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The Effect of Dividend Policy Measurement on Stock Price Volatility in the Manufacturing Sector in Indonesia

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Abstract

The problem of this research was *dividend policy had important role to stock price volatility and there was factors that important as a measurement to made a financial planning decision.*
The objectives of this research was *to analyze the effect of stock price volatility in 33 Manufacturing Companies Listed on the Indonesia Stock Exchange for the Period of 2016 – 2020*
The methodology of this research was *panel data regression analysis resulting Random Effect Model that used the type of time series data and cross section through the data processing program used EViews 9, with total of 33 Manufacturing Companies*
Finding and contribution of this research were div*, dividend payout ratio, dividend yield, firm size, leverage, earnings per share variables simultaneously had a significant effect on the variable stock price volatility. ividend payout ratio, dividend yield, firm size and leverage variable did not have a significant effect, while the earnings per share variable had negatively significant influence to the stock price volatility.*
Research implication in this research was *can be reference for company management in order to increase stock price volatility by adding more concern to a variabel earning per share that had significant impact to stock price volatility and also for Investor as a consideration on investment determination to predict companies that can give a maximum yield of profit.*

Keywords: *dividend payout ratio, dividend yield, firm size, leverage, earnings per share and stock price volatility*

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INTRODUCTION

In conducting transactions in the capital market, investors certainly expect a high rate of return with low risk. According to Jones (2000) returns can be in the form of yield (dividend) and capital gain (loss). Investors certainly expect high profits with a low level of risk, this is a challenge for companies in making dividend payment policy decisions.

In a company, a manager has a very important role in making investment and financing decisions, another function that is no less important is making decisions in paying dividends to shareholders. Dividends are an advantage on a company's investment in its financial portfolio, dividend payments are highly anticipated by shareholders because they are considered as a benchmark for investment decisions that have been carried out, if the company is able to pay dividends appropriately to shareholders then it is very pleasing to shareholders

because the company This is able to increase shareholder wealth so that it can attract other investors to invest shares in the company concerned.

Black (1976) argues that dividend payment policy is closely related to the welfare of the company, the better the company in distributing dividends, the company is considered very feasible in carrying out operational activities so as to be able to provide maximum profits, thus the company is able to attract other investors to invest. capital so as to increase the share price.

Dividend payments are very important for companies in gaining the trust of investors. This is considered a signal to the public, both to investors and non-investors, indicating that the company has carried out its operational activities well and has great and sustainable prospects for providing profits. Therefore, some companies allow for stable dividend payments, while a decrease in dividends is said to be a signal of weakness for investors. An increase in dividends will be announced only if the company can maintain a consistent dividend distribution, consistent dividend payments indicate that the company's stock price remains stable.

The relationship between dividend payments and stock price fluctuations is an interesting subject to study. Gordon (1963) states an inverse relationship between dividend payments and stock price volatility. This would imply that companies that distribute dividends consistently and high should face lower volatility in stock prices. Recent research conducted by Nguyen, Bui and Do (2019) has identified a negative relationship between dividend yields, dividend payments and stock price volatility, so these results confirm previous research conducted by Gordon (1963). However, research conducted by Jahfer and Mulafara (2016) explains that there is a positive relationship between dividend yield, payout ratio and Stock Price Volatility (SPV).

Based on the phenomena and background above, the researcher intends to conduct a study entitled "The Effect of Dividend Policy Measurement on Stock Price Volatility in the Manufacturing Sector in Indonesia". The manufacturing sector is one of the industries with a fairly high growth because this sector is an important sector in the activity of producing raw materials until they are ready to be distributed to the public for use in daily life. This study aims to analyze whether there is an effect of dividend policy on stock price volatility and whether there is an effect of control variables, such as Firm's Size, Leverage, and Earning Per Share (EPS) on stock price volatility. Measurement of dividend policy variables using Dividend Payout Ratio and Dividend Yield. This research is expected to be a positive reference for all stakeholders concerned.

Literature Review

Stock Price Volatility

One of the important features of a company's stock price is its consistent movement, either appreciating or depreciating. Zainudin, Mahdzan and Yet (2018) suggest that stock price volatility explains stock risk, where risk increases along with stock price volatility. That is, the higher the volatility of the stock price, the greater the risk faced by the stock.

