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EXPLORING SOCIOECONOMIC FACTORS INFLUENCING RICE CONSUMPTION AND IMPORTS IN INDONESIA

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ABSTRACT

This study aims to analyze and explain the influence of production, rice consumption, population, inflation, exchange rates on food consumption and its impact on rice imports in Indonesia using the quantitative method. The analytical tool used is a statistical test using the Path Analysis model. The results of the study show that inflation has a very significant negative effect on food consumption, while the exchange rate has a very significant positive effect on consumption. Rice production has a negative effect on food consumption while Gross Domestic Regional Product (GDRP) and population have no effect on food consumption. The rupiah exchange rate and food consumption have a very significant positive effect on rice imports, while inflation has a significant positive effect on imports. Furthermore, population, rice production and GDRP have no effect on rice imports in Indonesia.

KEY WORDS: *GDRP, Population, Rice Production, Inflation, Exchange Rate , Food Consumption and Rice Import*
JEL Codes: I20; J30

1. INTRODUCTION

Indonesia is a country with abundant natural resources spread throughout its territory and is known as an agricultural country where the majority of the population works as farmers (Arief, 1998, Kuncoro, 1997). The agricultural sector in Indonesia is a primary sector and plays a vital role in the national economy. This is supported by Indonesia's tropical climate and favorable soil structure for agriculture, so it is not surprising that Indonesia is among the countries with the second highest productivity in ASEAN after Vietnam. Food is the most basic human need for survival. Meeting adequate food needs is one of the determinants of realizing national food security. Food security is achieved when the entire population has physical and economic access to food to meet nutritional adequacy according to their needs so they can live a healthy and productive life. Rice is one of the agricultural products that is the staple food of the Indonesian people to meet national consumption needs. Rice is one of the foods that is in great demand and is used as a staple food in Indonesia. Rice is a very important commodity because it is consumed by the majority of the Indonesian population, so the rice farming sub-sector is a crucial area in agriculture (Purnama, et al., 2025).

A large population will produce a large workforce. If properly utilized, a large workforce will boost economic activity, ultimately improving public welfare. However, this can only be achieved if the entire workforce is absorbed by job opportunities. Data shows that Indonesia's population, at 282.5 million in the first half of 2024, ranks fourth in terms of population, following the United States. India, which ranks first, has overtaken China, and will remain in second place in 2022. Indonesia's large population is accompanied by significant growth, with the population approaching 287 million by 2026. Although the growth rate has slowed to around 1% from the previous above 2% (Worldometer, 2026). This automatically necessitates food containing carbohydrates as an energy source. Rice is a staple food for the majority of the Indonesian population. The population's preference for rice is so strong that even those whose staple diet is not rice are switching to rice because it is considered a primary source of calories and protein. Furthermore, rice is also considered to have a better social image as a food commodity. This condition causes rice to have a significant influence on national economic stability, making its production a crucial agricultural activity in Indonesia..

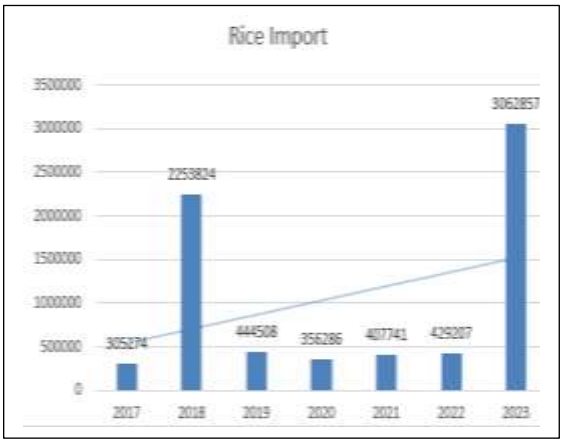
The world's largest rice producers are dominated by Asian countries with relatively large populations where rice is the staple food of the population. Based on USDA data for 2020 - 2024, Indonesia has taken a share of rice supply of around 5.29% of the total world rice supply of 752 million tons and is the country with the third largest rice supply in the world, after China (34.76%) and India (22.42%). However, India is a net export country or the largest world rice exporter, while China and Indonesia are net rice importers. Indonesia as an agricultural country continues to strive to increase domestic rice production through a rice production development program which is one of the priority activities of the Ministry of Agriculture for 2020-2024 as well as managing national rice stocks for emergency purposes and price stabilization to protect farmers and consumers. Over the past two years, namely 2023 to 2022, Indonesia's total rice production has increased in value by 2.72%, but in terms of volume it has decreased by 27.56%. Meanwhile, Indonesian rice consumption continues to increase from year to year.

