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DETERMINANTS OF THE LEVEL OF FARMER WELFARE IN INDONESIA

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ABSTRACT

The majority of Indonesia's plural population relies on agriculture as their main source of income. In Indonesia, the agricultural industry plays a key role in food security and economic expansion. Improving the welfare of farmers is crucial to achieve food sovereignty, domestic agriculture, and food production. This research aims to determine the effect of the food security budget, fertilizer subsidy budget and inflation on the level of farmer welfare through farmer terms of trade (NTP) in Indonesia. This study uses secondary data spanning 17 years from 2007 to 2023. The analysis technique used is multiple linear regression. The results of this study indicate that the food security budget and inflation variables do not have an influence on the farmer terms of trade. Meanwhile, the fertilizer subsidy budget variable has a significant influence on the farmer terms of trade. This means that any growth in the fertilizer subsidy budget will lead to an increase in the farmer terms of trade, indicating that the welfare of farmers is increasing.

Keywords: *farmer welfare, fertilizer subsidy budget, food security budget, inflation*

BACKGROUND

An important component in the existence, development, and economy of Indonesia is the agricultural sector. Indonesia is known as an agrarian country, with the ability to protect natural resources, sustain livelihoods, and provide employment opportunities (Statistics Indonesia, 2023a). In Indonesia, the agricultural industry still plays a crucial role in the national economy. Other economic sectors may benefit from the growth of this agricultural industry. The majority of Indonesia's rural population relies on agriculture as their primary source of income. In Indonesia, the agricultural industry plays a key role in food security and economic expansion. The agricultural sector is the main source of income for developing countries like Indonesia. an important role in providing job opportunities or opening up fields in order to reduce poverty levels for the community, namely by strengthening productivity in the agricultural sector.

In research conducted by Efandari (2021), the agricultural sector has economic importance because it is the main source of livelihood for the majority of the population with all age groups involved in the agricultural sector. According to Simon Kuznets in Todaro & Smith (2012), in developing countries, the agricultural sector plays four main roles in the growth and development of the national economy, namely product contribution, foreign exchange contribution, market contribution, and factor contribution. The agricultural sector also plays a crucial role in providing food for the growing population. With the growing population, Indonesia also needs to ensure food

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availability. Therefore, to achieve food sovereignty, domestic agriculture, and food production are crucial.

Government initiatives to increase agricultural productivity include providing fertilizers, better seeds, and reforming the agricultural research and technology sector. If these government policies are effectively implemented, the results obtained by farmers can be optimized, and Indonesia's agricultural output can increase. Measurement tools are needed to evaluate the evolution of farmer welfare, as agricultural development focuses on improving farmer welfare. The Farmer Exchange Rate Index is one way to measure the degree of farmer welfare.

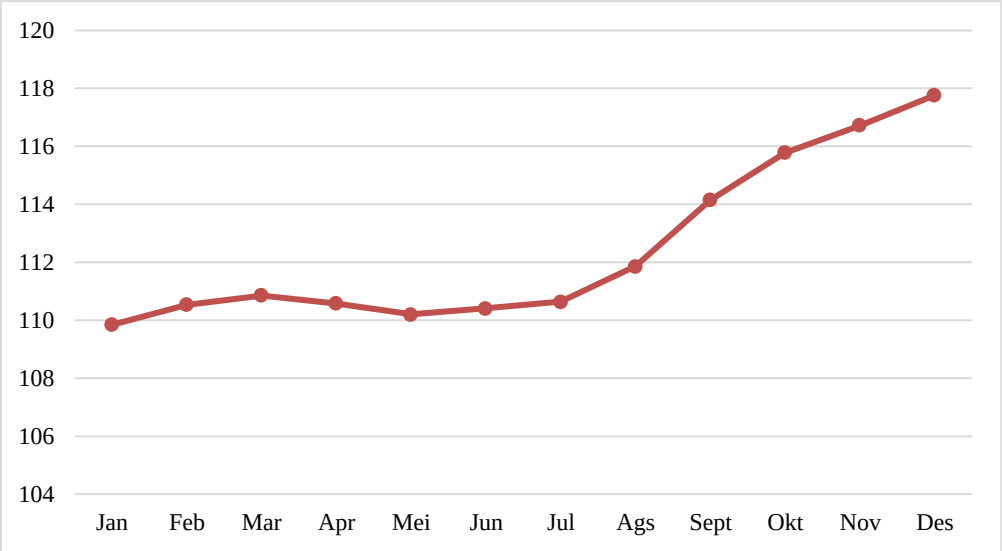

Figure 1. Development of Farmer's Exchange Rate in 2023
Source: Statistics National Bureau (2024)

