

Factors Affecting of Price the Fluctuations of Fresh Fruit Bunches in Langkat Regency

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Abstract

The purpose of this study was to determine the effect of Fresh Fruit Bunch production, Crude Palm Oil price and precipitation on Fresh Fruit Bunch prices. The research method used is a qualitative method, where the research was conducted in Langkat Regency. This study uses secondary data, so data collection is done by the documentation method by taking data from related agencies. The data analysis method used is quantitative descriptive analysis method using multiple linear regression analysis. The results showed that the production factors of Fresh Fruit Bunches, Crude Palm Oil prices and rainfall had a significant influence on Fresh Fruit Bunch prices. The finding of this study is that Fresh Fruit Bunch price has a significant influence on fluctuations in Fresh Fruit Bunch price. This study concludes that the factors that have a significant effect on Fresh Fruit Bunch prices are Fresh Fruit Bunch production, Crude Palm Oil prices and rainfall.

Keywords: Fresh Fruit Bunches; Crude Pal Oil; Price; Fluctuation



INTRODUCTION

Palm oil is one of the most important commodities for Indonesia. In our economy, oil palm plays a strategic role because this commodity has bright prospects as a source of foreign exchange. This commodity is also capable of creating extensive employment opportunities and increasing the welfare/income of the community. According to Sudarsono, community welfare is a good economic condition due to the enactment of rules in the economy that regulate the activities of all parties and the distribution of community income as a result of these economic activities.

The world's palm oil producers are still dominated by countries in Southeast Asia, South America and Africa. Indonesia is the number one palm oil producing country in the world with a production capacity of 31.10 million tons per year. Malaysia ranks second, after several years ago being firmly in the first position with an annual production of 19.2 million tons. The third position is filled by Thailand with a total production of 2.18 million tons per year, followed by Columbia with 1.23 million tons per year. Opportunities for oil palm agribusiness development are still quite open in Indonesia, especially due to the availability of natural resources/land, labor, technology and experts. With its current position as the largest producer, Indonesia needs to make the best use of this opportunity, starting from planning to efforts to maintain its position as the largest palm oil producing country (a country leader) (Goenadi et al., 2005 in the Center for Agricultural Data and Information Systems Secretariat General of the Ministry of Agriculture, 2014).

The oil palm commodity has been developed in several regions in Indonesia and has become a superior plantation crop. This is because oil palm is a plantation crop with a fairly high economic value and is one of the vegetable oil producing plants. In addition, the development of oil palm plantations is also supported by palm oil derivative products that are diverse and have many uses. The oil palm harvest is processed first so that the use value of oil palm increases compared to selling the oil palm without being processed. Furthermore, the processing of palm oil plantation products will involve various parties and require a lot of resources. This process is then better known as agro-industry.

Langkat Regency is one of the districts in North Sumatra Province has considerable agricultural potential and is very broad, one of which can be seen in oil palm plants scattered in several villages. The development of oil palm for Langkat Regency almost every year fluctuates,

One of the fundamental problems faced by independent oil palm smallholders is that the purchase price of fresh fruit bunches (FFB) received by independent smallholders

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is unfair compared to the price received by plasma smallholders (Bisnis.com, 2018), even though plasma smallholders are actually dealing with monopsonistic exploitation by nucleus companies (Bamin, 2000). This problem is widespread in all areas of oil palm production centers including in Langkat. Some of the causes of these low prices are the low recognition of companies or palm oil mills of the yields produced by FFB independent smallholders as a result.

If there is an increase or decrease in the price of Fresh Fruit Bunches (FFB) it will be a problem for farmers to produce the farms they do. Therefore, it must be able to stabilize the price of FFB by setting the basic price of FFB so as not to harm either party. The effect caused by an increase or decrease in FFB can make various problems, namely rice production and rice prices fluctuate.

According to Mota Eja Monika's research (2019) with the title analysis of factors affecting the FFB price of independent palm oil farmers in Kab. Tebo. The research uses quantitative methods of multiple linear regression.

