

THE DETERMINANTS OF STOCK PRICE VOLATILITY IN PLANTATION INDUSTRY IN INDONESIA DURING 2016-2020

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ABSTRACT

Stock prices in the market can react quickly to information from the market. This information makes stock prices volatile. The purpose of this study is to analyze the effect of dividend policy, leverage, growth in assets, and auditor quality on stock price volatility in the plantation industry listed on the Indonesia Stock Exchange for the period 2016 to 2020. This study uses multiple linear analysis using SPSS, and data collection by purposive sampling. The data used in this study is 75 data from 15 companies. The results of this study show that dividend and leverage policies affect stock volatility, while asset growth and auditor quality have no effect on stock volatility. The implication of this research is that companies that want to maintain the volatility of their shares must regulate leverage and dividend policies which are positive signals for investors in investment decisions.

Keywords: *dividend policy, leverage, growth in assets, auditor quality, stock price volatility*

1. INTRODUCTION

Investment in the capital market is increasingly attractive to the public. Investments in the capital market, especially stocks, have attractive returns even with high risks. Therefore, investors collect company performance information for investment decisions. However, an investor's assessment of a company will automatically affect the level of confidence in the market. Thus, this will have an impact on the ups and downs of a company's stock price and experience stock price volatility.

Volatility is a statistical measure of price fluctuations over a certain period [1]. High volatility is an indication of a sudden increase in stock prices and a rapid decline, so that there will be a large difference between the highest and lowest prices. One of the factors that influence stock price volatility is dividend policy. The company's decision to distribute the profits earned during this period to shareholders in the form of dividends or to be retained in the form of retained earnings to be invested in the future is a dividend policy owned by each entity. According to previous studied, dividend policy has a significant positive effect on stock price volatility [2] and [3], but different from the results of studies [4], [5], [6], [7], and [8]. The greater the profit generate the more dividends distributed which indirectly increase the share price. Investors tend to be attracted to shares of companies that have the ability to earn a profit.

The second factor that affects stock price volatility is leverage or debt risk in a company. The tool that can be used to measure the level of debt in a company is the Debt to Equity Ratio (DER) [9]. The higher the leverage or the level of debt, the higher the risk in the company. This shows that the company is very dependent on debt in carrying out its company operations, so the interest expense paid will reduce the company's profits. Therefore, investors tend to avoid companies that have a high level of leverage. The higher the DER

ratio, the volatility of a company's stock will also increase [4], [5], [10], and [11] so that the level of leverage affects the volatility of stock prices [12] and [13]. Another study states that leverage has no effect as did by [3], [14], and [15]

The third factor that affects stock price volatility is asset growth. Asset growth will show how companies use assets to generate profits. The higher the asset growth, the greater the company's ability to earn profits. An increase in assets is obtained from profits that are not distributed to shareholders, or in other words a decrease in dividends obtained by investors. Thus, asset growth has a negative effect on stock price volatility [6], [16], [17], and [18]. However, research [5] and [11] state that asset growth has no effect on stock volatility. Research [19] shows asset growth has an effect on stock volatility. Low asset growth will have an impact on stock price fluctuations. This usually happens to companies that are still in the growth stage.

The fourth factor that affects stock price volatility is the auditor quality. Investors will generally assess the reputation of KAP as a benchmark for ensuring the quality of audit results on the issuer's financial statements. The quality of KAP is not only based on the opinion issued but the process and independence. Thus, the quality will affect the movement of stock prices [20]. To assure the company's reports, the financial statements before being released must be audited by an independent auditor, namely by appointing a Public Accounting Firm (KAP). KAP itself is divided into two, namely KAP big ('KAP "big four"') and KAP non "big four". Investors assume that the financial statements audited by the 'big four' KAPs tend to guarantee that there are no material misstatements or fraud. Research on audit quality on stock price volatility has not been widely carried out. Study [21] states that audit quality has no effect on stock price volatility, different from the research results of [20].

