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The Impact of Farmer Exchange Rate on Inflation During Covid 19 in Indonesia

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Abstract

This study aims to determine the impact of farmer exchange rates on the rate of inflation in Indonesia during the Covid 19 period. The independent variable on farmer exchange rates consists of the exchange rate of forestry farmers, horticultural farms, and food crops, while the dependent variable is the inflation rate based on expenditure. The results showed that the exchange rate of plantation farmers had a positive and significant effect or had an impact on the inflation rate, the exchange rate of livestock farmers had a positive and significant effect or had an impact on the inflation rate, the exchange rate of horticultural farmers had a positive and significant effect or had an impact on the inflation rate, the exchange rate of crop farmers. food has a positive and significant effect or has an impact on the inflation rate.

Keywords: *Plantation Farmer Exchange Rate; Farmers Exchange Rate; Horticulture Farmers Exchange Rate; Exchange Rate of Food Crop Farmers; Inflation*

Introduction

Amid the Covid-19 Pandemic, the world economy is under pressure, including Indonesia. The occurrence of inflation in the last few months is evidence that the Covid-19 pandemic has also affected the Indonesian economy. Inflation tends to increase in prices for goods and services in general, which continues.

The importance of the economy in human life requires the state to regulate policies on the economy and guarantee the economy of citizens, especially in Indonesia which proclaims itself as a welfare state (welfare state). This is motivated by the very rapid development of technology that has changed the global economic order towards a digital economy and finance, however, community participation in the economy, especially the youth, women, and the agricultural sector, is deemed not optimal, so it requires efforts to open access to them in economic activity through the use of technology. . As well as agreeing to implement and strengthen monitoring of global risks, especially those originating from Covid-19, as well as to increase awareness of various potential risks and agree to implement effective policies in terms of both monetary, fiscal and structural.

The agricultural sector has economic value that can make Indonesia survive the threat of the global crisis, including the crisis caused by the current corona outbreak. This is because the agricultural sector has always been a daily necessity, and the process is not too difficult, which only takes 3 months of planting. The current condition is a momentum to boost agricultural production such as fruit and vegetables and plantation commodities to curb imports. As well as having an impact on the existence of the economy, Covid-19 is also predicted to hit the existence of the agricultural sector, if the development spreads along with the lack of discipline in accepting the government's appeal and the limitations of the government in maximizing prevention and handling.

According to BPS (2020), the agricultural sector contributed 15.46% to the structure of national GDP growth in the second quarter of 2020. This contribution value increased compared to the same period in the previous year, which was 13.57%. The positive growth of the agricultural sector during the pandemic certainly gives hope for the continuity of food production in Indonesia. However, currently, it is quite difficult for Indonesia to develop the agricultural sector, including empowering farmers as the main support for this sector, due to various factors that exist. The Covid-19 pandemic has caused crop yields to be maximally absorbed in the market due to reduced income.

The COVID-19 pandemic has caused crop yields not to be fully absorbed in the market. The food commodity from the harvest is not properly absorbed because of reduced income or because of large-scale social restrictions imposed by the government. He explained the community's COVID-19 pandemic or due to the Large-Scale Social Restrictions (PSBB) policy. The implementation of the policy to limit the space for movement directly affects the agricultural sector, especially in terms of stabilizing commodity prices, disrupting input and production supply chains, threatening farmers' health, and disrupting production due to labor shortages (Saefudin 2020). The Covid-19 pandemic had an impact on the inhibition of activities in several sectors, resulting in reduced income and labor. This implies weakening people's purchasing power and consumption. Besides, the PSBB policy also influences the smooth distribution of food commodities between cities, provinces, and between islands. Although food is exempted from the implementation of the PSBB, the existence of inspections at posts located at certain checkpoints has an impact on the smoothness of traffic. The Central Statistics Agency said that the decline in the farmer exchange rate (NTP) during this pandemic was accompanied by a change in the household consumption index (IKRT) of -0.07% in May 2020. This was due to the drop in the index in food, beverage, and tobacco (Ulya 2020).

However, during the Covid-19 pandemic, it dropped drastically, causing several sectors to be unable to operate optimally, leading to reduced income and a shrinking workforce. This will directly weaken people's purchasing power and consumption.