Based on data released by Statistics Indonesia (2023b), the development of Farmer Exchange Rates (NTP) in 2023 showed an increase almost throughout the year. All of its NTP values were > 100, indicating a situation where the index received is greater than the index paid by farmers. This indicates a surplus occurring each month, meaning farmers' income is greater compared to their expenses. Several influencing factors that significantly influence the exchange rate of farmers in Indonesia are production factors, such as harvest area, production amount, operational costs, selling prices, and household consumption (Febrilia et al., 2023; Gunawan et al., 2022; Tenriawaru et al., 2021). This factor is actually an indicator value for the formation of the NTP itself, namely the price received by farmers (HT) and the price paid by farmers (HB). Several broader studies explain the relationship between NTP and macroeconomic variables, such as economic growth (Afifah & Nalurita, 2022; Annisa & Chandriyanti, 2021; Rahman & Sangeran, 2022). They found that the level of farmer welfare was very low, or in other words, there were still many food crop farmers who were classified as poor. They argue that the level of farmer welfare is not commensurate with the large GDP contribution of the agricultural sector in increasing economic growth, or in other words has a negative correlation with the level of farmer welfare through the farmer exchange rate (NTP). Apart from stating the farmer's welfare level, the farmer's exchange rate is also used to measure farmers' daily transactions. Then, the Farmer Exchange Rate also displays income from agricultural products against products and services consumed, including production that requires costs. If a tendency for a

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high Farmer Exchange Rate is found, then the aggregate shows the economic reliability of the farmers.

There are several factors that influence farmers' purchasing power besides NTP, such as inflation. Inflation is a situation where prices rise repeatedly. Inflation can worsen income distribution. Increasing prices are usually not accompanied by increasing income, which reduces the aggregate income and welfare of the nation. Furthermore, the occurrence of inflation is seen to have an impact on economic growth, one of the main factors of which is the Gross Regional Domestic Product (GRDP) which also affects the welfare of farmers. Like research conducted by (Mulyawan & Fakhruddin, 2022). They found that policies guaranteeing price stability and allocating budgets related to food security can guarantee the sustainability and stability of food so that in the end it can improve the welfare of farmers. Anthony & Govindarajan (2006), stated that the main factor to consider when managing the success of an individual's management period within an organization is its budget. According to Mardiasmo (2002), a budget is a term related to the projected performance that will be targeted over a specific period, expressed in financial terms, while budgeting is the series of processes to prepare a budget.

In the field of policy development, the government allocates its budget annually through the formulation of budget policies. Musgrave & Musgrave (1991) assert that the objectives of budget policies include the functions of distribution, allocation, stabilization, and budget coordination. According to Werf (1997), policy can be conceptualized as an effort aimed at achieving specific goals within a certain timeframe and predetermined order. According to Muttalib & Khan (1983), the arrangement of regional finances is influenced by several factors, including regional political patterns, the extent and magnitude of regional government administration, regional activities, and government oversight. Government policies essentially encompass monetary and fiscal policies. The Indonesian Central Bank or Bank Indonesia implements monetary policies to stabilize the rupiah value and the overall banking industry. Fiscal policies, on the other hand, refer to the government's approach to the state budget (Chugunov et al., 2021). In order to achieve prosperity, welfare, and equality, fiscal policies strive to create a dynamic economy. Fiscal policies within the scope of agriculture can include food security budget policies or subsidy budget policies. These policies are deliberate steps by the government to increase the amount of free fertilizer distributed to farmers. This will encourage optimization of crop production, maintain food security, and enhance the welfare of Indonesian farmers.

Based on data released by Ministry of Finance of the Republic of Indonesia (2024), the development of the food security budget from 2019 to 2023 experienced fluctuations or ups and downs in its allocation. The budget was 21.70 trillion Indonesian rupiahs in 2019 and decreased to 21.10 trillion rupiahs in 2020. It increased again in 2021 to 21.80 trillion rupiahs, then decreased to 14.50 trillion rupiahs in 2022, and finally saw a slight increase in 2023 to 14.70 trillion rupiahs. The government is striving to increase production in efforts to support farmers' income Sukirno (2011). Strategies that promote food security and fertilizer subsidies can optimize farmers' production, thus improving their living standards and welfare. If the community benefits from fertilizer subsidies to alleviate the burden of obtaining and using fertilizers for their farming activities, then food security and fertilizer subsidy policies are considered successful.

The agricultural sector in Indonesia has undergone a transition alongside its economic growth. Increased productivity is one of the main characteristics of this change. The use of more advanced agricultural technology, such as improved crop varieties, fertilizer use, and irrigation systems, has

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been assisted by the Indonesian government. Agricultural production will increase due to technological advancements, and Indonesia will be less vulnerable to unpredictable weather patterns. Diversification in agriculture is another aspect of this change. Farmers are not limited to cultivating only one crop; they can raise various animal species as well as crops. Rural economies can become more resilient due to these diversification efforts, which can also reduce the risks resulting from commodity price changes Windriana (2023).