Literature Review

Signaling Theory

Signal theory developed by Ros in 1997 states that corporate executives who have better information about their company are encouraged to convey this information to potential investors with the aim of increasing the company's price. The information provided is a signal. The signal is considered positive if the company provides good information, and vice versa. This information for the market will provide a signal about future performance based on past performance that the market believes [22]. This signal will provide an input for investors in making investment decisions. If the announcement is positive, it is expected that the market will react in a positive direction to the company's stock price (good news) or vice versa (bad news). In addition to influencing the stock price, it will also affect the transaction volume of the company. Investors only invest their funds in companies that get profits and added value for the funds invested, so that bad information is a negative signal for investors so that it can reduce the value or price of the company's shares.

Stock Price Volatility

Stock price volatility is the up and down movement of stock prices in the capital market which is a reference to show the risk of a stock. The high and low volatility of the stock causes the stock price to rise and fall rapidly [3] so that the high level of stock volatility illustrates the difficulty of predicting the risk of the stock. Many factors affect stock volatility, both financial performance factors, management policies or commissioners as well

as issues in the market regarding the company. Management policy factors that can affect the level of stock volatility such as dividend policy, determination of accounting firms, and other corporate actions. Financial performance can be seen from the level of leverage, asset growth, profitability, and others. This study is limited to analyzing dividend policy, leverage, asset growth and the size of a public accounting firm that affect stock volatility.

The Effect of Dividend Policy on Stock Price Volatility

Dividend policy is a company's decision to distribute profits that have been generated in one period to shareholders or will be retained to be used as financing capital in the future [23]. Dividend is a form of return on investment for shareholders or investors [5] other than capital gains. The measurement used to measure this is the dividend payout ratio (DPR). Dividend policy will have an effect on stock price volatility [24]. The more dividends distributed can indicate that the company has a good performance so that it generates large profits. This is what investors use as a basis for consideration for making investments. Investors who see a company's DPR ratio is high enough to be interested in buying the company's shares so that it can cause the share price to increase. Therefore, it can be concluded that the dividend policy has a positive effect on the volatility of an entity's stock price.

The Effect of Leverage on Stock Price Volatility

Leverage is a measure of how much the company relies on creditors to finance the company's assets. Leverage related to the use of assets and sources of funds has an impact on fixed costs that affect company profits [11]. Also, Leverage can be interpreted as the ability of a company to interest and principal to creditor in determined terms. For this reason, leverage will be a consideration of the investment risk of investors. As a result, leverage will affect the company's stock price movements. This ratio can show how the level of dependence of a company on its creditors. [25], argue that this ratio will greatly affect investor behavior. According to [26], growth in assets is the average growth of company wealth. The results of the right investment decisions will produce optimal performance so as to increase the growth of company assets. Companies with high growth rates will expand by using external funds in the form of debt. An increase in assets followed by an increase in operations will increase investor confidence to invest. An investor who focuses on long-term investment will certainly pay attention to the growth of assets in the company from year to year. In investing which can be seen from the demand for a company's shares in the market. Leverage will also show whether there is own capital that is used to guarantee the entire debt owned. If a company has a high level of leverage, it means that the company is very dependent on external loans to finance its assets. The business continuity of a company that has leverage tends to be questioned more often by investors. Therefore, it can be concluded that leverage has a positive effect on stock price volatility [21].

The Effect of Growth in Asset on Stock Price Volatility

Company size is a classification of the size of a company that can be measured by the number of assets or sales [11]. Large companies are very easy to access the capital market and have the ability to obtain higher funds than small companies [3]. According to [16], growth in assets is the average growth of company wealth. The results of the right investment decisions will produce optimal performance so as to increase the growth of company assets. Companies with high growth rates will expand by using external funds in the form of debt. An increase in assets followed by an increase in operations will increase investor confidence to invest. An

investor who focuses on long-term investment will certainly pay attention to the growth of assets in the company from year to year.