Phan and Tran (2019) see stock price volatility as a change in stock prices over time as a result of instability, uncertainty, and risk. An understanding of stock price volatility is critical for investors, affected companies, and portfolio managers.

This is because investors are known to be rational and risk averse, they tend to be dissatisfied with the return premium for a high level of risk but prefer low risk with a certain rate of return.

Dividen Payout Ratio

The dividend payout ratio shows how much of the company's after-tax (EAT) income is paid to shareholders. This measurement is calculated by dividing the dividends paid by the profit after tax.

The payment of dividends indicates that a business earns sufficient income to share a portion of its profits with its owners so as to encourage shareholder confidence in the company's management team. The company's dividend policy is determined by the board of directors, which determines the frequency and timing of payments. The amount paid is determined by the company's results. There are no mandatory payments until the company has been declared capable of paying dividends by the board.

Dividen Yield

According to Sudana (2015) dividend yield is an annual dividend payment to shareholders expressed as a percentage of the current share price. This figure tells us what a shareholder can expect in future earnings from a stock based on the price it can buy for today, assuming the dividends remain unchanged.

It is important to recognize that stock dividend yields may change from time to time either in response to market fluctuations or as a result of an increase or decrease in dividends by the issuing company. So the results are not consistently regulated because they can be used as a metric to help determine whether a traded stock gets a good rating.

Firm Size

Firm size is one of the core issues of modern firm theory, firm size still plays an important role in the study of firm growth (Wang, 2011). According to Jiang (2003), firm size is defined as "employees per firm, employees per firm, sales per firm, and value added per firm." Shi (2014) shows that company size is a carrier of the company's production and business activities. At present, there are two types of criteria for the classification of enterprise scale in the theoretical field, namely qualitative index and quantitative index, the qualitative division is mainly determined from four aspects, the degree of enterprise autonomy, the degree of concentration of ownership, management mode and industry status. The quantitative division is mainly carried out from the aspect of the number of employees, assets and sales income (Shi, 2014). In a previous related study, company size was measured by the company's total assets, net sales, and number of employees. This study will follow the Ilaboya (2016) model and use total assets as a measure of firm size.

Leverage

The debt-to-asset ratio is also known as the leverage ratio which shows the percentage of assets financed with debt. The higher the ratio, the greater the level of leverage and financial risk. The debt-to-asset ratio is usually used by creditors to

determine the amount of debt in a company and its ability to pay its debts, and whether additional loans will be made to the company. On the other hand, investors use this ratio to ensure that the company is able to meet its current and future obligations and can generate a return on their investment.