There are various sub-sectors within the agricultural sector. The implementation of subsidy policies is one way the government supports the agricultural industry. Subsidies can be understood as the government paying a portion of the costs to keep the price of a good below its actual value. The price of a commodity is lowered through subsidies, allowing producers and consumers to obtain cheaper prices than the actual charged price. Based on data released by Ministry of Finance of the Republic of Indonesia (2024), the development of fertilizer subsidy budget from 2019 to 2023 has continued to decline each year. Starting from 2019, it decreased by 4.11 trillion Indonesian rupiahs to 29.50 trillion rupiahs, then decreased by 2.9 trillion rupiahs in 2020 to 26.60 trillion rupiahs, followed by a decrease of 3.5 trillion rupiahs in 2021 to 23.10 trillion rupiahs, a decrease of 2.5 trillion rupiahs in 2022 to 20.60 trillion rupiahs, and further decreased in the last year, 2023, by 2.6 trillion rupiahs to 18 trillion rupiahs.

Every year, the Indonesian government still allocates funds for subsidy programs. The agricultural industry is one of the sectors targeted by these subsidy programs. Subsidy programs in the agricultural sector, which provide price reductions to lower production costs, are expected to enhance the welfare of rural communities. Fertilizer subsidies and credit subsidy programs are two categories of subsidy programs that constitute the government's agricultural sector subsidy policy in 2019, as reflected in the allocation of the state budget (APBN) and the Central Government Financial Report. Credit programs, namely warehouse receipt credits, People's Business Credit (KUR), and Food and Energy Resilience Credit (KKPE), are allocated for the food crop subsector, whose subsidy budget was still allocated until 2019. The distribution of credits for KKPE specifically ended in 2015 and was subsequently implemented through programs incorporated into the KUR program. Nevertheless, subsidy allocations for these credits are still allocated because there are debtors who have not yet paid off their arrears. The subsidy policy has not yet been implemented as it should be. Subsidy policies often encounter obstacles in targeting and accessibility to the wrong communities. Small-scale farmers with limited cash resources are the target of agricultural sector subsidy strategies aimed at reducing production costs and increasing farmers' yields. Increasing farmers' productivity can be a useful asset in the process of economic development, providing a solid foundation. The agricultural sector is one of the nine economic sectors that must be improved to achieve economic development.

Also observed is the inflation statistics development released by Bank Indonesia (2024) in 2023. In January, inflation was recorded at 5.28%, which increased in February to reach the highest inflation rate of the year at 5.47%. It then steadily decreased each month until July, starting from March at 4.97%, April at 4.33%, May at 4%, June at 3.52%, and July at 3.08%. In August, inflation rose from the previous month to 3.27%. It then decreased in September to 2.28%, increased again in October to 2.56%, and in November to 2.86%. It decreased once more at the end of the year to 2.61%. The relationship between inflation and farmer exchange rates can be quite complex and depends on several factors. In general, high inflation tends to have a negative impact on farmer exchange rates, but its effects can vary depending on factors such as the types of commodities produced, the level of

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dependence on imports and exports, as well as other political and economic factors. Based on the focus of previous research, the level of farmer welfare is measured through the farmer's exchange rate (NTP), where this value is formed by the ratio between the price index received by farmers and the price index paid by farmers in the form of a percentage (Febrilia et al., 2023). in research by Tenriawaru et al. (2021) and Afifah & Nalurita (2022), the factors that determine the level of farmer welfare are measured through internal factors related to agriculture, such as harvest area, production amount, selling price and household consumption. From these results it can be concluded that the factors that really influence the level of farmer welfare come from the NTP formation indicators themselves. In this article we will slightly modify how the level of farmer welfare is measured through macro variables such as price stability through inflation and fiscal policy with the parameters of food security and fertilizer subsidies. Based on the background outlined above, the author is interested in conducting research with the title to be investigated which is “Determinants of the Level of Farmer Welfare in Indonesia”.