The Covid-19 pandemic has a major impact on the world economy, and Indonesia is one of the countries affected by the development of the global economic order, the worst-case scenario of the impact of the Covid-19 outbreak can bring Indonesia's financial situation to a low point and affect various sectors existing and developing businesses in Indonesia. Demand for goods that continues to increase while the supply of money that cannot be flowed in this pandemic can cause inflation in Indonesia, this can be triggered by changes in the world trade map, if the value of the rupiah continues to decline in the global economy, this will have a major impact on economic conditions. in Indonesia. However, if the price of goods continues to increase from time to time while the money supply increases at the same time, inflation will certainly occur. The demand that continues to arrive from various circles of society, ranging from the upper class to the low-income ones, has boosted the circulation of goods and the amount of money due to limited distribution during a pandemic which makes distribution difficult to flow so that if this continues until a certain time and in the end price explosion occurs, inflation will continue until the Indonesian economy begins to stabilize.

The increase in prices for goods and services caused a decline in the value of the currency. The Covid-19 pandemic had an impact on Indonesia's economic conditions, especially in the trade sector, which includes export-import activities of raw materials and capital goods. Declining production activities, scarcity of goods, and also an increase in market prices lead to inflation. Moreover, Indonesia still relies on imports from China for industrial raw materials and also food ingredients, for example, such as garlic. The development of inflation during the Covid 19 pandemic to the new normal remains a concern of many circles. This is because the demand and supply for an item have decreased significantly.

COVID-19 has caused the trend of inflation in Indonesia and various countries to slow down and even lead to deflation and many say that during this period the inflation rate recorded disruptions caused by a surge in layoffs and a change in work schemes to WFH, hitting demand which had an impact on supply. The effect of inflation on the economy of a country is quite large. That's why the country is so afraid of not being able to control the rate of inflation. Core inflation is still weak despite an increase in June 2020. This shows that we must strive to continue to increase people's purchasing power, but this is because people's purchasing power, especially household consumption, has weakened quite drastically. an economy can provide opportunities for humans to meet their daily needs such as food, drink, clothing, shelter, and so on.

Inflation is a measure of the general increase in the price level in an economy, represented usually by an inclusive price index, such as the Consumer Price Index in the United States. The term denotes many individual prices increasing together rather than one or two isolated prices, such as gasoline prices in an otherwise quiet price environment. The inflation rate is usually expressed as an annual growth rate in prices (again, as measured by an index) even if measured over a shorter period (Priyono, Teddy Chandra; 2016).

Research Methods

This type of research is quantitative research. Quantitative research is research that emphasizes theory testing through measuring research variables with numbers and analyzing data using statistical procedures (Indriantoro and Supomo, 2014: 12). Based on the objectives, this study is explanatory. Explanatory research or explanatory research is research that aims to test the hypothesis which states a causal relationship between two or more variables (Sukandarrumidi, 2006: 105). This study seeks to explain the causal relationship between variables to determine whether there is a relationship between farmer exchange rates and inflation in Indonesia.

The data collection method used in this research is literature study and documentation study. The data and theory in this research are obtained from literature, articles, journals, and previous research results that are relevant to the research and theoretical basis. Data is also obtained from documentation studies carried out by collecting secondary data both from the institutions that published the data and from the internet. The data is obtained from the official website of the Indonesian statistics center.

Descriptive statistics are statistics that describe the phenomena or characteristics of the data (Hartono, 2014: 195). Descriptive statistics include the presentation of data through tables, graphs, and diagrams. Descriptive statistics are used when the researcher only wants to describe the sample data and does not want to make conclusions that apply to the population in which the sample was drawn. Descriptive statistics are also used to compare sample data (Sugiyono, 2014: 207). Besides, an analysis was carried out by looking at the data on the exchange rate of plantation farmers, food crops, horticulture, and livestock, each knowing the price index paid by farmers and the price index received by farmers. As for inflation by looking at the expenditure index on indicators of food and beverage, health, education, transportation, and equipment.