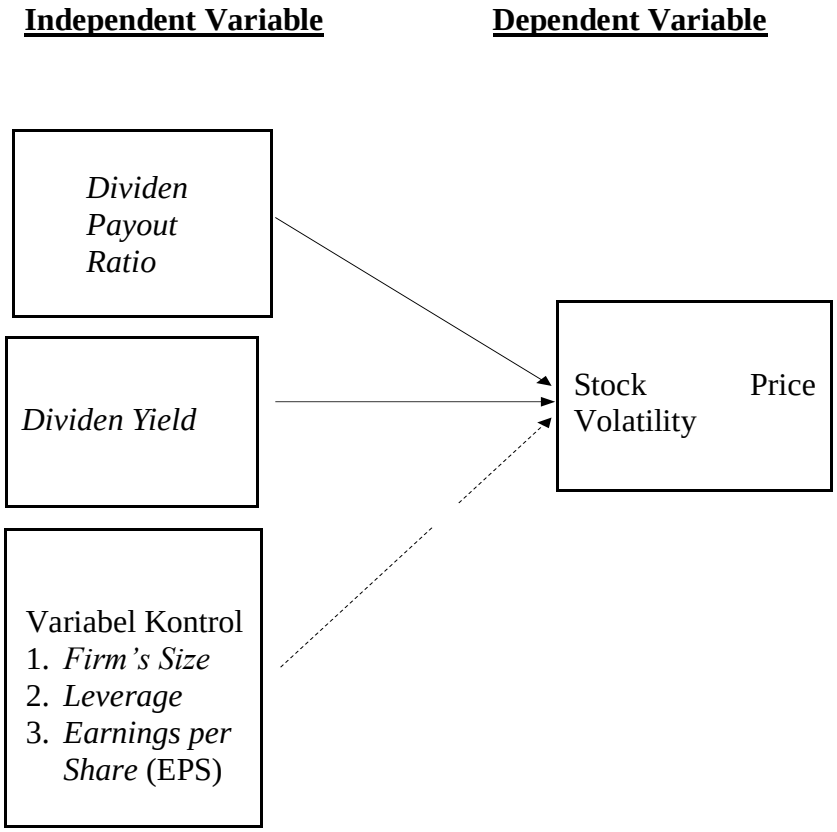
Earning Per Share

Earnings per share is an important financial measure that shows the profitability of a company. This ratio is calculated by dividing the company's net profit by the total number of shares outstanding. Earnings per share ratio is a tool that is often used by market participants to measure the company's profitability before buying its shares.

EPS is the portion of a company's profits allocated to each individual share. Earning per share is a very important term for investors and people who trade in the stock market. The higher the company's earnings per share, the better its profitability. When calculating EPS, it is recommended to use a weighted ratio, as the number of shares outstanding can change over time.

Conceptual Framework

Based on the description of the explanation, the framework used in this study is as follows:



Research Hypothesis

H_1: There is an effect of Dividend Payout Ratio on stock price volatility.
H_2: There is an effect of Dividend Yield on stock price volatility.
H_3: There is an effect of the control variable (Firm's Size) on stock price volatility.
H_4: There is an effect of the control variable (Leverage) on the volatility of stock prices.
H_5: There is an effect of the control variable (Earning Per Share) on the volatility of stock prices.
H6: There is a simultaneous significant impact between dividend payout ratio, dividend yield, firm size, leverage, earnings per share on stock price volatility.

RESEARCH METHODS

The researcher carried out the process of reviewing research results, using a research design in the form of hypothesis testing, to test the relationship between the independent variables, namely dividend payout ratio, dividend yield, firm size, leverage, earnings per share on the dependent variable, namely stock price volatility. Researchers utilize panel data by combining cross sectional and time series data for the manufacturing industry as listed on the Indonesia Stock Exchange (IDX) for the 2016-2020 period. In this study, there are 2 (three) variables including the independent variable or the independent variable and the dependent variable or the dependent variable.

Data Analysis Method

The process and stages in this research, firstly the testing of the data that has been obtained, the next stage of analyzing the results of the data that has been processed or tested. The tests carried out in this study are as follows:

Descriptive Statistics

Table 1. Descriptive Statistics

	DPR	DY	FSZ	LEV	EPS	SPV
Mean	0.658382	0.022218	28.72939	40.61504	155.7559	0.163211
Median	0.324756	0.012703	28.71723	38.14979	52.41862	0.123894
Maximum	32.27247	0.143418	32.72561	89.03695	1190.195	0.743802
Minimum	0.000000	0.000000	22.56676	6.955651	0.103574	0.003140
Std. Dev.	2.578902	0.027568	1.887609	17.36049	236.9049	0.134352
Skewness	11.36541	1.921151	-0.719552	0.237436	2.134317	1.845388
Kurtosis	138.7567	7.147358	4.568034	2.428857	7.301570	6.421085
Jarque-Bera	130257.6	219.7516	31.14205	3.792997	252.4826	174.1138
Probability	0.000000	0.000000	0.000000	0.150093	0.000000	0.000000
Sum	108.6331	3.665928	4740.349	6701.481	25699.73	26.92982
Sum Sq. Dev.	1090.720	0.124643	584.3429	49427.40	9204321.	2.960282
Observations	165	165	165	165	165	165

(Source: Eviews)

Based on these data, it can be concluded that all variables in this study have an average value (mean) which is in the range of minimum and maximum values. While the standard deviation has a value > 0 (zero). The greater the value of this standard deviation, the more spread the sample data (varies).