RESEARCH METHODS

The researcher adopts a quantitative approach. The timeframe used in this writing is 17 years from 2007 to 2023. The data obtained is published by the Statistics Indonesia (BPS) through the bps.go.id portal, Food Security Budget and Fertilizer Subsidy Budget through the anggaran.kemenkeu.go.id portal, as well as Inflation Statistics through the bi.go.id portal. Government initiatives to increase agricultural productivity include the provision of fertilizer, better seeds, and reform of the agricultural research and technology sector. If this government policy is implemented effectively, agricultural output can be optimized and agricultural yields can increase. Government policy basically includes monetary policy and fiscal policy. The Central Bank of Indonesia or Bank Indonesia implements monetary policy in order to stabilize the value of the rupiah and the banking industry as a whole. In contrast, fiscal policy refers to the government's approach to the APBN. In the context of realizing welfare and well-being as well as realizing prosperity and equality, fiscal policy seeks to create a dynamic economy. One of the government policies in the scope of agriculture can be a food security budget policy or a subsidy budget policy. This policy is a deliberate step by the government to increase the amount of free fertilizer sent to farmers. This will encourage optimization of crop production, maintain food security, and in turn improve the welfare of farmers in Indonesia (refer to Table 1).

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Table 1. Variable Definitions and Data Sources

No	Variable/symbol	Definitions	Unit	Data Sources
1	Farmer Exchange Rates (NTP)	The farmer exchange rate is a comparison number between the price index received by farmers and the price index paid by farmers expressed as a percentage.	Percentage (%)	Central Bureau of Statistics (BPS)
2	Food Security Budget (KPA)	Food security is a condition where food needs are met for households, which is reflected in the availability of food in sufficient quantity and quality, safe, equitable and affordable.	Trillions of rupiah	Ministry of Finance of the Republic of Indonesia
3	Fertilizer Subsidy Budget (SP)	Fertilizer subsidies are a form of government assistance to the agricultural sector, in the form of determining HET, fertilizer allocation amounts, and clear distribution channels.	Trillions of rupiah	Ministry of Finance of the Republic of Indonesia
4	Inflation	Inflation is a situation where the general price of goods and services increase continuously over a certain period of time. In other words, inflation reflect a decrease in the purchasing power of money or a general increase in the cost of living.	Percentage	Bank Indonesia

Source: Processed Data (2024)

The data is processed using SPSS software. Multiple linear regression analysis is one of the data analysis techniques used in this research. In this study, a multiple linear regression model with several independent variables and the assumption of ceteris paribus is used to model food security, fertilizer subsidies, inflation, and farmer exchange rates in Indonesia. This is one way to write the model:

$$\text{NTP} = \beta_0 + \beta_1 KPA_t + \beta_2 SP_t + \beta_3 I_t + \varepsilon$$

Information:

NTP : Farmer Exchange Rates
β_0 : Constants
$\beta 1/ \beta 2/ \beta 3$: Coefficients
KPA : Food Security Budget
SP : Fertilizer Subsidy Budget
I : Inflation
ε : Error Term

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RESULT AND DISCUSSION

According to Ghozali (2013), the requirements for a good research model are the absence of classical assumption problems such as multicollinearity tests, autocorrelation tests, heteroscedasticity tests, and normality tests. That way, the final model used must be BLUE (Best Linear Unbiased Estimator). The results of the classical assumption test, namely the multicollinearity test, show that the VIF value of the food security budget, fertilizer subsidy budget and inflation variables is 3.073; 2,598; 1.553, which means the VIF value ≤ 10. So it can be concluded that there is no multicollinearity problem between the independent variables.

Table 2. Multicolinearity and Autocorrelation test

Variable	Multicolinearity	Autocorrelation
	VIF	Asymp. Sig
log_KPA	3,073	
log_SP	2,598	
log_INF	1,553	
Autocorelation value		0.308

Source: Processed Data (2024)

The autocorrelation test is carried out statistically with the aim of seeing if there are errors regarding consecutive observations over time related to each other. A good regression model is a regression that is free from autocorrelation problems. In autocorrelation testing using Run Test with the condition that the Asymp value. Sig > 0.05 means there is no autocorrelation problem. So, the results of this test show that the value of Asymp. The sig is greater than the significance value, where the probability value is 0.308 > 0.05, so it can be concluded that the research does not have an autocorrelation problem.