Based on data from the SUSENAS-BPS, rice consumption in households per capita tends to decrease, namely from 94.47 kg/capita/year in 2019 to 93.79 kg/capita/year in 2023 (Susenas – BPS, 2023). This decrease in growth rate is thought to occur due to increased awareness of food diversification, development of local staple foods or increased consumption of wheat-derived

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foods (such as noodles and bread). Total rice consumption consists of consumption within the household and outside the household (hotels, restaurants, catering, industry and others) based on the results of the BPS Staple Food Survey in 2019 of 103.74 kg per capita which was previously 111.59 kg in 2017. Rice production based on the BPS KSA in 2021 was 54.41 million tons and in 2022 increased by 0.61% to 54.75 million tons and in 2023 decreased by 1.4% to 53.98 million tons.

The development of rice imports in Indonesia has increased significantly from year to year. Figure 1 shows that in 2017, Indonesia only imported 307,274 tons of rice, which experienced a sharp increase in 2018 to 2,253,824 tons and in 2023 to 3,062,857 tons, an increase of 903.31% or an average increase of 150.55% annually. Although it can be seen in the same figure that from 2019 to 2022 only experienced an increase of 0.356% or only 1.19 tons annually. However, the same figure also shows a very high spike in 2023 from 429,207 tons to 3,062,857 tons caused by the difference in production and consumption that soared due to natural factors and increased demand (BPS, 2024). The development of rice imports, which has a striking trend, is detrimental to farmers, thus having a negative impact on the economy (Siringo & Daulay, 2014).



Perkembangan Import Beras di Indonesia (ton)
Sumber: Badan Pusat Statistik, 2023

Indonesia from 2019 to 2022 did not import medium rice, but in 2023 due to the impact of El Nino and increasing rice prices, it imported quite a large amount of rice, thus becoming the largest importing country in 2023 with a share of 5.46% (USD 1.79 billion) of the total world rice imports of USD 32.78 billion, followed by the Philippines, Saudi Arabia, the United States, China and Iraq with shares of 4.99%, 4.68%, 4.34%, 4.29% and 4.08% respectively. Furthermore, from 2019 to 2022, Indonesia no longer imported medium rice, but imported mainly other broken rice (HS 1006.40.90) with a value of USD 147.39 million in 2022, in the form of aromatic rice, basmati and others worth USD 34.62 million and in the form of sticky rice (HS 1006.30.30) worth USD 19.9 million. Meanwhile, in 2023, imports of medium rice reached 3.06 million tons or equivalent to USD 1.78 billion. This condition caused Indonesia's total rice trade balance to experience a significant increase in deficit in 2023 compared to 2022 by 794.87% in terms of value and volume by 618.95%. In line with the above conditions, the value of the import dependency index (IDR) of Indonesian rice in 2019 - 2022 was quite low, ranging from 1% to 2.6%, but with the existence of quite large medium rice imports in 2023, the IDR value will be 8.14%, which means that Indonesia's rice import dependence is 8.14%, and the supply capability from domestic production (SSR) in 2023 will be 91.86%, where the SSR value of rice for the previous 4 (four) years was more than 98%, which means that Indonesia has achieved rice self-sufficiency according to the definition of self-sufficiency according to the FAO if the SSR value is more than 90%.