The Effect of Audit Quality on Stock Price Volatility

Audit quality is defined as the ability of an auditor to report an error or violation by an entity in their financial statements. However, each user of financial statements can define different auditor quality. There are some people who argue that a good auditor is someone who is able to present a report with assurance that there is no misstatement or fraud. The quality of audited financial reports that are good tend to be preferred by investors. The presentation of clear data and the assurance that the report is the actual condition of the company will greatly assist investors in assessing whether this company has good growth so that they dare to invest their money. When an investor believes that this company fits their risk profile, they will automatically invest their funds in that company. The more investors who invest their capital it can lead to a fairly high increase in stock prices and vice versa. Therefore, it can be concluded that audit quality in producing financial statements will affect the volatility of a company's stock price.

Hypothesis

Dividend policy is one of the benchmarks of investment objectives. So that the announcement of the distribution and the amount of dividends will be exported by the market to the share price. The announcement of the distribution of dividends generally increases the share price until the date of cum dividend. On the other hand, for companies that do not distribute dividends, stock prices move sideways based on non-dividend information. The high increase is influenced by the amount of dividend value. Therefore, dividend policy has a positive effect on stock volatility. This is in accordance with the studies of [2] and [3]. Based on the explanation, the hypothesis built is:

H1: Dividend policy significant positive on stock price volatility.

Leverage, which is a source of funds obtained from the guarantee of company assets, will result in fixed obligations within the time-period according to the terms, namely interest and repayments. This leverage will have two impacts on the company's risk, namely fixed expenses and loss of property in the event of default. This impact will be a risk factor for stock investment. Therefore, leverage has an effect on stock valuation. This is in accordance with the studies of [4], [5], [10] and [11]. Based on the explanation, the hypothesis built is:

H2: Leverage significant positive on stock price volatility.

Asset growth indicates business growth. The operating results obtained by the company are not distributed as dividends to shareholders but are stored as accumulated profits that will be used for investment in the future. A high price indicates the company's ability to utilize assets to earn a profit. The purpose of investors making investments is to get a share of the profits (dividends) and the difference between buying and selling prices in the market (capital gains). The increase in assets will not directly affect the movement of shares, because this increase does not necessarily lead to an increase in return from investment. Thus, asset growth has no effect on stock volatility. This is supported by research results from [4], [5], [16], [17], and [18]. Based on the explanation, the hypothesis built is:

H3: Growth in asset has no effect on stock price volatility.

Financial statements are a fundamental factor in shaping stock prices in the market. Published financial statements must have gone through an assurance audit process through a trusted public accounting firm (KAP). The results of the KAP assurance audit will affect the level of investor confidence in the issuer's financial statements. Thus, KAP affects stock volatility which is in accordance with research [16]. Based on the explanation, the hypothesis built is:
H4: Audit quality significant positive on stock price volatility.

From the hypothesis above, the design of this research is as shown below:

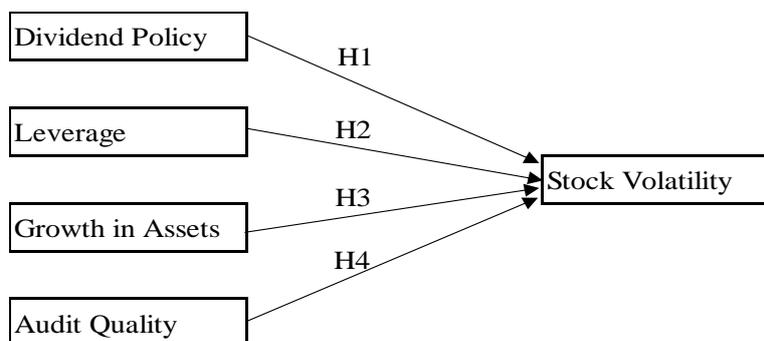


Figure 1. Research Model

2. RESEARCH METHOD

Population of this study is a plantation sector company listed on the Stock Exchange during the 2016-2020 period. The method of analysis by using multiple regression method. The sample selection in research uses a purposive sampling technique with this following sample criteria: (1) Plantation companies that are consecutively listed on the Indonesia Stock Exchange during 2016-2020; (2) Plantation sector companies listed on the Indonesia Stock Exchange during 2016-2020 and have conducted an IPO before 2016; (3) Plantation sector companies listed on the Indonesia Stock Exchange which presented financial statement as of December 31 in a row during 2016-2020. The selected sample is 15 companies with 75-panel data (15 sample time 5 periods) that were analyzed using multiple regression analysis and proceeded using Statistic Product and Service Solutions (SPSS) version 26. The independent variable is dividend policy, leverage, growth in asset, and audit quality. On the other hand, the dependent variable is stock price volatility as follows :