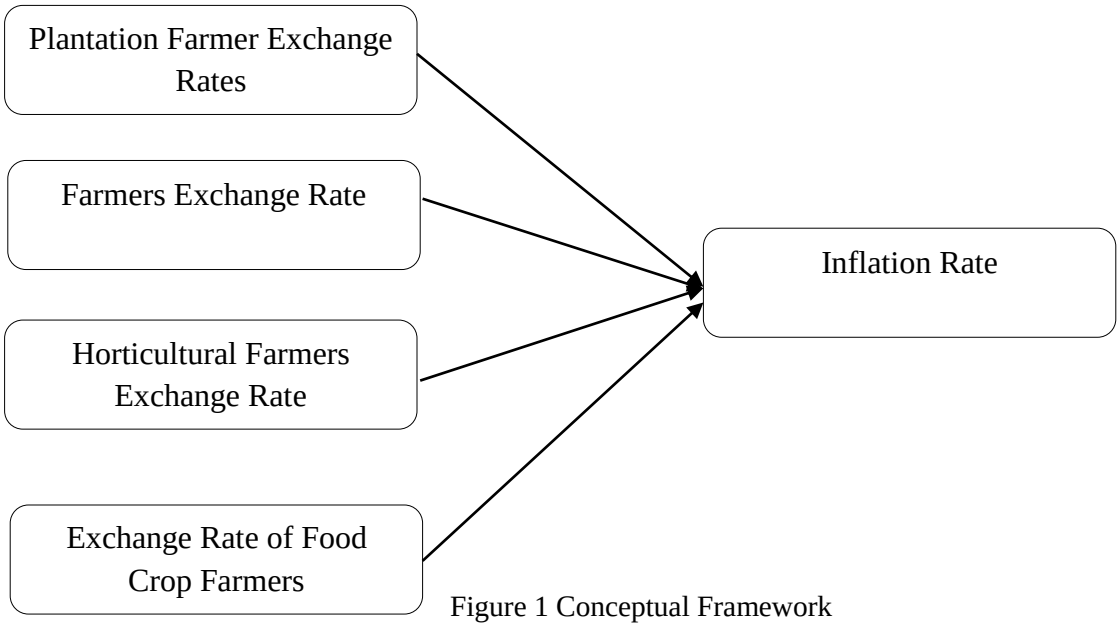

Figure 1 Conceptual Framework

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5Y + e$$

Information:

Y = Inflation Rate
a_0 , b_0 = constant
a_1, b_1 = Regression coefficient
X_1 = Plantation Farmer Exchange Rates
X_2 = Farmers Exchange Rate
X_3 = Horticultural Farmers Exchange Rate
X_4 = Exchange Rate of Food Crop Farmers
e = Residual Value

In applications for this analysis, the measured variable data is usually a standardized number, this method of measurement results in the regression coefficient being the same as the correlation coefficient. These two terms are used in the sense of correlation (Hair. 2014: 80)

Results

This research was conducted in Indonesia by looking at the exchange rate data of farmers, both plantation farmers, livestock, horticulture, and food crop farmers during the Covid 19 period and also looking at inflation data based on the level of expenditure in Indonesia.

Descriptive statistics include measurement and assessment of sample data characteristics, namely maximum, minimum, average standard deviation, skewness, and kurtosis. Skewness and kurtosis should not be less than -1 and not greater than +1.

Table 1 Descriptive Statistical Analysis

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Plantation Farmer Exchange Rates	140	-2.38	3.27	.1252	.70473	-.121	9.042
Farmers Exchange Rate	140	-3.03	12.00	.2213	1.17802	7.143	72.856
Horticultural Farmers Exchange Rate	140	-1.97	3.94	.2174	.67129	1.673	11.058
Exchange Rate of Food Crop Farmers	140	-1.85	1.38	.1521	.38484	-1.650	8.508
Inflation Rate	140	-.89	2.02	.1326	.37355	1.779	7.574
Valid N (listwise)	140						

Source: Data Processed in 2021

From the table above, it can be seen that almost all independent and dependent variables have skewness and kurtosis that are not less than -1 and not greater than +1, except for plantation farmer exchange rates variable kurtosis. This means that almost all the data from the instruments of all variables are not excessive non-normal, meanwhile, the data from the variable instrument of food crop farmer exchange rates is still allowed to be used continuously because skewness meets the requirements and will be examined further in the normality test as part of the classical linear regression assumption.

This study regresses the independent variables, namely the exchange rate of plantation farmers, the exchange rate of livestock farmers, the exchange rate of horticultural farmers, and the value of tuke of food crop farmers on the dependent variable, namely the rate of inflation, and produces a regression coefficient that shows the direction of the relationship between the independent and dependent variables.