Indonesia, in addition to being the largest rice importer, is also one of the rice exporting countries, however, its share in the international market was only 0.003% in 2019, which increased to 0.01% in 2023 (Agricultural Data and Information Center, 2024). However, when viewed in terms of imports, Indonesia ranks first among the 16 largest rice importing countries in the world with a share of 0.72% in 2019 and in 2023 jumped to 5.43% (Agricultural Data and Information Center, 2024). This fact demonstrates the vast gap between Indonesia's rice exports and imports, which should be reflected in the year-on-year growth of Indonesia's rice imports. In 2019, Indonesia's import value reached US$179,562,000 and increased to US$186,692,000 in 2023, representing an average annual increase of 0.98%. Indonesia should have a rice trade surplus, considering its large population and vast rice paddy fields. This also applies to the expansion of rice paddy fields in Papua and West Papua. Therefore, one of the challenges in rice supply is the high population growth rate, while the expansion of rice paddy fields is decreasing due to development pressures, particularly housing and road infrastructure. This inevitably leads to an annual rice deficit in Indonesia. While this deficit can be overcome in the short term, Indonesia faces a prolonged deficit. Indonesia achieved rice self-sufficiency in the 1970s, and has since experienced a continued shortage of rice production.

Indonesia's rice agricultural productivity remains quite good compared to other Asian countries. Furthermore, FAO data (2019) shows that in 2018, Indonesia ranked second out of nine FAO countries in Asia. The rankings are Vietnam (5.89 tons per hectare), Indonesia (5.19 tons per hectare), Bangladesh (4.74 tons per hectare), the Philippines (3.97 tons per hectare), India (3.88 tons per hectare), Pakistan (3.84 tons per hectare), Myanmar (3.79 tons per hectare), Cambodia (3.57 tons per hectare), and Thailand (3.109 tons per hectare). However, Indonesia's high productivity is not enough to overcome the rice shortage in Indonesia, considering that the population will reach 275 million by 2023, indicating a shortage of rice supply, so one solution the government can take is to import. This is ironic considering that Indonesia has vast land and a sufficient workforce to work in the agricultural sector, especially rice crops. It is known that food imports, especially rice, can disrupt rice production. However, due to the importance of food strategy, the government, through

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expressed as the Cobb-Douglas function, which can be expressed as an original function with two inputs: capital and labor.

$Y = AK^{\alpha}L^{\beta}$, where Y = output, K = capital, L = labor, and A = technology or efficiency. With the original function α+β=1, this function can certainly be expanded by adding independent variables, so that no matter how many independent variables are used, this function can be used to determine the relationship between one or more inputs to produce output. One of the advantages of this function is that the power or power of the input variable shows elasticity so it is easily used to explain the magnitude of the influence of the independent variable on the dependent variable, because it does not look at the unit of the variable, except for the percentage. So α and β in this function are the respective elasticities of capital and labor to output Y (Prove it yourself).

Rice Consumption

Cips (2024) states that the problem of rice imports in Indonesia encompasses domestic challenges, including: 1. Limited land, price fluctuations, and suboptimal technology. 2. High consumption needs, a large population, and changing consumption patterns. 3. The impact on local farmers of significant price and quality competition. 4. Stability of supply and prices, as well as food reserves by Bulog. 5. Other factors such as import policies, licensing processes, and climate phenomena.

Keynes (1964) stated that income determines a population's consumption level, or that fluctuations in consumption are determined by income levels. The amount of consumption is a function of disposable income. The general form is: C = f (Yd), C = a + b.Yd, where C = Consumption = the amount of consumption spent by consumers, Yd = disposable income = disposable income, a = autonomous consumption, and b = Marginal Propensity to Consume (MPC). Meanwhile, the consumption expenditure function shows the relationship between the current amount of personal consumption spending on goods and services by consumer households and several economic variables in the economy that influence it over a given time period. The extended consumption function is generally stated (Chug, 2015):
C = f(Y, Tp, r, W, D, CR, CC), where C = Consumer consumption expenditure, Y = Income, Tp = Personal taxes, r = Market interest rate, W = Consumer wealth, D = Consumer debt, CR = Available consumer credit, and CC = Wealth.

In addition, there is the Engel function, also known as Engel's law, which states that if family income increases, the percentage of expenditure on food will decrease, even if the total amount of expenditure on food increases. The Engel demand function, or Engel curve, is a curve that describes the relationship between the amount of consumption or demand for a good and the level of consumer income. If the demand for a good increases along with the increase in income, the good is called a normal good, while if demand decreases, the good is called an inferior good.