The results showed that (1) There are 3 (three) FFB marketing channels by independent oil palm farmers, namely farmers selling FFB directly to the PKS, farmers through loading points and PKS, farmers through intermediaries and loading points then PKS. The highest price received by farmers is in the marketing channel that sells directly to PKS and loading points. Generally, farmers tend to choose to sell FFB to loading points because of the low price difference, young sales procedures and FFB directly picked up by loading points. (2) The factors of seed quality, amount of fertilizer, plant maintenance, plant age, marketing destination (PKS, loading point, intermediary traders) affect the price of FFB of independent oil palm farmers. Factors of seed quality, plant age, marketing to MCC and loading points have a significant effect while the amount of fertilizer and plant maintenance have no effect on the price of FFB of independent oil palm farmers.

RESEARCH METHOD

Location and Time of Research

The research was conducted in Langkat District. The basis for considering the appointment of North Sumatra Province, Langkat District as the location of the research is because North Sumatra Province is one of the centers of oil palm production. In addition, the location is also very representative in terms of access and opportunities to obtain the data desired by the author.



Data and Data Collection Methods

The data source in this study is secondary data. The secondary data required is obtained from relevant agencies (Sugiyono, 2017), namely from the Central Bureau of Statistics and the Agriculture Office as well as other literature related to the research. The secondary data required includes the condition of the study area, the amount of FFB production, FFB prices, CPO prices and rainfall as well as supporting institutions, namely data sources relevant to the research objectives in the form of documents and reports from relevant agencies in North Sumatra 1993-2023.

Data Analysis Method

Descriptive analysis is the most basic analysis to describe the general state of the data. This descriptive analysis includes several things, namely frequency distribution, measurement of central tendency, and measurement of variability (Wiyono, 2015). To answer the hypothesis, the analysis method to see the relationship between FFB prices and FFB production in Langkat Regency uses the Multiple Linear Regression Analysis Method. To see the relationship between FFB prices and CPO prices in Langkat Regency using the Multiple Linear Regression Analysis Method. To see the relationship between FFB prices and rainfall in Langkat Regency using the Multiple Linear Regression Analysis Method.

To facilitate data processing with multiple regression analysis, the SPSS (Statistical Program for Social Science) application was used. According to Rahayu (2004), SPSS (Statistical Program for Social Science) is a package of computer application programs to analyze statistical data, especially statistical analysis for the social sciences. The SPSS program package can use almost all types of data files and use them to create reports in the form of tabulations, charts (graphs), plots (diagrams) of various distributions, descriptive statistics and complex statistical analysis. In 2000, SPSS was widely used in providing analytical solutions to customers' wishes because it could predict what they wanted to be done. SPSS can provide solutions in various fields, including marketing analysis, customer and operational data, telecommunications, healthcare, banking, financial institutions, insurance, retail, marketing research, public sector and consumer goods.



RESULT AND DISCUSSION**Effect of FFB Production Factors, CPO Price and Rainfall on FFB Price**

The effect of FFB production factors, CPO prices and Precipitation on FFB prices was analyzed using multiple regression analysis techniques and the calculations were assisted by using SPSS 16.0 software. This multiple regression analysis technique can be used to determine the magnitude of the influence of CPO Price, FFB Production and Precipitation or independent variable (IV) on FFB Price or dependent variable (DV). Hypothesis testing is based on the assumption that the CPO Price, FFB Production and Rainfall variables affect the FFB Price variable (dependent variable).

The results of the overall test involve all independent variables (CPO Price, FFB Production and Precipitation) with the following hypothesis formula: H_0 : There is no significant influence jointly between the variables of CPO Price, FFB Production and Precipitation. H_a : There is a significant influence jointly between the variables of CPO Price, FFB Production and Precipitation on the variable FFB Price (dependent variable). (Sig. <0.05). The risk of error proposed is 5% ($\alpha = 5\%$), the significance value = 0.048. because the significance level is smaller than 0.05 ($0.048 < 0.05$), it can be concluded that the research hypothesis or alternative hypothesis (H_a) is accepted. So, it can be said that there is an influence between CPO Price, FFB Production and Precipitation. For more details can be seen in Table 1 and Table 2.