Table 2 Results of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
	(Constant)	.089	.045	
	Plantation Farmer Exchange Rates	.057	.045	.109
	Farmers Exchange Rate	.120	.050	.194
	Horticultural Farmers Exchange Rate	.119	.048	.216
	Exchange Rate of Food Crop Farmers	.085	.083	.084

Source: Data Processed in 2021

From the table above the regression equation is as follows:

$$Y1 = 0{,}089 + 0{,}057X1 + 0{,}120X2 + 0{,}119X3 + 0{,}085X4 + e$$

Based on the regression equation above, the effect of the independent variable on the dependent variable can be analyzed as follows:

If it is assumed that the variable value of plantation farmer exchange rate, livestock farmer exchange rate, horticultural farmer exchange rate, and food crop farmer exchange rate is constant or equal to zero, then the transparency variable value is 0.089. But in reality, constant value has no meaning.

In terms of sample characteristics, the variable of plantation farmer exchange rate is 0.057, meaning that if the plantation farmer exchange rate is increased by one, inflation in Indonesia will

increase by 0.057. The variable of livestock farmer exchange rate is 0.120, meaning that if the exchange rate of livestock farmers is increased by one, inflation in Indonesia will increase by 0.120. The horticultural farmer exchange rate variable is 0.119, meaning that if the horticultural farmer exchange rate is increased by one, inflation in Indonesia will increase by 0.119. The variable of food crop farmer exchange rate is 0.085, meaning that if the exchange rate of food crop farmers is increased by one, inflation in Indonesia will increase by 0.085.

The value of the Adjusted R Square coefficient aims to determine the influence of the independent variables simultaneously on the dependent variable or to show how much the regression model can explain the dependent variable.

Table 3 Determination Results (R2)

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
1	.350[a]	.122	.096	.30631

Source: Data Processed in 2021

Based on the table above, the coefficient of determination 0.122 is equal to 12.2%. This figure implies that the exchange rate of plantation farmers, livestock, horticulture, and food crops affects the inflation rate by 12.2% and the rest is influenced by other variables.

The F test is performed to see whether the analyzed model has a high level of model feasibility, namely the variables used by the model can explain the phenomenon being analyzed.

Table 4 Goodness of Fit Models

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.764	4	.441	4.701	.001
	Residual	12.666	135	.094		
	Total	14.430	139			

Source: Data Processed in 2021

The table above shows that the sig value for the results of the feasibility test of the model is 0.001 less than 0.05, meaning that the independent variable of the exchange rate of plantation farmers, livestock, horticulture, and food crops can predict the dependent variable of the inflation rate. Likewise, the value of Fount is greater with a Ftable value of 4.701> 2.44, which means that the independent variable can predict the dependent variable.

The t-test is used to test how far the influence of each independent variable individually is in explaining the dependent variable.

Table 5 Hypothesis Test Results (t-test)

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	.089	.045	1.982	.050
Plantation Farmer Exchange Rates	.057	.045	2.264	.028
Farmers Exchange Rate	.120	.050	2.386	.018
Horticultural Farmers Exchange Rate	.119	.048	2.496	.014
Exchange Rate of Food Crop Farmers	.085	.083	2.028	.036

Source: Data Processed in 2021

The variable of plantation farmer exchange rate has a count of 2.264 greater than t table of 1.97 or a sig value of 0.028 less than 0.05, meaning that H0 is rejected and H1 is accepted, that the exchange rate of plantation farmers has a positive and significant effect on the inflation rate in Indonesia. . The livestock farmer exchange rate variable has a count value of 2.386 greater than t table 1.97 or a sig value of 0.018 less than 0.05, meaning that H0 is rejected and H2 is accepted, that the exchange rate of livestock farmers has a positive and significant effect on the inflation rate in Indonesia. . The horticultural farmer exchange rate variable has the at-count value of 2.496, which is greater than t-table 1.97 or a sig value of 0.014 which is smaller than 0.05, meaning that H0 is rejected and H3 is accepted, that the exchange rate of horticultural farmers has a positive and significant effect on the inflation rate in Indonesia. The food crop farmer exchange rate variable has the at-count value of 2.028 greater than t-table 1.97 or a sig value of 0.036 less than 0.05, meaning that H0 is rejected and 41 is accepted, that the food crop farmer exchange rate has a positive and significant effect on the inflation rate. in Indonesia.