Table 1. Variables Operationalization

Variables	Mesurement	Scale	Source
Stock Price Volatility	$SPV = \sqrt{\sum \left[\frac{(H_t - L_t)}{\left(\frac{H_t + L_t}{2} \right)} \right]^2}$	Ratio	Hashemijoo, Ardekani, & Younesi (2012)
Dividend Policy	$DPR = \frac{\text{Dividend Per Share}}{\text{Earning Per Share}}$	Ratio	Ardiansyah & Isbanah (2017)
Leverage	$DER = \frac{\text{Total Debt}}{\text{Total Equity}}$	Ratio	Utami & Purwohandoko (2021)
Growth in Assets	$\text{Growth} = \frac{\text{Total Assets}_t - \text{Total Assets}_{t-1}}{\text{Total Assets}_{t-1}}$	Ratio	Mustika (2018)

Source: Compiled by Authors

3. RESULT AND DISCUSSION

Before regressing on the selected sample, a classical test is carried out consisting of normality, autocorrelation, Heteroscedasticity, and multicollinearity tests.

The result of Normality Test can be seen on Table 2 that *asympt. sig* 0.200, so the value is greater than 0.05. This indicated that the researched data is normally distributed and multiple regression analysis can be performed.

Table 2. One-Sample Kolmogorov Smirnov

	Unstandardized Residual
Asymp. Sig (2-tailed)	0.200

Source: The Output of SPSS Version 26

Autocorrelation Test results show on Table 3. In this study there are 4 independent variables and there are 75 data samples, so the value of “k” = 4 and “N” = 75. With the help of the Durbin-Watson table, the upper limit value (dU) is 1.7390 and the 4-dU is 2.261. Based on the table, it is known that Durbin-Watson value is 2.015. The DW value lies between dU and 4-dU ($1.739 < 2.015 < 2.261$), so it can be concluded that there is no autocorrelation symptom in the regression model.

Table 3. Durbin-Watson (Autocorrelation Test)

Model	Durbin-Watson (DW)
1	2.015

Source: The Output of SPSS Version 26

The Multicollinearity Test result is shown in Table 3. Each independent variable has a Tolerance Value greater than 0.1 and the Variance Inflation Factor (VIF) are less than 10. So, it can be concluded that each independent variable which are dividend policy, leverage, growth in asset, and audit quality has met the requirements and there is no multicollinearity symptoms in this study.

Table 4. Multicollinearity Test

Variables	Tolerance	VIF
Dividend Policy	0.879	1.137
Leverage	0.850	1.176
Growth in Assets	0.955	1.047
Audit Quality	0.930	1.076

Source: The Output of SPSS Version 26

Heteroscedasticity Test. From Table 5 below shows that significance value (Sig.) of the dividend policy variable is 0.952. Variable leverage is 0.841. Growth in asset is 0.203. Audit quality is 0.060. All variables have a significance value of more than 0.05. With the *Glejser* test, it can be concluded that this regression model is feasible to be used in this research, because it is free from heteroscedasticity symptoms.

