

The Determinants of Stocks Price Volatility – A Study In Indonesian Financials Sector

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Abstract — In measuring future opportunities, investors or shareholders use Stock Price Volatility to see the market mood, where the rate of increase in Stock Price Volatility affects the market value. Volatility can measure price fluctuations and indicate the level of risk that can arise. Investors and shareholders use portfolio performance as a reference in measuring a profit that will be obtained. The writer conducted this research to see the influence of Dividend Payout Ratio, Earning Volatility, Inflation and Debt to Equity Ratio on Stock Price Volatility. The object of this study is financial field companies enlisted on the Indonesia Stock Exchange (IDX) from 2019-2022 with a sample of 11 companies. By analyzing the data using multiple linear regression analysis, it was found that Dividend Payout Ratio, Earning Volatility and Inflation had no influence on Stock Price Volatility while Debt To Equity Ratio had a negative influence on Stock Price Volatility. The next research is expected to use other sectors and replace independent variables so that the scope of research is wider.

Keywords: *Dividend Payout Ratio; Earning Volatility; Inflation; Debt to Equity Ratio*

I. INTRODUCTION

Investing capital with the intention and purpose of obtaining a profit in the future makes investment one of the most popular activities by people from the past to the present. Investment itself provides benefits not only for investors but also for the country, for example as a source of income increase, provides financial freedom to investors and can even overcome inflation. Investment is not only investing capital and receiving income, because investment itself has various types, ranging from deposit investment, property investment, gold investment, stock investment and many more.

In this study, the writer wants to direct the focus to stock investment. Stock investment is a capital storage activity by an investor in a capital market. In the 17th century, for the first time the stock market was established in Amsterdam, the Netherlands. Since then, people have been introduced to what stocks are and as time goes by, people begin to know and learn about stocks, until finally people begin to be literate about stock investment. Until entering this modern and all-digital era, people are increasingly aware of the importance of investing in stocks. Investing or buying stocks is a very easy activity to do, you only need to provide a securities account, capital to invest and the internet we can already invest and practical things like this that make stock investment many enthusiasts. This practicality invites a lot of interest from the generation, especially the millennial generation and above. This generation has many pros and cons in this world, Many think that this generation has a lazy soul, does not like to save and can only splurge. However, the writer found another thing behind the issue of the ugliness of this generation. Many young people of this generation like to do positive things, such as developing their interests and talents and even investing.

The investment chosen by this generation is generally stock investment. This generation has a critical mindset and is known not to want to do things in a convoluted way. Instead, it can be viewed positively, where things or activities that are carried out do not need to go through long and time-consuming complicated steps and in fact this generation sees that a short route to achieve something is better because the available time can be used to do other useful things. The chart of young generation investors continues to increase from year to year, which proves that many young people are literate and interested in investing

to many young people who become motivators and become one of the successful investors from stock investment activities.

When investing in stocks, we will get to know the name of the stock and the stock will be proof of our ownership that we are an investor in the company and have a share in it with a percentage according to what we invested. Stocks are transacted through the stock market where a seller and a buyer will unite in the market to transact. Stock transactions in the capital market will produce stock prices which can rise or fall according to demand and supply. The price of the Stock is representing the worth of a company and its performance of a company can be seen from the Stock Price formed from the demand and supply of the shares. The rise and fall of a stock price is influenced by various factors, such as economic growth, inflation, interest rates and many more. In the world of investment. There will be a time when a stock price rises so high or drops so low that it causes the appearance of a sharp shape on the stock price movement chart. The increase and decrease in stock prices is called Stock Price Volatility.

Stock Price Volatility is one of the indicators for investors in making stock investment actions. The importance of volatility to predict whether the stocks you want to buy can decline or rise extremely. Stock Price Volatility, which reflects changes in market prices that are mathematically measured and tend to stabilize over time, becomes important for investors to gauge future opportunities. The understanding of Stock Price Volatility does not stop there. As an investor, it is necessary to know the factors that cause stock price volatility to rise and fall. Up and down of stock prices is caused by many things, such as corporate issues, the country's economy, political news or inflation. Factors from within the company can also occur, for example the high and low Dividend Payout Ratio, Debt to Equity Ratio or Earning Volatility.

