

Biodiesel and Stock Prices: Evidence of Oil Palm Plantation Companies in Indonesia



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ABSTRACT: This study examines the effect of the biodiesel program factor 20, return on assets (ROA), and debt to equity ratio (DER) on the stock prices of companies in the oil palm plantation sub-sector for the period 2016-2021. The selected research sample is seven oil palm plantation sector companies listed on the Stock Exchange Indonesian Effect (IDX) Panel data regression method was applied to estimate and analyze the research model. The results showed that return on assets (ROA), and debt to equity ratio (DER) have a positive effect but no significance on stock price, while the program of biodiesel 20 does not affect the stock price.

KEYWORDS: Stock Price, Return on Assets, Debt to Equity Ratio, Biodiesel 20

1. INTRODUCTION

Indonesia is a country that is rich in potential resources. Paradise country has seven potential plantation commodities to be developed, among others: sugar cane, tea, rubber, coffee beans, tobacco, and oil palm. Where palm oil is a leading commodity from other plantation commodities. The increase in Indonesian palm oil production which occurs every year has not been accompanied by an increase in the price of this commodity. From 2016 to 2021 the price of this commodity tended to experience a downward trend. The increase in production which is not proportional to commodity prices affects most of the share prices of plantation issuers listed on IDX. Responding to the drop in crude palm oil (CPO) prices, the government is trying to improve CPO prices. One of the efforts made by the government is the implementation of the B20 policy. Where policy B20 blends 20% of palm oil into diesel fuel, which is expected to boost the price of CPO. The mandatory use of diesel mixed with 20% biodiesel (B20) applies as of September 1st, 2018. This regulation is expected to boost demand for CPO in the domestic market and become a positive catalyst for the performance of palm oil issuers.

Another factor that can affect share prices is the company's financial condition (Harahap et al., 2020). The financial condition of a company can be seen from the financial reports that the company publishes periodically (Endri et al., 2020). Financial statements provide financial transaction information needed to evaluate performance and determine the company's financial position (Shahnia et al., 2020). In this study, the ratios used to assess the company's performance are return on assets (ROA) and debt to equity ratio (DER).

2. LITERATURE REVIEW

2.1. Signaling Theory

Signal theory says that investors perceive dividend changes as a signal of management's estimated earnings. The announcement made is a signal for investors and responds by making investment decisions (Budagaga, 2022). Information that is considered good will be responded to positively by the market (Nurhayati et al., 2021). The company will submit financial reports to external parties to provide information on the company's financial performance. The goal is to overcome the problem of information asymmetry between the company and its investors, both shareholders and debt holders. Information asymmetry for investors about the actual condition of the company demands greater profits by charging low prices to the company. Therefore, companies are required to overcome information asymmetry that has an impact on increasing firm value. By giving signals to outsiders, it can equalize the information owned by the company. Submission of accounting information shows the condition of the company that is needed by external parties to assess the company's prospects in the future. A good corporate process will be responded to by investors by increasing the frequency of stock trading on the stock exchange.

2.2. Pecking Order Theory

The pecking order theory is a theory developed by Steward Myers in 1984 (Shyam-Sunder & Myers, 1999). Myers made this theory based on four observations and/or assumptions seen in the funding behavior of existing companies, namely: 1) The dividend policy

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is rigid. This statement explains that managers will strive to maintain the stability of the dividend value per share at any cost level, and will not increase or decrease dividends per share even though there are changes in the profit value of the company, 2) Companies prefer funding from within the company (retained earnings and depreciation) compared to funding from outside the company (debt or equity), 3) If the company has to get funding from outside the company, then the company will choose the safest securities first, and 4) If the company needs more funding from outside the company, then the company will first choose the safest debt, then the risky debt, such as convertible securities, preferred stock, and finally common stock. Internal financing reflects managers' motivation to maintain control over the firm, reduce agency costs, and reduce negative market reactions to equity issuance announcements (Lewis et al., 1999). Then, Myers and Majluf (1984) continued their research and made two key assumptions about manager behavior in a company, namely: 1) Managers have better information about investment opportunities faced by companies rather than investors, and 2) The manager will act in the best interests of the existing shareholders.