Table 5. Heteroscedasticity Test

Variables	Sig.
Dividend Policy	0.952
Leverage	0.841
Growth in Assets	0.203
Audit Quality	0.060

Source: The Output of SPSS Version 26

After all the classical assumption tests have met the requirements, then a regression test is carried out with the results in Table 6 as follows:

Table 6. Multiple Regression Analysis

Model	Unstandardized Coefficients
	β
(Constant)	0.110
Dividend Policy	0.020
Leverage	0.029
Growth in Assets	-0.101
Audit Quality	0.019

Source: Data Processed using SPSS Version 26

The regression equation can be formulated below based on Table 6 as follows:

$$Y = 0.110 + 0.020 X_1 + 0.029 X_2 - 0.101 X_3 + 0.019 X_4 + \varepsilon$$

Descriptions:

- Y = Stock Price Volatility
- X₁ = Dividend Policy
- X₂ = Leverage
- X₃ = Growth in Assets
- X₄ = Audit Quality
- ε = Error

Partial test (t-test) is intended to determine the effect of each independent variable on the dependent variable. The results of t-test can be seen in Table 7 as follows:

Table 7. t-Statistics Test Results

Variables	B	Sig.
Dividend Policy	0.020	0.001
Leverage	0.029	0.000
Growth in Assets	-0.101	0.023
Audit Quality	0.019	0.170

Source: The Output of SPSS Version 26

In Table 7, the Dividend Policy and Leverage have Sig. value less than 0.05 with positive direction. Meanwhile, the Growth in Assets variable has Sig. value less than 0.05. On the other hand, the Audit Quality variable has Sig. value more than 0.05. So, it can be concluded that only dividend policy and leverage have positive and significant effects as stated by the hypotheses. Growth in Assets has negative sign, and this negative sign shows that this variable does not influence stock volatility as stated by the hypothesis. The last variable, Audit Quality, has no significant effect on stock price volatility.

The Coefficient of Determination (CD) of stock volatility in this study is 50.03%. This means that the volatility of the stock in this study can be explained by these variables as much as 50.03%, while the remaining 40.97% can be explained by other variables not included in this study.

4. CONCLUSIONS AND RECOMMENDATIONS

The study, it was found that the dividend policy variable had a significant positive effect on the stock price volatility variable. This result is similar to those of studies [2] and [3], but in contrast to studies [4] and [5]. The dividend distribution policy carried out by the company will affect the behavior of investors in the market. Some investors will be quite interested in companies that frequently distribute dividends or provide cash dividends. The results of this study are in line with signaling theory, where a company that has a high dividend payout ratio indicated that the company will distribute more of their profits to investors than are saved to increase capital. This will automatically cause the stock price to change significantly and indicates volatility.

Leverage factor has a significant positive effect on the stock price volatility. The higher the level of leverage indicates the higher the risk so that leverage is a concern and the market will respond quickly to changes in leverage. This result is in line with studies [10], [4], [5] and [8], in contrast to the results of [3].

The next variable is Growth in Assets. It showed that the variable has no significant effect on the stock volatility. This study supports research [11], [16], [17], and [18], but different research results [15]. The increase in assets does not have a direct impact on the increase in investors' returns and capital gains. The price increase will be seen if management can manage assets into profit and profit will be related to dividends. So, the increase in assets is not a positive signal for investors.

The last variable is Auditor Quality, It shows that auditor quality has no influence on stock movement. The result is in line with research [18] but contradict the results of research [17] Investors do not see who audits the financial statements, investors believe that the KAP that conducts the audit has been selected by the authorities, so that the results of the audit by the KAP show the same quality. In this study, the size of the KAP does not give a positive signal for investors in assessing audit quality.

The conclusion of this study is that stock volatility is more influenced by dividends and leverage. Dividends are very sensitive to stock movements because they measure the rate of return on investment. The level of dividends distributed will affect the volatility of the stock. While leverage, more to the risk factor of the company. Companies that have high leverage can reduce the value of shares, and vice versa.

The implication of this research is that companies that want to increase their share price in the market must set a safe level of leverage and not burden the company's profits. In addition, it must also pay attention to dividend policy. The distribution should be managed to show a steady increase. Thus, the company's stock does not fluctuate with drastic volatility.

The limitation in this study is sampling from 2016 to 2020, where in 2020 the COVID-19 pandemic occurred, resulting in anomaly in the performance of companies and the capital market.

Based on the conclusions and limitations of this study, it is suggested that further research can extend the research period, adding other variables considering that 50.03% of the variables that make up stock volatility are described in this study. Other variables such as profitability, net income, audit opinion, and so on.

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