Table 1. Results Of Multiple Linear Analysis On Factors Affecting The Price Of Fresh Fruit Bunches

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1.072	.386		2.775	.010
	X1_ CPO Price	.050	.057	.247	.881	.036
	X2_ Precipitation	.126	.112	.199	1.125	.031
	X3_ Production	2.405E-8	.000	.116	.412	.024



Table 2. Results Of Collinearity Statistics On Analysis Of Factors Affecting The Price Of Fresh Fruit Bunches

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	X1_ CPO Price	.392	2.550
	X2_ Precipitation	.989	1.011
	X3_ Production	.389	2.567
a. Dependent Variable: Y_Price of TBS			

Based on the table above, the details are as follows: The CPO price variable obtained a significance value of 0.036. Because the significance value > 0.05, it can be concluded that the research hypothesis or alternative hypothesis (Ha) is accepted. So, it can be explained that CPO prices have a significant influence on fluctuations in FFB prices. The results of this study are in line with the results of research by Rojali (2020). "Factors Affecting the Purchase Price of FFB of UD Jaya Mandiri Palm Oil Warehouse in Krueng Itam Village, Tadu Raya District, Nagan Raya Regency". factory prices and competitor prices affect the purchase price with a very strong level of relationship. Then it is emphasized by the research results of Mulayani (2021) with the title Analysis of the price of oil palm fresh fruit bunches in Jambi Province. The results showed that the price of CPO had a significant effect on the price of FFB, so it is hoped that the stability of CPO prices will be achieved so that the price of FFB will also experience stability.

The Precipitation variable obtained a significance value of 0.031. Because the significance value > 0.05, it can be concluded that the research hypothesis or alternative hypothesis (Ha) is accepted. So, it can be explained that rainfall has a significant influence on the price of FFB. Based on the results of research by Alamsyah (2019) in a study entitled factors affecting the FFB price of independent palm oil farmers in Jambi Province. Hail research shows that various problems from technical aspect factors have a significant influence on the low price of FFB received by independent palm oil farmers.

The FFB Production variable obtained a significance value of 0.024. Because the significance value > 0.05, it can be concluded that the research hypothesis or alternative hypothesis (Ha) is accepted. So, it can be explained that FFB production has a significant



influence on FFB prices. The results of this study are in line with the research results of Rahman (2020) with the title analysis of factors that affect the price of oil palm fresh fruit bunches received by farmers (case study: Air Hitam Village, Lima Puluh District, Batu Bara Regency. The results showed that the variables of plant age and free fatty acid content of FFB production had a significant effect on the price of FFB received by farmers.

From the resulting hypothesis test, it can be concluded that if you want to intervene to increase the price of FFB, the variables that need to be considered are the variables of CPO Price, FFB Production and Precipitation.

Percentage of Independent Variables Affecting the Dependent Variable

To see the percentage of FFB Price that can overall be applied to CPO Price, FFB Production and Precipitation, the researcher conducted a multiple regression analysis test using SPSS 16.0, the results are as follows:

Table 3. The Results Of The Analysis Of The Relationship Between Factors Affecting The Price Of Fresh Fruit Bunches

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.342 ^a	.117	.019	.31122
a. Predictors: (Constant), X3_Production, X2_Precipitation, X1_CPO Price				

Based on the 3 above, it is known that the coefficient of determination (R square) obtained is 0.117. This means that the proportion of variance of FFB Price that can be applied to the five variables as a whole is 11.7%. Or in other words, together they contribute 11.7% to changes in the FFB Price variable. While the rest ($100\% - 11.7\% = 88.3\%$) is influenced by other factors besides the five variables (CPO Price, FFB Production and Precipitation) that are not measured in this study that can provide changes to the FFB Price.

CONCLUSION

Based on the results of the research and discussion, it can be concluded as follows:

1. Fresh fruit bunch production variable shows a significant influence on the price of oil palm fresh fruit bunches.

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2. CPO price variable shows a significant influence on the price of oil palm fresh fruit bunches.
3. The precipitation variable shows a significant effect on the price of oil palm fresh fruit bunches.

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