Regression Analysis

Panel data regression is a regression technique that combines time series data with cross section. Such data can be obtained, for example, by observing a series of cross-sectional observations over a certain period. According to Ghozali (2011) there are two ways to construct a panel data structure, namely independent pooled data obtained by taking randomly various desired data in a large population set and longitudinal data obtained by setting a number of cross section samples and then follow the behavior of the observed variables over time. The selection of the three models above, namely the common effect model, fixed effect and random effect model can be determined which is the most appropriate model for estimating panel data regression. Regression model testing with panel data consists of Chow test, Hausman test and Lagrange Multiplier test. From the results of this test, one approach method that meets the predetermined criteria will be used in the study to analyze the data.

Panel Data Regression Model Selection

1. Chow Test

   Tests to choose whether the model to be analyzed using the common effect or fixed effect model can be done with the Chow Test. The assumption that each cross-sectional unit has the same behavior is not realistic, considering that it is possible for each cross-sectional unit to have different behavior.

   Based on the results of the Chow test above, the results obtained from the probability value of Cross-Section of 0.0005 which means p-value <0.05 which means that H0 is rejected, then the use of the right model in this study based on the results of the Chow Test is the Fixed Effect Model.

2. Hausman Test

   Tests to choose whether the model to be analyzed using the Random Effect or Fixed Effect method can be done using the Hausman Test.

   From the results of the Hausman test, the statistical value of the Hausman test is 0.000086, while the probability value of Cross-Section Random is 0.1689 which means p-value > 0.05 which means that H0 cannot be rejected, then the use of the right model in this study is based on Hausman test results are Random Effect Model.

3. Langrange Multiplier (LM) Test

   Statistical testing to choose whether the most appropriate Common Effect or Random Effect model is used.

   Based on tests carried out using Eviews software, the p-value is indicated by the probability number from Breusch-Pagan of 0.0407 which means p-value <0.05 which means that H0 is rejected, then the use of the right model in this study is based on the results LM test is the Random Effect Model.

Panel Data Regression Model

Based on the results obtained using the Chow test, Hausman test and Lagrange multiplier test, it can be concluded that the right panel data method is the Random Effect Model. A summary of the estimation results from this model can be seen in Table 2 below.

Table 2
Random Effect Model
Swamy and Arora estimator of component variances

Variable	oeffi cient	td. Error	- Statist ic	rob.
C	.68E-05	.23906 6	.00032 1	.99 97
DPR?	0.00 2168	.00377 9	0.5736 01	.56 70
DY?	0.02 3498	.46956 5	0.0500 43	.96 02
FSZ?	.004 866	.00847 9	.57395 8	.56 68
LEV?	.001 235	.00070 9	.74221 7	.08 34
EPS?	0.00 0160	.78E-05	2.3558 48	.01 97

(Source :Eviews 9)

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta i$$

$$R = 7.68E\text{-}05 - 0.002168\ DPR - 0.023498\ DY + 0.004866\ FSZ + 0.001235\ LEV - 0.000160\ EPS + \beta i$$

Hypothesis testing

T Statistic Test (Partial Impact Test)

The T test shows the effect of an independent variable on the dependent variable individually. The significance value of t with a degree of confidence (α) is 0.05 or 5%. The test criteria are as follows:

1. If the prob value < 0.05, then H0 is rejected, meaning that there is a significant effect between the independent variables on the dependent variables.
2. If the prob value > 0.05, then H0 cannot be rejected, meaning that there is no significant effect between the independent variables on the dependent variables.

Testing Hypothesis 1: The effect of dividend payout ratio (X1) on stock price volatility (Y)

H0: dividend payout ratio has no significant effect on stock price volatility.

H1: dividend payout ratio has a significant effect on stock price volatility.

Based on the results of research using the Random Effect model, the coefficient is -0.002148 and the probability value is 0.5670 where this value is > 0.05. Based on the 95% confidence level, it can be concluded that H0 cannot be

rejected. Thus, the dividend payout ratio has no significant effect on stock price volatility.

Testing Hypothesis 2: The effect of dividend yield (X2) on stock price volatility (Y)

H0: dividend yield has no significant effect on stock price volatility.

H1: dividend yield has a significant effect on stock price volatility.

Based on the results of research using the Random Effect model, the coefficient is -0.023498 and the probability value is 0.9602 where this value is > 0.05. Based on the 95% confidence level, it can be concluded that H0 cannot be rejected. Thus, dividend yield has no significant effect on stock price volatility.