From the above assumptions, if the company wants to use the growth possibilities it has by making new investments, the company needs sufficient funding to make these investments, namely by issuing new equity (Oemar et al., 2020). However, in determining the value of equity, companies, and investors may not have the same valuation results. This is because the valuation carried out by the company uses more information about the opportunities the company will get on the investment than the information used by investors to conduct equity valuations. The situation in which managers have more information than investors is called the asymmetry of information between managers and investors (Priharto et al., 2020). Based on these reasons, the pecking order theory was born, because there are differences in the perception of the value of managers and investors where the assessment by investors will be lower than the assessment made by the company, the company then thinks that the company will get a loss on the discount from the actual equity value, so the company should fund its investment from internal company funding that is free from an asymmetry of information. Then, the company will choose the next source of funding from debt where the debt has a lower risk than issuing new shares (Fama and French, 2002).

2.3. The Effect of Return on Assets (ROA) on Stock Prices

The effect of return on assets (ROA) on stock prices is that the higher the ROA value indicates that the company is more efficient in utilizing its assets to earn a profit. High ROA is a positive signal for investors and a motivation to increase investment in company shares. The increase in the number of shares purchased causes the share price to increase. Companies with high ROA provide information about the company's prospects in the future and have an impact on the good value of the company (Tarihoran & Endri, 2021). The research hypothesis is in line with the findings of Herdiyana et al. (2021) which state that the ROA ratio has a positive effect on stock prices, then the formulation of the research hypothesis is as follows:

H₁: ROA has a positive effect on stock prices.

2.4. The Effect of Debt to Equity Ratio (DER) on Stock Prices

Razak et al. (2020) state that for companies that use debt funds, if the profits obtained are greater than the fixed costs, then the profits of the owners of the company will increase. Based on the statement above, the use of debt will pose risks, but it can also be used to increase shareholder returns as seen from changes in share prices. The research hypothesis is in line with the findings of Endri et al, (2021) who found that DER has a negative effect on stock prices, so the research hypothesis can be formulated as follows:

H₂: Debt to equity ratio has a negative effect on stock prices.

2.5. The Effect of Biodiesel 20 Policy on Stock Prices

Bekaert et al. (2003) suggest that capital market players will evaluate every announcement issued by issuers or government policies, so that this will cause several changes in stock trading transactions, for example, with changes in share trading volume, changes in stock prices, and so on. This indicates that the announcements that enter the market contain information if when a trading transaction occurs, there are changes, especially in share prices. Policies that support the production of biofuels can encourage share price increases (Mueller et al., 2011). Therefore, the formulation of the tested hypothesis is:

H₃: The biodiesel 20 policy has a positive effect on stock prices.

3. RESEARCH METHOD

3.1. Research Design

The population used in this study is the agricultural industry in the sub-sector of oil palm-producing plantations with a total of 18 companies which for six time periods, 2016-2021, were listed on the Indonesia Stock Exchange (IDX). The sampling method used in this study is a non-probability sampling method with the selected sampling technique using purposive sampling, namely sampling techniques that are predetermined based on the formulation of the problem and research objectives, and selected based on certain criteria, as well as reporting financial statements in a manner complete and published on www.IDX.co.id.

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3.2. Research Variable

Stock Prices

In this study, the dependent variable used is the stock price (Y) of palm oil-producing plantation companies listed on the IDX in 2016-2021. The share price used is the closing price on December 31 the year the financial statements were issued on the Indonesia Stock Exchange. Because this closing price reflects all information available to all market participants when the stock trading ends.

Return On Assets (ROA)

ROA is used to measure the effectiveness of the company in generating profits by utilizing its assets, and by comparing net income to the company's assets, thus showing the company's ability to earn profits. Return on assets can be calculated by the formula:

$$ROA = \frac{Net\ Profit}{Total\ Assets}$$

Debt to Equity Ratio (DER)

The DER is the solvency ratio used to show the level of debt the company has. This ratio is found by comparing all debt, including current debt, and total equity. The formula for finding DER is as follows:

$$DER = \frac{Total\ Debt}{Total\ Equity}$$

Biodiesel 20 Policy

The biodiesel 20 Policy (B20P) is an obligation to mix 20% of palm oil into diesel fuel. The Biodiesel 20 Policy takes effect as of September 1st, 2018. The biodiesel 20 Policy in this study was measured using dummy variables. The year before the policy announcement is given a value of 0 and the year after the policy announcement is given a value of 1.