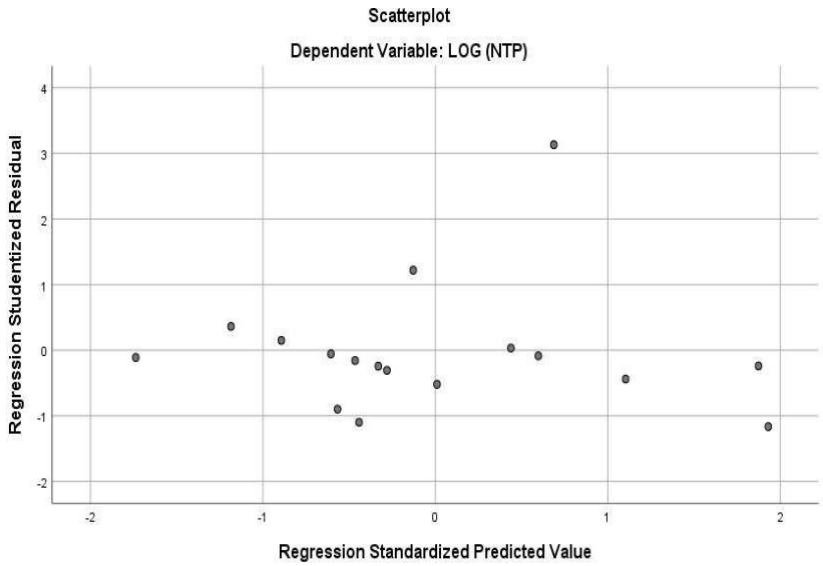

Figure 1. Heteroscedasticity Test

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The heteroscedasticity test is carried out with the aim of seeing deviations from assumptions such as unequal variances in classical residuals. A good regression model is homoscedastic or does not have heteroscedasticity problems. One of the media used in this test is scatterplot graphics. The results of this test show that there is no clear pattern and there are points spread above and below the number 0 on the Y axis. Therefore, there is no heteroscedasticity problem.

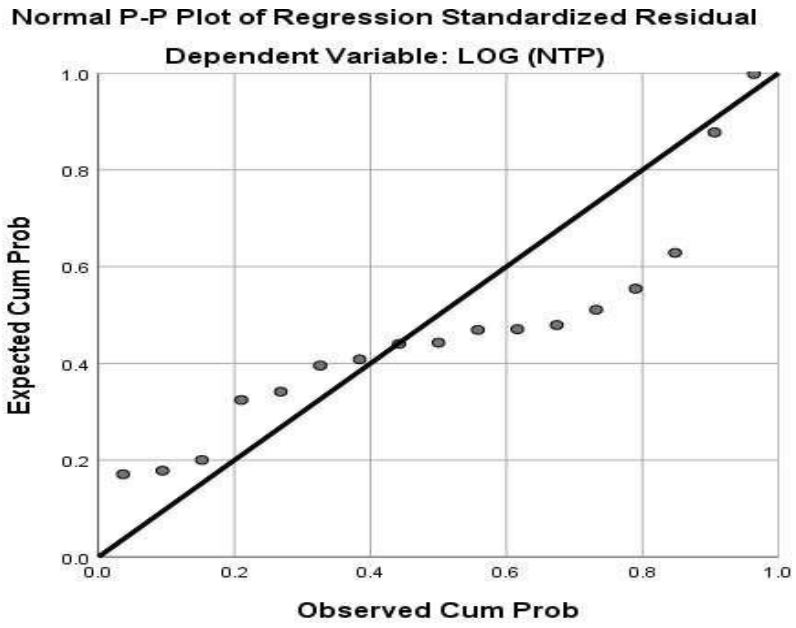

Figure 2. Normality Test

The normality test is a test carried out with the aim of seeing whether the data used in the research is normally distributed or not using the normal probability plot test (P-P plot). In principle, normality can be indicated by looking at the distribution of data (points) on the diagonal axis of the graph or by looking at the histogram of the residuals. So, from the output the dots spread between the diagonal lines and follow the direction of the line. So, it can be concluded that the data in the regression model is normally distributed.

The Influence of Food Security Budget on Farmer Exchange Rates in Indonesia

Food security is a nation's ability to ensure that all its citizens have access to safe and nutritious food in sufficient quantities to meet their dietary needs. Based on the estimation results, the Food Security budget does not have a significant influence on farmer exchange rates. Looking at the research results, the food security budget does not have a significant influence on farmer exchange rates. Based on the estimation results, the Food Security Budget variable has a significance value of 0.123 > 0.05 and a t-value of 1.651. It can be seen that the t-value < t-table, which is 1.651 < 2.16037, meaning that, partially, the Food Security Budget variable does not affect the Farmer Exchange Rate variable.

