of the models. Firm size is also the only one of all control variables that still has a significant effect on share price volatility in the fixed effect model. It confirms the conclusion of the majority of previous researchers that larger companies tend to have relatively low stock price volatility. Growth rate is both positive with price volatility in random effect model and fixed effect model but the result is only significant in random effect model. In both of the two models, leverage has negative impact on price volatility. In addition, earnings volatility also has positive effect on price volatility in both two models. However, neither of the relations between the leverage and price volatility, earnings volatility and price volatility are significant. So according to this study, the impact of leverage and earnings volatility on stock price volatility is hardly statistically significant.

**Table (5): Regression results of different years**

<b>VARIABLES</b>	2013 P-VOL	2014 P-VOL	2015 P-VOL	2016 P-VOL
<b>PAYOUT</b>	-0.023 (-0.489)	-0.028 (-0.829)	-0.045* (-1.788)	0.022*** (3.969)
<b>GROWTH</b>	0.057** (2.128)	0.042 (1.243)	0.047** (2.330)	0.014*** (3.920)
<b>SIZE</b>	-0.018** (-2.224)	0.025*** (3.166)	-0.043*** (-5.373)	-0.040*** (-5.140)
<b>LEV</b>	-0.218** (-2.375)	0.232** (2.356)	-0.103 (-0.974)	-0.062 (-0.600)
<b>E-VOL</b>	0.095*** (2.618)	-0.044 (-1.228)	0.033 (0.874)	0.020 (0.525)
<b>Constant</b>	0.979*** (5.269)	0.052 (0.291)	1.965*** (10.639)	1.482*** (8.225)
<b>Observations</b>	363	363	363	363
<b>R-squared</b>	0.062	0.061	0.102	0.153
<b>Adj. R-sq</b>	0.0484	0.0478	0.0897	0.141

t-statistics in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

In order to better understand the relationship between variables in different years, this study comes up with a regression analysis on each year's data separately after the overall regression. Table (5) shows the results of separate regressions on the data from 2013 to 2016.

It indicates that the relationship between dividend policy and stock price volatility is significant in year 2015 and 2016 but insignificant in 2013 and 2014. And only 2016 data show the relationship is negative, which means that the analysis of data from different years will lead to different results. Similarly, this phenomenon also exists in the analysis results of control variables. The only one that shows significant effect in all of the years is the firm size. However, unlike other years, it shows a negative effect in 2014.

It can be seen that the stock market is a market full of unknowns. Many factors including special events and market environment of different year may affect the volatility of stock prices. Perhaps more control variables should be added to the model for future analysis.

## **V. CONCLUSION**

The purpose of the study is to investigate the impact of dividend policy on stock price volatility in listed non-financial companies in China. This study select 363 companies from all listed companies in China as sample and conduct multiple regression over a four-year period starting from 2013 to study the impact of dividend payout ratio on stock price volatility. This study adopt the model of Lashgari and Ahmadi (2014), in which there are four control variables: company size, earnings volatility, leverage, and growth rate.

The results of this study show that dividend payout ratio is positively related to price volatility and the impact is significant. This is in line with the result of Zakaria et al. (2012) and Profilet (2013), which is positive but it is in contrast with that of Habib et al. (2012) and

Hashemijoo et al. (2012) which is negative. It shows firms with higher payout ratio tend to have higher price volatility. In addition, the study indicates that firm size has the most impact on share price volatility among all the control variables. It has significant negative influence on volatility of share price, while neither of the relations between the leverage and price volatility, earnings volatility and price volatility are significant. The relationship between growth rate and price volatility is positive but the result is only significant in random effect model.

Based on the results of this study, it can be concluded that in a market where investors have a growing preference for long-term, stable returns, company managers can change the dividend policy to affect stock prices. The positive relationship between dividend payout ratio and price volatility means firms may be able to reduce stock price volatility by appropriately reducing the dividend payout ratio within a certain range.

This study has certain limitations. First of all, the results of this study were limited of data in four years for 363 Chinese non-financial listed companies, and therefore, similar researches of Chinese listed companies in different areas at different time periods can be conducted in the future. Furthermore, the same variable can be measured in multiple ways. Whether the measurement of variables is accurate enough in this study remains to be considered. In addition, in the Chinese stock market, there are too many small and medium investors as well as immature investors, The stock market is relatively irrational compared to other western countries. Therefore, whether more control variables should be added to the model developed by Lashgari and Ahmadi (2014) remains to be discussed.

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