4. RESULT AND DISCUSSION

4.1. Description of Statistics

The description of statistical data for all variables is shown in Table 1. The value of the standard deviation which is a measure of the distribution of the data gives fluctuating numbers. The highest standard deviation value is obtained from the stock price of 673.93 which means that the stock price has a higher level of risk compared to other factors. While the ROA with the lowest risk level is 0.0446. Skewness is a measure of the distribution of statistical data around the mean. The slope of the normal distribution is zero. Positive skewness means that the data distribution has a long tail on the right side and negative skewness has a long tail on the left side. The skewness value of all variables is positive, this indicates that the data distribution of all research variables has a long tail on the right side. Kurtosis is an indicator of the height of the distribution. If the data is normally distributed, it has a kurtosis value of 3. If the kurtosis exceeds 3, then the data is said to have a normal leptokurtic distribution. If the kurtosis is less than 3, then the data distribution is flat (platykurtic) compared to the data which is normally distributed. The value of the variable stock price kurtosis (2.0625) and DER (1.90) which is less than 3 shows that the data distribution is flat (platykurtic) compared to normally distributed data, while the variable ROA (4.6987) and biodiesel / B20P policy (4, 2) which is more than 3 means that the data distribution is said to be leptokurtic to normal.

Table 1. Descriptive Statistics Results

	STOCK	ROA	DER	KB20
Mean	1055.6	0.0444	1.32	0.1667
Median	872.50	0.0364	1.28	0.000
Maximum	2570.0	0.1829	2.68	1.000
Minimum	138.00	(0.03)	0.20	0.000
Std. Dev.	673.93	0.0446	0.74	0.377
Skewness	0.4817	1.0572	0.08	1.7889
Kurtosis	2.0625	4.6987	1.90	4.200
Jarque-Bera	3.1625	12.874	2.19	24.92
Probability	0.2057	0.0016	0.34	0.000
Sum	44336.	1.8657	55.4	7.000
Sum Sq. Dev.	18621	0.0816	22.5	5.8334
Observations	42	42	42	42

To determine whether the data is normally distributed, the Jarque-Bera (JB) test is used. The JB test measures the difference in skewness and kurtosis of the data and is compared if the data is normal. With H0 in normally distributed data, the JB test is distributed

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with 2 degrees of freedom. Probability indicates the probability that the JB value exceeds (in absolute value) the observed value below H_0 . Descriptive statistics show that the stock price, DER, ROA, and biodiesel policy variables used in this study apply a panel data regression model during the 2016-2021 period based on the value of $\alpha = 5$ percent, which means H_0 is accepted and the data is normally distributed. The Jarque-Bera probability value for the variable stock price (0.2057) and DER (0.34) which is greater than the significance level of 5% (0.05) means that the data on the two variables are normally distributed, while the ROA variable (0.0016)) and B2OP (0.000004) which is smaller than 5% means that the data on these variables are not normally distributed.

4.2. Panel Data Regression Model Estimation

The estimation results of selecting the panel data regression model in this study use a random-effects model which is written in the following equation:

Table 2. Estimation of Factors Affecting Stock Prices Random Effect Method (No-White Heteroscedasticity)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1_ROA	3512.061	1871.177	1.876926	0.0682
X2_DER	302.4882	171.4625	1.764165	0.0857
X3_KB20	-44.76090	125.6782	-0.356155	0.7237
C	508.1716	358.5321	1.417367	0.1645
Effects Specification				
			S.D.	Rho
Cross-section random			578.4693	0.8230
Idiosyncratic random			268.2498	0.1770
Weighted Stat.				
R ²	0.109187	Mean dep. var	196.3560	
Adjusted R ²	0.038860	S.D. dep. var	291.9362	
S.E. of regression	286.2077	Sum squared resid	3112764.	
F-stat.	1.552556	D-W stat	1.382514	
Prob(F-stat.)	0.216774			