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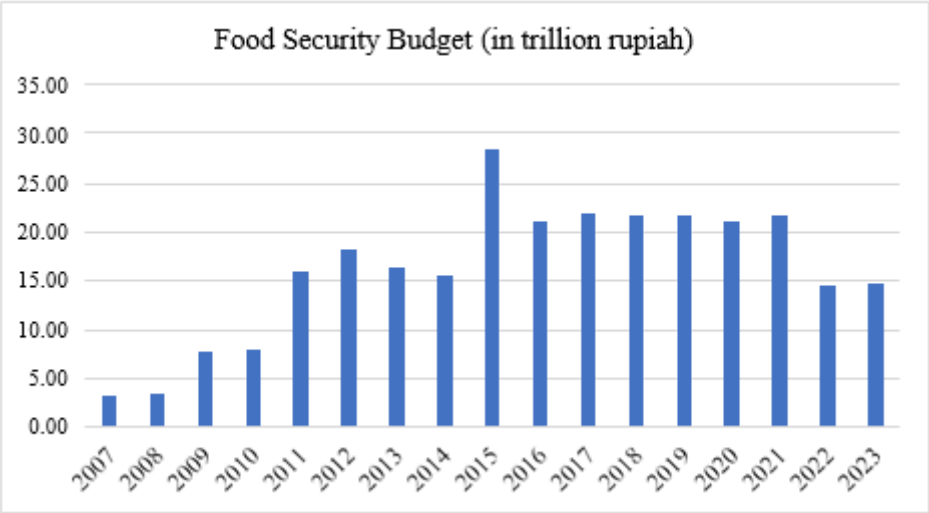

Figure 3. Food Secuirty Budget in Indonesia Period 2007-2023

Based on the development of the food security budget studied from 2007 to 2023, it experienced an increase and stabilization of the budget each year, which is quite good. There was a very rapid increase in 2015, amounting to an increase of 13.2 trillion rupiahs. This is a fantastic budget increase figure, but such a high figure did not lead to developments in farmer exchange rates. The farmer exchange rate in 2015 actually decreased by 0.44% from the previous year. Over the last 3 years, the food security budget development in 2021 amounted to 21.80 trillion rupiahs, decreased to 14.50 trillion rupiahs in 2022, and experienced a final increase in 2023 to 14.70 trillion rupiahs. Meanwhile, over the last 3 years, the farmer exchange rate has been increasing rapidly each year, with the FER in 2021 at 104.64%, then rising to 107.33% in 2022, and peaking in 2023 at 115.78%. This could happen because the budget allocated for food security is not effectively and efficiently distributed to farmers, and it is possible that the budget allocation is not used for programs specifically aimed at increasing productivity or farmer welfare. Therefore, there will be no significant influence on farmer exchange rates.

The Influence of Fertilizer Subsidy Budget on Farmer Exchange Rates in Indonesia

Fertilizer subsidies refer to the provision of financial support to farmers in the form of fertilizer price reductions. Subsidies have the potential to reduce the production costs incurred by farmers related to fertilizer use. The expected outcome of cost reduction is increased output, intended to improve farmer welfare. Fertilizer subsidies are a government program for the farmers, where farmers receive price subsidy funds directly from the government (in the form of money or similar goods) so that when purchasing fertilizer transactions, farmers will be charged the market price, but the farmer only pays the net price equal to the market price and minus the subsidy price received by farmers. Therefore, with fertilizer subsidies from the government, farmers in Indonesia should be able to gain prosperity, not the opposite, namely that there are still farming communities that have not experienced prosperity. However, even though there are fertilizer subsidies without equal distribution, if there is inequality in fertilizer subsidies, farmers will not experience prosperity.

Based on the estimation results, the fertilizer subsidy budget has a significance value of 0.002 < 0.05 and a t-value of -2.592. it can be seen that the t-value > t-table, which is 2.592 > 2.16037, meaning that partially it has a negative and significant influence on farmer exchange rate. Where by,

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1% increase in the fertilizer subsidy budget will decrease the farmer exchange rate. This could happen due to several factors such as excessive dependence on fertilizer subsidies, which may lead to less innovation in seeking solutions to improve their crop productivity independently. This can hinder the development of more sustainable and efficient agriculture. If fertilizer subsidies lead to excessive production increases but are not balanced with long-term increases in agricultural commodity prices, their income will still be eroded by price decreases.

There have been several problems regarding fertilizer subsidies in Indonesia in recent years, such as the realization of fertilizer subsidies being relatively large, it is estimated that the subsidized price cannot be fully enjoyed by farmers. The low ability of most farmers to buy fertilizer in cash also causes them to have to pay above the HET. On the other hand, the implementation of fertilizer distribution is not yet optimal or fertilizer distribution is inefficient due to weak supervision so that it is not on target.

The results of this research are in line with previous research that fertilizer subsidies have a negative and significant effect on farmers' welfare due to the problem of price gaps for farmers (Andriyani & Mulia, 2020; Feryanto, 2019; Nirmala et al., 2016). The contribution that the community gets from subsidies budgeted by the government is that farmers have the right to get fertilizer at a price that is cheaper than the market price. With this, the value paid by farmers for production activities will be lower. If the value paid by farmers is lower than what they receive then there is an increase in the farmer's exchange rate. When there is an increase in the farmer's exchange rate it indicates a change in terms of farmer income and welfare.