The dividend payout ratio is the rate of profit paid then partitioned by the benefits that can be accessed by investors [6]. The higher the dividend paid to shareholders, the increased interest of investors in investing their shares, thus affecting the volatility of stock prices. The dividend payout ratio has a positive influence on stock price volatility [8], while in other studies the dividend payout ratio has a negative influence on stock price volatility [1]. The first hypothesis built on this study is

H1: Dividend Payout Ratio has a positive influence on Stock Price Volatility.

Profit volatility is the change in the ups and downs of profits obtained by a company [12]. High earning volatility indicates that the company's profits are high, so investors who want to invest in stocks certainly want a high level of Profit Volatility. It is argued that earning volatility has a positive influence on stock price volatility [10]. The second hypothesis built on this study is

H2: Earning Volatility has a positive influence on Stock Price Volatility.

Inflation is the process of increasing the overall cost of a product and occurs endlessly [8]. Inflation affects all forms of the economy in the country, including Stock Price Volatility. Inflation has a negative influence on Stock Price Volatility [7]. The third hypothesis built on this study is

H3: Inflation has a negative influence on Stock Price Volatility.

Debt to equity ratio is a ratio that shows the comparison between debt and equity [3]. Debt to equity ratio has a positive influence on stock price volatility [13], while according to other studies, debt to equity ratio has a negative influence on stock price volatility [9]. The fourth hypothesis built on this study is

H4: Debt to Equity Ratio has a negative influence on Stock Price Volatility.

II. RESEARCH METHODS

Form of Research

This study is a Causality Associative research that aims to find out whether or not there is a relationship between independent variables and dependent variables.

Population and sample

This Journal uses 11 factors of financial users that registered in the Indonesia Stock Exchange during 2019-2023 as the object with the total of 55 data. Here, the sample selection criteria are carried out using Purposive Sampling with the following criteria:

- The Financial Statements have been fully published during the research period (2019-2022).

- Companies that have IPOs (Initial Public Offerings) above 2019.
- Companies that distribute dividends for 5 consecutive years.

Table 1. Sample Criteria for 2019-2023

Criteria	Total
Financial Field Companies Enlisted on the Indonesia Stock Exchange	105
Companies that have IPOs (<i>Initial Public Offerings</i>) under 2019	(10)
Companies that distributed dividends for 5 consecutive years from 2019-2023	(84)
Number of Research Data Samples	11

Source: SPSS ver. 26 2024

Variable of Study

by using the Statistical Package for the Social Sciences (SPSS) software version 26.

The following variables were examined by the writers:

- The Dividend Payout Ratio is the distribution of the company's profits to shareholders in the form of dividends. Dividend Payout Ratio is also defined as the ratio between dividends per share and earnings per share [4] which is measured by:

$$DPR = \text{Dividend Per Share} / \text{Earning Per Share}$$

- Earning Volatility is an indicator that measures the stability of a company's profits. Earning Volatility is also defined as the change in the rise and fall of profits obtained by a company [12] and is measured by:

$$EV = \text{Earning Before Interest and Tax} / \text{Total Asset}$$

- Inflation is a process of increasing the overall cost of products and occurs non-stop [8] and can also be interpreted as an increase in the price of goods which is usually caused by low demand for goods and inflation data is obtained on the official website of Bank Indonesia.
- The Debt to Equity Ratio is a ratio that compares debt to a company's equity [3] and whether the company is dependent on debt, measured by:

$$\text{Total Debt} / \text{Total Equity}$$

- Stock Price Volatility is a fluctuation in stock price changes over time according to demand and price supply, also commonly described as a change in the fluctuation of profits obtained by a company [12] which is measured by:

$$PVOL = \sqrt{\sum \frac{\left[\frac{Hi - Li}{\left(\frac{Hi + Li}{2} \right)} \right]^2}{n}}$$

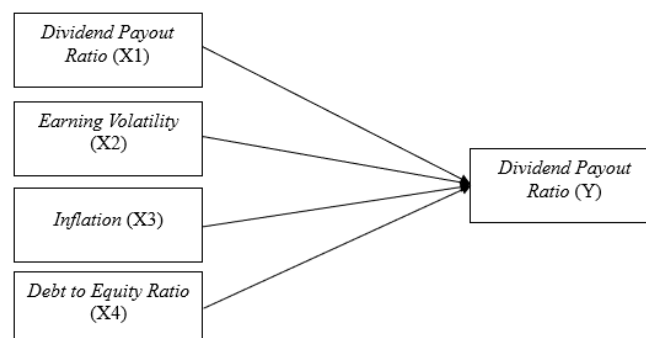


Figure 1. Conceptual Framework

Data analysis method

This study uses various types of data analysis including Classical Assumption Test, Correlation Test, Determination Coefficient Test, Multiple Linear Regression Test, F Test and T Test using the Statistical Package for the Social Sciences (SPSS) version 26 software.