Based on empirical results, the study found that ROA has a positive but not significant effect on stock prices. A positive value on the regression coefficient indicates that there is an effect of a relationship that is directly proportional to stock prices. The higher the ROA means the more efficient and effective the use of company assets is to gain profits for shareholders. The positive effect of ROA on stock prices shows that an increase in ROA causes stock prices to increase. A high ROA value is a positive signal for investors indicating that expectations of stock returns are increasing and this has implications for an increase in the purchase of new shares. High demand for stocks causes prices to increase. The increase in profitability reflects that the company's prospects are more promising, making it attractive for investors to increase their investment and increase the value of the company (Nurhayati et al., 2020). However, the absence of this significant effect indicates that the ROA measure cannot explain and predict the level of stock prices. The results of the study support the findings by Daniswara and Daryanto (2020), and Atidhira and Yustina (2017) which state that ROA has a positive and insignificant effect on stock prices.

The DER has a positive and insignificant effect on stock prices. This is because some investors think that the company will definitely need debt as an operational fund to meet funding and cannot possibly be fulfilled only with the company's capital (Winata et al., 2020). On the other hand, oil palm plantation companies need large funds for operational activities in exploring plantations. The company will choose the next source of funding from debt where the debt has a lower risk compared to issuing new shares (Fama and French, 2002). Besides having benefits such as tax protection, choosing debt as a source of funding can also increase the company's net profit (Kurniasih et al., 2022). The increasing net profit has an impact on the increase in stock prices and company value. The increasing amount of net profit attracts investors because they expect returns in the form of dividends so that demand for shares increases and is followed by an increase in share prices. However, the amount of debt used by the company will cause the company to prefer to hold its profits instead of distributing dividends to investors, this is because the retained earnings can be used

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to pay off debt obligations, and can be used for company operations (Endri et al., 2019). Thus, the debt policy to obtain tax protection implemented by the company is irrelevant in affecting share prices. Because it shows that the amount of debt does not affect stock prices. The results of the study are different from the findings of Endri (2018). However, the opposite is in line with Zaman (2021), and Martani et al. (2009) which support the finding that DER has a positive and insignificant effect on stock prices.

The results of further research indicate that the biodiesel 20 policy does not affect the company's stock price. The absence of this effect indicates that the policy made by the government by mixing 20% palm oil into diesel fuel cannot explain and predict the level of stock prices. In theory, capital market players will evaluate every announcement issued by an issuer or government, so that it will cause some changes in stock trading transactions. This shows that the announcements that enter the market contain information if at the time of the trading transaction there are changes, especially in share price. Besides, as already explained, investment in the capital market is influenced by various factors, namely economic and non-economic factors. In capital market practice, non-economic factors are more influential, for example, the political situation in a country, government policies, the role of foreign investors, rumors/news circulating in the capital market, and others. However, in this study, the variable biodiesel policy 20 implemented by the government did not affect the share price of oil palm plantation companies. This shows to oil palm plantation companies that biodiesel policy 20 is not a variable that can be used by investors to obtain share price information. The results of this study contradict the results of research conducted by Huy et al. (2020), and Al-Tamimi et al. (2011) which state that government policy has a positive and insignificant effect on stock prices.

5. CONCLUSION

From the results of the testing and discussion above, it can be concluded that the ROA variable has a positive and insignificant effect on stock prices. The DER has a positive and insignificant effect on the stock price variable, while the dummy variable (Biodiesel 20 Policy) does not affect the stock price variable. Investors in making investment decisions are advised to pay attention to the fundamental financial factors that reflect the company's financial performance in addition to the debt to equity ratio (DER) and return on assets (ROA), for example, information on sales growth. High sales growth ensures smooth cash flow for smooth debt repayment and returns on capital. This can be used by potential investors to make the right decisions regarding their investments. Besides, investors must consider factors outside the company's financial ratios, such as government policies other than biodiesel policy 2 or other non-economic information as a reference in making investment decisions, this will indirectly affect the benefits obtained in doing investment.

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