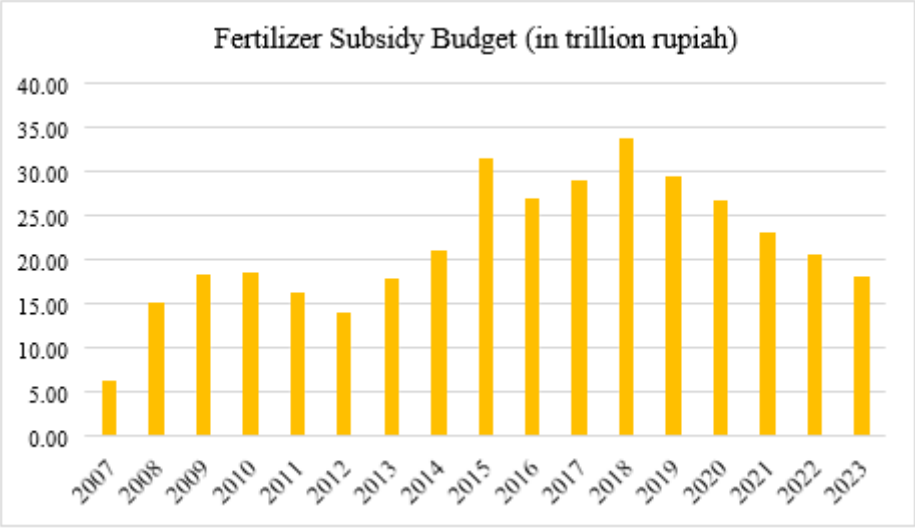

Figure 4. Fertilizer Budget in Indonesia Period 2007-2023

Looking at the development of fertilizer subsidy budgets in research from 2007 to 2023, the years 2013-2015 experienced quite significant increases in the budget. Rising by 3.94 trillion rupiahs in 2013 from the previous year to 17.90 trillion rupiahs. Then rose by 3.15 trillion rupiahs in 2014 to 21.05 trillion rupiahs. In 2015 was the highest budget increase by 10.27 trillion rupiahs to 31.32 trillion rupiahs. But it decreased by 4.47 trillion rupiahs in 2016 to 26.85 trillion rupiahs. From 2019 to 2023, there was a continuous decrease each year. Starting from 2019, it decreased by 4.11 trillion rupiahs to 29.50 trillion rupiahs, decreased by 2.9 trillion rupiahs in 2020 to 26.60 trillion rupiahs, decreased by 3.5 trillion rupiahs in 2021 to 23.10 trillion rupiahs, decreased by 2.5 trillion rupiahs in

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2022 to 20.60 trillion rupiahs, and further decreased in the last year of 2023 by 2.6 trillion rupiahs to 18 trillion rupiahs. In contrast to the development of farmer exchange rates, from 2013 to 2015, it decreased each year starting from 2013 by 0.33% to 104.91%, then decreased by 2.88% in 2014 to 102.03%, and decreased by 0.44% in 2015 to 101.59%. With the final development showing an increase from 100.90% to 101.65%, 104.64%, 107.33% until reaching its peak in 2023 at 115.78%. Thus, the observational data phenomenon is in sync with the testing results that have been examined.

The Influence of Inflation on Farmer Exchange Rates in Indonesia

Inflation is a condition in which general prices of goods and services continuously increase over a certain period of time. In other words, inflation reflects a decrease in the purchasing power of money or a general increase in the cost of living. Based on estimation results, the inflation variable has a significance value of 0.629 > 0.05 and a t-value of -0.494. It can be seen that the t-value < t-table, which is 0.494 < 2.16037, meaning that partially, the inflation variable does not affect the farmer exchange rate variable.