Testing Hypothesis 3: The effect of firm size variable (X3) on stock price volatility (Y)

H0: firm size has no significant effect on stock price volatility.

H1: firm size has a significant effect on stock price volatility.

Based on the results of research using the Random Effect model, the coefficient is 0.004866 and the probability value is 0.5668 where this value is > 0.05. Based on the 95% confidence level, it can be concluded that H0 cannot be rejected. Thus, firm size has no significant effect on stock price volatility.

Testing Hypothesis 4: The effect of leverage variable (X4) on stock price volatility (Y)

H0: leverage has no significant effect on stock price volatility.

H1: leverage has a significant effect on stock price volatility.

Based on the results of research using the Random Effect model, the coefficient is 0.001235 and the probability value is 0.0834 where this value is > 0.05. Based on the 95% confidence level, it can be concluded that H0 cannot be rejected. Thus, leverage has no significant effect on stock price volatility.

Hypothesis Testing 5: The effect of the variable earnings per share (X4) on stock price volatility (Y)

H0: earnings per share has no significant effect on stock price volatility.

H1: earnings per share has a significant effect on stock price volatility.

Based on the results of research using the Random Effects model, the coefficient is -0.000160 and the probability value is 0.0197 where this value is <0.05. Based on the 95% confidence level, it can be concluded that H0 is rejected. Thus, earnings per share have a significant effect on stock price volatility.

F Statistical Test (Simultaneous Impact Test)

The F statistic test was conducted to determine whether all the independent variables included in the model have a joint or simultaneous effect on the dependent variable. This F statistic test is a necessary test in testing the hypotheses proposed in this study. The hypotheses used for this research are:

Hypothesis Testing 6

H0 : There is no effect of stock liquidity, earnings per share, size, debt to equity ratio, asset growth together on stock returns.

H1 : There is an effect of stock liquidity, earnings per share, size, debt to equity ratio, asset growth together on stock returns.

Based on the calculation of the F-test on the estimation results of the random effect model, the results obtained a significance value (sig) of 0.000000. Due to the significance value <0.05, with a 95% confidence level, H0 is rejected. It can be

concluded that there is an effect of dividend payout ratio, dividend yield, firm size, leverage and earnings per share together on stock price volatility.

Coefficient of Determination Test

This test is a statistical test of the model which is carried out through the coefficient of determination test R2 or (R2 adjusted) which serves to see the extent to which the independent variable can explain the dependent variable. Based on the test results with the random effect model, the value of the adjusted R2 is 0.023272. This means that only 2.32% of stock price volatility variations can be explained by variations of the five independent variables, namely dividend payout ratio, dividend yield, firm size, leverage, earnings per share. While the remaining 97.68% is explained by other variables not explained in this study which are suspected to be significant and can affect stock price volatility.

Managerial Implications

Based on the conclusions described above, the results of this study indicate things that need to be considered, both by the company management (issuers) in managing the company and by investors in the formation of their investment strategy. The managerial implications of the findings of this study for variables that have a significant effect are:

1.For company management

The company must be able to maintain and maintain the earnings per share ratio in its operational activities, this is because the more stable and increasing the earnings per share ratio, the shareholders will be happier for the profits they will receive. This can make the stock price will continue to be in demand so that it will increase profits which in turn will make the company's profits even bigger.

2.For Investors

Investors are expected to pay attention to earnings per share as an assessment of the company's fundamental factors as well as other external factors that can affect stock price volatility, such as inflation and exchange rates so that they can be used as a basis for making decisions to invest in Indonesia.

SUGGESTIONS FOR FURTHER RESEARCH

Based on the limitations that occur in this study, the researchers provide suggestions for researchers who will conduct further research related to stock price volatility, namely:

1. The factors that affect the company's stock price volatility in this study are limited to five independent variables, namely dividend payout ratio, dividend yield, firm size, leverage, earnings per share. For further research, it is recommended to add other factors such as return on assets, net profit margin, inflation, exchange rate and so on.
2. The research object is not limited to manufacturing companies, but can be expanded to other groups of companies such as: automotive companies, service companies and mining companies listed on the Indonesia Stock Exchange.
3. Adding the research period up to the most updated period.

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