III. RESULT AND DISCUSSION

The following table presents the results of purposive sampling on financial companies listed on the IDX from 2019 to 2023 and consists of a total sample of 11 companies (Table 1). Table 2 presents the results of a descriptive analysis with 11 companies as sample.

Dividend Payout Ratio, table 2 show that the average dividend distribution is 1.33, with a standard deviation of 3.03, and a minimum of 0.04 and a maximum of 15.43. Earning Volatility, table 2 show that the average fluctuation of a company's profit is 0.05, with a standard deviation of 0.09, and a minimum of 0.01 and a maximum of 0.37. Inflation, table 2 show that the average inflation is 0.03, with a standard deviation of 0.01, and a minimum of 0.02 and a maximum of 0.06. Debt to equity ratio, table 2 show that the average dependency of companies with debt is 4.04, with a standard deviation of 1.81, and a minimum of 0.48 and a maximum of 6.63.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
HOUSE	55	,0376	15,4348	1,327375	3,0316292
EV	55	,0057	,3650	,051933	,0898691
INF	55	,0168	,0551	,028780	,0138931
DER	55	,4821	6,6260	4,037433	1,8080005
VHS	55	,0087	,0809	,032882	,0219727
Valid N (listwise)	55				

Source: SPSS ver. 26 2024

Classical Assumption Test

Normality Test

Table 3. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		38
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,01265161
Most Extreme Differences	Absolute	,136
	Positive	,136
	Negative	-,104
Test Statistic		,136
Asymp. Sig. (2-tailed)		,075 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Source: SPSS ver. 26 2024

Table 3, which has been tested by the One-Sample Kolmogorov-Smirnov Test, shows a significance value of 0.075, where the value that appears is greater than the normal standard of significance, namely 0.05 and shows that the research data is normally distributed.

Popul

Multicollinearity Test

Table 4. Multicollinearity

Type	Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
	B	Std. Error	Beta	t		Tolerance	VIF
1 (Constant)	,069	,009		7,738	,000		
HOUSE	,013	,009	,179	1,437	,160	,895	1,118
EV	-,032	,263	-,015	-,120	,905	,863	1,158
INF	-,166	,188	-,106	-,883	,383	,959	1,042
DER	-,008	,001	-,717	-5,977	,000	,959	1,043

a. Dependent Variable: VHS

Source: SPSS ver. 26 2024

Table 4 Multicollinearity above shows that the tolerance values are greater than 0.1, namely 0.895, 0.863, 0.959, 0.959 and the VIF (Variance Inflation Factor) values are smaller than 10.00, namely 1.118, 1.158, 1.042, 1.043. Based on the explanation above, it can be concluded that variables do not have multicollinearity problems.

Autocorrelation Test

Table 5. Autocorrelation

Unstandardized Residual	
Test Valuea	-,00195
Cases < Test Value	19
Cases >= Test Value	19
Total Cases	38
Number of Runs	18
Z	-,493
Asymp. Sig. (2-tailed)	,622

a. Median

Source: SPSS ver. 26 2024

Based on Table 5 Autocorrelation above, it can be seen that the significance value is 0.622 and greater than 0.05. So it can be concluded that the research data do not have an autocorrelation problem.

Heteroscedasticity Test

Table 6. Heteroscedasticity

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Type		B	Std. Error	Beta		
1	(Constant)	,011	,004		2,704	,011
	HOUSE	,001	,004	,034	,194	,847
	EV	,124	,119	,184	1,042	,305
	INF	-,136	,085	-,269	-1,602	,119
	DER	,000	,001	,042	,253	,802

a. Dependent Variable: ABS_RES

Source: SPSS ver. 26 2024

In Table 6 of Heteroscedasticity, it can be seen that the significance value is greater than 0.05, namely 0.847, 0.305, 0.119, 0.802. Thus, it can be concluded that the research data do not have symptoms of heteroscedasticity.