Import

International trade is essential for every country. Currently, no country is in a state of autarky, or an isolated country without economic relations with other countries. This is because no country can meet its needs independently. Meeting domestic needs can be achieved not only by producing or producing goods and services domestically but also by purchasing goods and services produced by other countries. Benefits of importing include: Widening job opportunities, expanding markets and increasing income, fostering good relations between countries, increasing prosperity, and making life easier to meet (Todaro and Smith, 2020). An open economic system can encourage countries to engage in international trade cooperation to meet the consumption needs of their population, both in the sale and purchase of goods and services. International trade activities provide a country with advantages in its relations in the world market. These international trade activities include exports and imports. International trade theories are divided into three: a. Classical Theory, which includes Adam Smith's Absolute Advantage; b. J.S. Mill's Comparative Advantage; and c. Heckscher-Ohlin theory

The Absolute Advantage Theory is based more on real quantities/variables rather than monetary ones, so it is often known as the pure theory of international trade. This theory focuses on real variables, such as the value of a good measured by the amount of labor used to produce the good. The more labor used, the higher the value of the good (Labor Theory of Value). Comparative Advantage by J.S. Mill. This theory states that a country will produce and then export a good that has the greatest comparative advantage and import goods that have a comparative disadvantage (a good that can be produced more cheaply and import goods that if produced domestically would cost a lot). This theory states that the value of a good is determined by the amount of labor devoted to producing the good. Furthermore, the theory of cost comparative advantage (labor efficiency), a country will benefit from international trade if it specializes in production and exports goods where the country can produce relatively more efficiently and imports goods where the country produces relatively less/inefficiently. Based on the hypothetical example below, it can be said that David Ricardo's theory of comparative advantage is a cost comparative advantage. Furthermore, the theory of Production Comparative Advantage states that a country will benefit from international trade if it specializes in production and exports goods where the country can produce relatively more productively and imports goods where the country can produce relatively less/not productively.

The Heckscher-Ohlin (H-O) theory explains several trade patterns well, countries tend to export goods that use relatively abundant production factors intensively. According to Heckscher-Ohlin, a country will trade with other countries because the country has a comparative advantage, namely superiority in technology and superiority in production factors. The basis of comparative advantage is: 1) Factor endowment, namely ownership of production factors within a country. 2) Factor intensity, namely

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the technology used in the production process, whether labor intensity or capital intensity. Based on the above theory, it can be concluded that international trade exists because of the limited resources owned by each country. Thus, one of the international trade activities is export and import to meet the needs of the people in each country and seek profits to increase economic growth of each country. Furthermore (Purwito, A., & Indriani 2015) stated that import is the activity of bringing goods into the customs area, whether carried out by individuals or legal entities carried by means of transport that have crossed state borders and are required to fulfill customs obligations such as payment of import duties and taxes.

3. THE METHOD

This type of research is quantitative, taking the type of study of comparative causality that processes numerical data that can be calculated using statistical formulas. The data analysis technique used in this study is path analysis which estimates the direct and indirect influence of exogenous variables on endogenous variables although in this study we only look at and discuss the direct effect, both effects are available in the statistical program used for estimation in this study. The study uses secondary data, namely data that is already available and collected by other parties and it was panel data. The data was taken from the office of Statistics Indonesia and the Ministry of Agriculture of the Republic of Indonesia which covers 34 provinces in Indonesia, where since the end of 2022 there have been 38 provinces, but the necessary data is not yet available.