Discussion

This study aims to determine the impact of farmer exchange rates on the inflation rate in Indonesia during the Covid 19 period. Farmers exchange rates by looking at the price index data received by farmers and the index paid by farmers, while for the inflation rate by looking at inflation in Indonesia's expenditure from various perspectives, including food, clothing, equipment, transportation, education, health, communication information and financial services, and the general public. From the results of the data analysis above, several things need to be explained.

The exchange rate of plantation farmers has a positive impact on the inflation rate in Indonesia, meaning that the farmer exchange rate has a positive and significant effect on the inflation rate in Indonesia. The exchange rate of plantation farmers during the covid 19 period with the index received by farmers was much lower than the index paid by farmers so that the decline in the price of plantation crops caused farmers to suffer losses so that farmers' needs were not fulfilled due to Covid 19 in Indonesia, the welfare conditions of smallholder plantation farmers. decreasing deserves attention. This is due to a large number of people or households working on plantation businesses. and also the inflation rate in Indonesia has increased.

The exchange rate of livestock farmers had a positive impact on increasing inflation in Indonesia during the Covid 19 period. This means that the exchange rate of livestock farmers has a positive and significant effect on the inflation rate in Indonesia. Based on the price received by farmers and the price paid by farmers on farms above an NTP above 100, this means that if the NTP means the farmer is experiencing a surplus. The production price increased more than the increase in the consumer price. Farmers' income increases greater than their expenditure, NTP = 100, meaning that farmers break even. The increase/decrease in production price is the same as the percentage increase/decrease in the price of consumer goods. The farmer's income is the same as his expenses. NTP <100, means that the farmers have a deficit. The increase in production prices is relatively smaller than the increase in the price of consumer goods. Farmers' income fell, less than their expenses. Even though inflation in Indonesia has increased, livestock farmers can still experience an increase in income.

The exchange rate of horticultural farmers has a positive impact on the inflation rate in Indonesia. This means that the exchange rate of horticultural farmers has a positive and significant effect on the inflation rate in Indonesia during the Covid 19 period. The Covid-19 outbreak has an impact on NTP and NTUP. The decline in NTP during the Covid-19 pandemic was due to lower prices for agricultural products due to excess supply and reduced demand due to distribution disruptions triggered by restrictions on the mobilization of economic actors and consumer goods in various regions. Also, low purchasing power due to many people having reduced their income during the Covid19 pandemic affected the decline in NTP. The farmer exchange rate is directly proportional to food inflation, which usually

occurs in January. The Covid-19 pandemic has reduced incentives to do farming. UP until mid-2020 tends to continue to decline because agricultural commodity prices tend to decline in addition to several main commodities such as rice entering the main harvest period. On the other hand, the price of production factors is increasing.

The exchange rate of food crop farmers has a positive impact on the inflation rate in Indonesia. This means that the exchange rate of food crop farmers has a positive and significant effect on the inflation rate in Indonesia during the Covid 19 period. Farmers 'exchange rates vary in levels, the rate of farmers' exchange rate is above 100 percent so that food crop farmers in that year are in a prosperous condition. On the other hand, the exchange rate of farmers is in a state of deficit so that in that year, the welfare of food crop farmers has decreased or is less prosperous. In 2020, the farmer's exchange rate increased from the previous condition, which was equal to the welfare limit of 100% so that they were in a fairly prosperous condition. The results of the analysis state that the farmer expenditure indicator provides a value that is higher than the price of agricultural products, which causes a decrease in the Farmer Exchange Rate. The rate of inflation according to expenditure has increased so that the decline in the exchange rate of farmers has an impact on inflation in Indonesia.

Conclusion

Based on the results and discussion above, conclusions can be drawn in this study. The exchange rate of plantation farmers has a positive and significant effect or has an impact on the inflation rate, the exchange rate of livestock farmers has a positive and significant effect or has an impact on the inflation rate, the exchange rate of horticultural farmers has a positive and significant effect or has an impact on the inflation rate, the exchange rate of food crop farmers has a positive and significant or have an impact on the inflation rate.

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