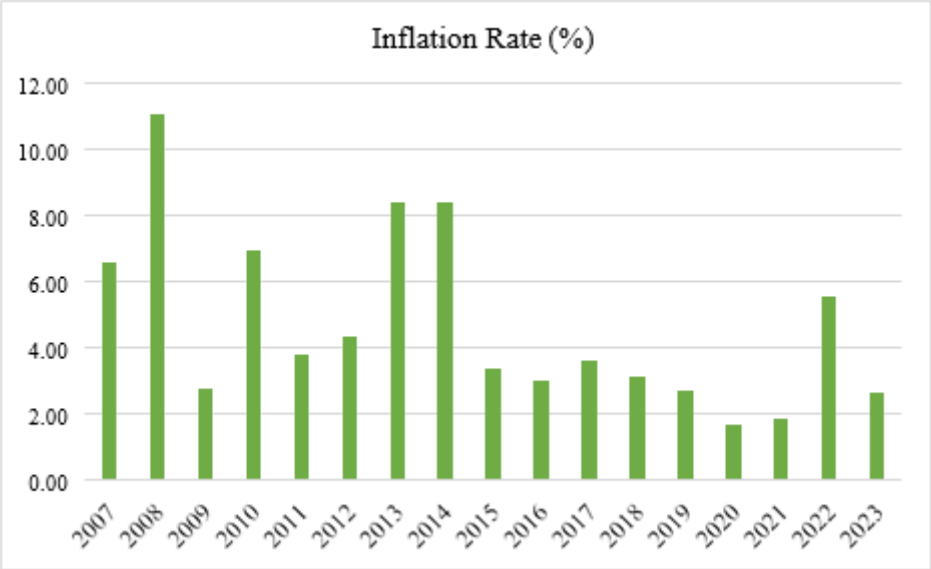

Figure 5. Inflation Rate of Indonesia Period 2007-2023

According to the inflation development examined within the 2007-2023 timeframe, its increase and decrease patterns are irregular and different from the pattern of farmer exchange rates. In the last 5 years, where in 2019 it decreased by 0.41% to 2.72% and in 2020 it decreased by 1.04% to 1.68%. In 2021, there was an increase of 0.19% to 1.87%. In 2022, there was a relatively high increase of 3.64% to 5.51%, and in 2023 it decreased again by 2.90% to 2.61%. Meanwhile, the development of farmer exchange rates in the last 5 years, in 2019 from 100.90% increased to 101.65%, 104.64%, 107.33%, and peaked in 2023 at 115.78%. Thus, the observational data phenomenon is in sync with the testing results that have been examined, namely that there is no influence between inflation and farmer exchange rates.

These results can be interpreted as meaning that the inflation that occurs does not have an influence on the exchange rate of farmers, inflation should cause an increase in the prices of commodity goods and services consumed by the public in general. The diversity of farmers' needs

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with the inflation that occurs causes the cost of living index to get higher so that the index that must be paid increases. The higher the index that must be paid, the lower the NTP will be. The index achieved and the index paid to farmers can increase together. However, on the other hand, farmers' production costs such as fertilizer and seeds are also controlled by government policy so that the price of fertilizer and seeds will be maintained stable even if inflation occurs. Inflation fluctuations in Indonesia during the observation period can affect economic and agricultural conditions in the region. However, because inflation tends to be at a mild and stable level, the effect of NTP is not very significant. This means that farmers in Indonesia as a whole are able to deal with inflation fluctuations quite well, and farmers' exchange rates are not significantly affected by price changes that occur. The results of this research are also in line with previous research that inflation does not have a significant effect on the Farmers' Exchange Rate (Anisa & Chandriyanti, 2021; Jumilah et al., 2021; Mulyawan & Fakhruddin, 2022).

CONCLUSION AND SUGGESTION

This study aims to analyze the influence of food security budget, fertilizer subsidy budget, and inflation on farmer exchange rates in Indonesia. Based on the estimation results obtained using multiple linear regression, it can be concluded that; the food security budget does not significantly affect farmer exchanges rates in Indonesia. The fertilizer subsidy budget has a significant negative effect on farmer exchange rates in Indonesia. This means that if the fertilizer subsidy budget increases, then farmer exchange rates will decrease, conversely, if the subsidy budget decreases, farmer exchange rates will increase and inflation does not significantly affect farmer exchange rate in Indonesia.

The results of this research can provide further understanding of the factors that influence farmers' exchange rates and provide a basis for development policies and strategies to improve farmers' welfare in the context of sustainable agriculture. The government must pay attention to the welfare of farmers, by increasing the selling price of agricultural products so that farmers are more prosperous. An increase in inflation will cause prices to rise, making it difficult for farmers to obtain capital for goods to carry out production. It is hoped that the government can stabilize the inflation rate so that capital goods prices are also stable, so that farmers' exchange rates do not decline. It is very necessary to evaluate the impact of government policies, especially the food security budget. If the resilience budget can be utilized as well as possible, it will have a greater effect on farmers' exchange rates. It is also hoped that there will be an increase in the effectiveness of fertilizer, seed or other subsidy programs in increasing the exchange rate for farmers in Indonesia.

Apart from the food security budget, the fertilizer subsidy budget also needs to be further reviewed for its effectiveness. The government will need to allocate significant public funds for fertilizer subsidies, which may not be sustainable in the long term. If these subsidies have to be reduced in the future due to fiscal pressures or policy changes, this could have a negative impact on the availability and accessibility of fertilizer for farmers. In order for the fertilizer subsidy policy to be more effective, it is necessary to intensify the role of extension in assisting farmers starting from demand planning (RDKK) and fertilizer use; Optimizing the role of supervision in fertilizer distribution; as well as increasing the allocation of organic fertilizer periodically so that the use of organic fertilizer increases to save the sustainability of agricultural production.

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