The functional relationship between the independent variable and the dependent variable can be expressed as

$Y_1 = f(X_1, X_2, X_3, X_5, X_6)$ ….(3.1)

$Y_2 = f(X_1, X_2, X_3, X_5, X_6, Y_1)$ … (3.2)

Whereas:

X1 = GDP (change or growth in value-added production from all sectors of a province, %)

X2 = population (population growth of a province each year, %)

X3 = rice production (change in production output, expressed in dry milled grain, %)

X4 = inflation (continuous general price increases over a year, %)

X5 = exchange rate (change in the price of the US dollar against the rupiah, %)

Y1 = food consumption (change in food consumption expressed as %)

Y2 = rice imports (change in the amount of rice imported in a given year, %)

Using the Cobb-Douglas function, equation (1) can be written as:

$$Y_1 = \alpha_0 X_1^{\alpha 1} X_2^{\alpha 2} X_3^{\alpha 3} X_5^{\alpha 5} X_6^{\alpha 6} e^{\mu 1} \quad \text{.....(3.3)}$$

Transformation to linear form is obtained

$$\ln Y_1 = \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + \alpha_5 \ln X_5 + \alpha_6 \ln X_6 + \mu_1$$

.....(3.4)

Selanjutnya

$$Y_2 = \beta_0 X_1^{\beta 1} X_2^{\beta 2} X_3^{\beta 3} X_5^{\beta 5} X_3^{\beta 6} Y_1^{\beta 7} e^{\mu 2}$$

Or in linear form

$$\ln Y_2 = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_5 \ln X_5 + \beta_6 \ln X_6 + \beta_7 \ln Y_1 + \mu_2$$

..(3.5)

4. RESEARCH FINDINGS

Model Fit Test

Chi-square statistic, as stated earlier, is the most fundamental test to measure overall fit, it is very sensitive to the size of the sample used and the relation of exogenous variables, almost the same as the model Regresi Linear Berganda. The model is considered good if the Chi-square value is small. The smaller the value, the more feasible the research, meaning that the more it describes the match between the variance of the sample taken and the research population. The results of data processing that have been carried out using the AMOS 18 program are as shown in Table 1. In this table, it can be seen that all the criteria for model suitability are met, so that the Regression statistical model can be continued for population estimation.

Tabel 1. Goodness of Fit Index Sudah Dibetulkan

No.	Goodness of fit Measure	Cut-off Criteria	Estimation (cut off Value)	Fit Situation
1	Chi-Square (χ^2) Significance Probability (p)	smaller the better ≥ 0.05	4.473 0.483	Fit
2	RMSEA (the Root Mean Square Error of Approximation)	≤ 0.05	0.000	Fit
3	NFI (Normed of Fit Index)	≥ 0.95	0.989	Fit
4	IFI (Incremental Fit Indices)	≥ 0.95	1.001	Fit
`5	CMIN/DF (the minimum Sample Discrepancy Function)	≤ 2	0.895	Fit
6	TLI (Tuckler Lewis Index)	≥ 0,95	1.008	Fit
7	CFI (Comparative Fit Index)	≥ 0,95	1.000	Fit
8	Hoelter's Index	≥ 200	590	Fit

Sumber: Malkanthie, 2015; Wan, 2022 and Amos Result

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Using the AMOS program, the relationship between variables was obtained, both between independent variables and between independent variables and dependent variables, Figure 3.

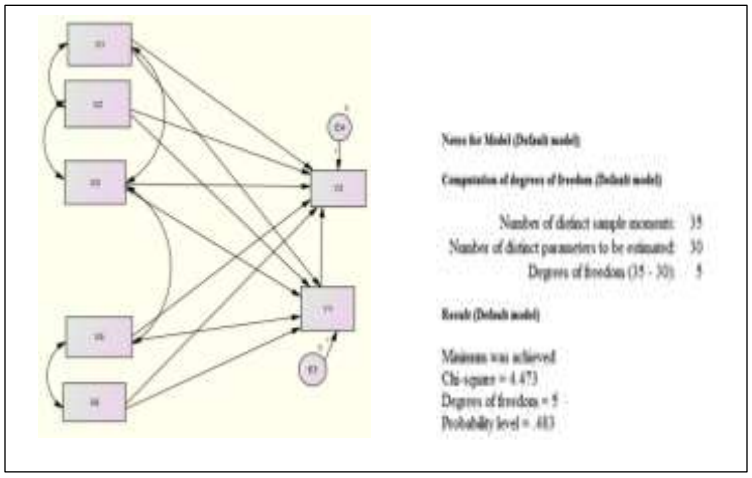


Figure 3. Relationship between variables and the Default Model

Recourse: Amos 18 data processing results.