Coefficient of Determination Test

Table 7. Coefficient of Determination

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,738a	,544	,489	,0133964

a. Predictors: (Constant), DER, INF, DPR, EV

Source: SPSS ver. 26 2024

The determination coefficient test in table 7 shows that the Adjusted R Square value is 0.489, which shows that 49% of the dependent variables are influenced by independent variables and the remaining 51% are influenced by other variables outside of this study.

Model Feasibility Test (Test F)

Table 8. Model Eligibility (Test F)

Type	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	,007	4	,002	9,850	,000B
Residual	,006	33	,000		
Total	,013	37			

a. Dependent Variable: VHS

b. Predictors: (Constant), DER, INF, DPR, EV

Source: SPSS ver. 26 2024

In Table 8 Model Feasibility (F Test) it can be seen that the calculated F value is $9.850 > F$ Table 2.66 and the significance value is $0.000 < 0.05$. Therefore, it can be concluded that the data in this study is suitable for testing.

Regression Test

Table 9. Multiple Linear Regression

	Type	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,069	,009		7,738	,000
	HOUSE	,013	,009	,179	1,437	,160
	EV	-,032	,263	-,015	-,120	,905
	INF	-,166	,188	-,106	-,883	,383
	DER	-,008	,001	-,717	-5,977	,000

a. Dependent Variable: VHS

Source: SPSS ver. 26 2024

Table 9 shows data which can be conclude as follows:

1. The significance value for variable X1 is 0.160, where the value is higher than 0.05 and the regression coefficient value of X1 is 0,013, which mean Dividend distribution does not have sufficient ability to attract investors to invest in shares so that it does not cause share price fluctuations. Therefore, it can be concluded that H1 is rejected, which means the Dividend Payout Ratio variable has no influence on the Stock Price Volatility variable.
2. The significance value for variable X2 is 0.905, where the value is higher than 0.05 and the regression coefficient value of X2 is -,032, that EV has a negative influence and does not affect SPV. The stability of the company's profit every year does not sufficiently affect investors in buying shares, so that the stock price offer does not increase, which results in stock price volatility not occurring.. Therefore, it can be concluded that H1 is rejected, which means the Earnings Volatility variable has no influence on the Stock Price Volatility variable.
3. The significance value for variable X3 is 0.383, where the value is higher than 0.05 and the regression coefficient value of X3 is -,0166, that inflation has a negative influence and does not affect SPV. Inflation that occurs in the price of the Rupiah does not affect the purchase of shares in the market, which causes no significant increase or decrease in the price supply.. Therefore, it can be concluded that H1 is rejected, which means the Inflation variable has no influence on the Stock Price Volatility variable.
4. The significance value for variable X3 is 0.000, where the value is higher than 0.05 and the regression coefficient value of X3 is -,008, that the Debt to Equity Ratio has a negative influence and affects the SPV. The higher the company's debt ratio, it will affect the purchase of shares by investors which results in a decrease in the stock price, and vice versa, investors will choose to buy the shares if the debt ratio decreases which causes fluctuations in stock prices. Therefore, it can be concluded that H1 is rejected, which means the Debt to Equity Ratio variable has no influence on the Stock Price Volatility variable.

IV. CONCLUSION

After completed all stages of research, writers finally can summarize all the result and convey the conclusion that the Dividend Payout Ratio does not influence the Stock Price Volatility, it suggests that dividend distribution does not affect Stock Price Volatility. The second independent variable Earning Volatility also does not affect Stock Price Volatility, which shows that income volatility does not affect Stock Price Volatility. The Inflation variable is considered not to affect the Volatility of the Stock Price, thus showing that the increase in the value of money does not affect the price volatility of stocks. The fourth independent variable, Debt to Equity Ratio, is considered to have a negative influence on Stock Price Volatility which shows that a high DER describes a debt-dependent condition and a high DER will cause low Stock Price Volatility. The writers hope that the next research can choose other sectors with the replacement of free variables so that the scope of the research can be wider. For interested parties, to assess the relationship between the value of the Dividend Payout Ratio and Stock Price Volatility, it is better to

conduct further observations and analysis to find other factors that may have a greater influence on the company's value.

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