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
FoodConsumption	<---	Inflation	-.183	.030	-6.043	***	
FoodConsumption	<---	Population	.028	.046	.597	.550	
FoodConsumption	<---	RiceProduction	-.035	.021	-1.670	.095	
FoodConsumption	<---	ExchangeRate	10.576	.937	11.286	***	
FoodConsumption	<---	GDRP	.064	.042	1.516	.130	
RiceImport	<---	Population	-.031	.049	-.642	.521	
RiceImport	<---	RiceProduction	.034	.022	1.499	.134	
RiceImport	<---	FoodConsumption	.476	.068	6.963	***	
RiceImport	<---	ExchangeRate	6.274	1.222	5.136	***	
RiceImport	<---	GDRP	-.039	.044	-.874	.382	
RiceImport	<---	Inflation	-.093	.034	-2.735	.006	

Figure 4. Scalar Estimates Variable Coefficients with Significance

Sources: Data processing results, 2024.

As can be seen in Figure 2, where there is no level of confidence or probability for each coefficient or path, the estimation results are also displayed as a scalar estimate for Region 1 (Group 1), which describes the level of significance of each path, Figure 5.

Table 2. Coefficients of the variables of Export 1

No	The Relation of the variables		Export 1	
	Dependent variables	Independent variables	Coefficient	Probability
1	Food Consumption	1. Inflation	**-0.183**	**0.000**
		2. Population	**0.028**	**0.550**
		3. Rice Production	**-0.035**	**0.095**
		4. Exchange Rate	**10.576**	**0.000**
		5. GDRP	**0.064**	**0.130**
2	Rice Import	1. Inflation	**-0.064**	**0.006**
		2. Population	**-0.031**	**0.521**
		3. Rice Production	**0.034**	**0.134**
		4. Exchange Rate	**6.274**	**0.000**
		5. GDRP	**-0.039**	**0.382**
		6. Food Consumption	**0.476**	**0.000**

Source: Summary of Figure 4.

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The results of the analysis show the influence of one variable on another variable according to the research objectives so based on a summary of the influence of independent variables on dependent variables is represented in Table 2.

5. RESULTS AND DISCUSSIONS

The estimation results listed in Table 2 show that rice production has a negative effect on food consumption with a confidence level of α = 0.10 with an elasticity of -0.04, meaning that if rice production increases by 1%, it will cause a decrease in food consumption of -0.04%, a very small figure compared to an increase of 1%. This is understandable because rice is part of the staple food, so it can cause a low increase in rice consumption if other food consumption items, such as ready-to-eat foods made from wheat with raw materials from wheat, experience a high increase.

The estimation results show, especially in Table 2, that Gross Domestic Regional Product (GDRP) has a positive effect on food consumption, but not at the confidence level of α = 0.05, but significantly at α = 0.15 with an elasticity of 0.06. This states that if GDP increases by 1% then food consumption increases by 0.06% in Indonesia. This finding is in accordance with the general theory of Keynes which states that if income increases then consumption also increases because the MPC of the consumption function is positive. Furthermore, the same table shows that increasing inflation will cause a very significant decrease in food consumption at the confidence level of α = 0.05 with an elasticity level of -0.18 which means that if inflation increases by 1% it will cause a decrease in food consumption by 0.18%. So this fact can be said that the decrease in food consumption caused by rising inflation will exacerbate the burden of people's lives, especially in the food sector, so that it can increase the level of poverty for a group of Indonesians, especially those who are still classified as extremely poor.

The results of the study showed that the exchange rate had a significant positive effect at the level of confidence α = 0.05 on food consumption with an elastic elasticity of 10.58, which means that if the exchange rate rises by 1%, food consumption will increase by 10.58%. The increase in the exchange rate causes the price of domestic goods to increase, which also has an impact on increasing food consumption. This is in accordance with the fact that the increase in the dollar causes inflation in a group of domestic goods, including food consumption, even though the raw materials are sourced domestically. Compared to research conducted by (Saputra and Swara, 2015) which states that the exchange rate has a significant positive effect at α = 0.05 on sugar imports (which are included in food), so it is almost in accordance with the results of this study.

Based on the equation in Table 2, it is known that population and rice production have an influence on rice imports in Indonesia, although not significant at the confidence level of α = 0.05. This fact differs from the magnitude of the influence but is in accordance with the direction of the influence with research conducted by (Akbar, W. at al., 2023 and Isnaeni at. al. 2024) which states that population significantly affects rice imports, then shows that rice production also has a negative influence on rice imports in Indonesia. This is understandable because the quantity or reserves of domestic rice are highly dependent on imports as it is known that rice or rice farming yields are not sufficient for domestic consumption needs. Furthermore, the same table shows that food consumption has a significant influence at the confidence level of α = 0.05 on rice imports, with an elasticity level of 0.48. This means that if food consumption increases by 1%, rice imports experience an increase of 0.48%. This fact aligns with research conducted by Aisyah et al. (2025), which states that rice consumption partially had a positive and significant impact on rice imports in Indonesia from 2010 to 2023. Therefore, it can also be explained that rising food prices will increase rice consumption, although this does not automatically result in increased rice imports in Indonesia.

The exchange rate, which determines the demand for imported or exported goods as one of the determining factors in the demand for goods, has a significant positive effect at the confidence level of α = 0.05 on rice imports with an elasticity level of 6.27, which means that if the exchange rate rises by 1%, it will have an impact on increasing rice imports by 6.27%. So the effect is elastic, namely the percentage change in the exchange rate is smaller than the percentage change in rice imports. The results of this analysis match up with the studies done by (Sani et al., 2020 and Isnaeni at. al 2024) which show that the exchange rate has a meaningful and positive impact on rice imports.

Furthermore, it is known from the estimation that, table 2 that GDRP does not have an effect on rice imports, this can be understood that rice consumption in Indonesia is largely determined by demand or conditions in Indonesia, as Cips states that the problem of rice imports in Indonesia includes domestic challenges including limited land, the impact on local farmers who face large price and quality competition, supply and price stability, as well as food reserves by the Indonesia Logistics Bureau (Bulog) and so on. Furthermore, it is also known from the same table that the population does not have a significant effect on rice imports, this is contrary to research conducted by (Permatasari, 2020) which shows that the population of Indonesian citizens affects the number of rice imports in Indonesia from 2014-2018. So the two different research results can be caused by time period issues.

The results of this study also show that inflation actually impacts rice imports, with an elasticity of -0.09, making it inelastic. Increasing inflation can lead to a decrease in consumption, particularly among the poor and even the middle class. Therefore, inflation can negatively impact the economy, as price increases that are not matched by increases in income or salaries will reduce employee interest and motivation in carrying out their duties.

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7. CONCLUSIONS AND RECOMMENDATION

Conclusions

Based on the analysis and the results of the previous discussion, the following conclusions are drawn:

Inflation has a significant negative impact on food consumption, while the exchange rate has a significant positive impact. Rice production has a negative impact on food consumption, while GDP growth and population have no impact on food consumption. The rupiah exchange rate and food consumption have a significant positive impact on rice imports, while inflation has a significant positive impact on these imports. Furthermore, population, rice production, and GDP growth have no impact on rice imports in Indonesia.

Recommendation

Based on the conclusions presented, the following recommendations can be made:

The government should pay closer attention to the supply and demand of rice and provide it with in-depth attention to quickly achieve food self-sufficiency, especially rice. Production reduces imports. To address the gap between rice production and consumption, the government should intensify agricultural expansion and intensification using modern technologies, such as agricultural mechanization using modern machinery, and efforts to attract young people and graduates to become farmers or agricultural entrepreneurs. Furthermore, the government should continue to strive to lower the rupiah exchange rate by increasing exports of various agricultural commodities, particularly rice, to increase rice reserves and reduce imports. Regarding production, the government is recommended to halt the conversion of agricultural land to non-agricultural land through strict regulations and continue to intensify and expand agricultural land using modern agricultural mechanization. Finally, the government should pay more attention to factors that can renew the rice supply in Indonesia and must help farmers sell their rice by controlling market prices.

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