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ANALYSIS OF FACTORS INFLUENCING RICE IMPORTS IN INDONESIA AND THE IMPACT ON PRICE STABILITY

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ABSTRACT
The agricultural sector is one of the crucial sectors in human life. This sector significantly contributes to achieving the second Sustainable Development Goal (SDG), which aims for zero hunger, achieving food security, improving nutrition, and promoting sustainable agricultural practices. This study aims to identify the factors influencing rice imports in Indonesia. The data analysis method used in this study is quantitative. The type of data used is secondary data in the form of time series data spanning 15 years. Based on the study, it was found that the factors significantly influencing rice imports in Indonesia are rice demand, import tariffs, exchange rates, rice production, and domestic rice prices.

KEY WORDS
Rice Imports, rice, prices, simultaneous equations.

The agricultural sector is one of the most important sectors in human life. It significantly contributes to the achievement of the second Sustainable Development Goal (SDG), which aims to eliminate hunger, achieve food security, improve nutrition, and promote sustainable agricultural practices. In Indonesia, the agricultural sector is the third-largest contributor to Gross Domestic Product (GDP) and serves as a driver of national economic growth.

Indonesia, as an agrarian country with vast agricultural land and diverse natural resources, has most of its population working in the agricultural sector. In Indonesia, agriculture plays a crucial role in meeting basic needs and is a primary sector vital to the national economy (Zaeroni & Rustariyuni, 2016). One of the essential basic needs produced by agriculture is rice. Rice is a crucial food commodity for the national economy, as it is a staple food that significantly affects the Indonesian population (Sari, 2014). As a food necessity for the Indonesian population, rice production and consumption continue to increase annually in line with population growth (Azzahra et al., 2021). In rice production activities, which will be processed into rice, farmers often face challenges in determining the amount of input and output to achieve a net profit. The price of rice in Indonesia has been a long-standing economic issue in the international market due to the high price compared to other producing countries (Bashir & Yuliana, 2019). Compared to the last decade, domestic rice prices are higher than international rice prices. Since 2010, domestic rice prices have been 60% higher than international rice prices (Timmer, 2014). Since 2018, rice prices in Indonesia's local market have reached US$100 per kilogram, or about twice as much as neighboring countries (Bashir & Yuliana, 2019). This may be due to a lengthy rice supply chain, limited benefits for rice farmers, and a lack of policy control. This issue needs to be addressed in the long term to avoid income inequality and a potential rice crisis.

According to the World Bank, rice prices in Indonesia are higher than in ASEAN countries. The World Bank’s Indonesia Economic Prospect (IEP) report indicates that rice prices in Indonesia are 28% higher than in the Philippines. Even compared to Vietnam, Cambodia, Myanmar, and Thailand, the prices are twice as high. Therefore, the researchers are interested in conducting further research on the analysis of factors influencing rice imports in Indonesia and their impact on price stability.

METHODS OF RESEARCH

This research was conducted in Indonesia using secondary data in the form of time

series data over 15 years obtained from various sources. The focus of this study is on rice import activities from foreign countries to Indonesia. The scope of this study is limited to factors influencing imports and their impact on price stability. The unit of analysis used includes major rice-importing countries such as Thailand, Vietnam, Indonesia, Pakistan, and others. The variables used in this study are Rice Imports, Import Tariffs, Rice Production, Rice Demand, Exchange Rates, Domestic Rice Prices, International Rice Prices, Harvested Area, Population Size, Paddy Production, Substitute Goods Prices, and Income.

The quantitative method in this study uses the Two-Stage Least Squares (2SLS) approach with a simultaneous equations model. This approach provides a more comprehensive representation of the actual situation compared to a single-equation model, as there is interconnection among variables across equations that interact with each other (Iswahyudi et al., 2019). In the simultaneous equation model, the focus is on rice as the subject. The quantitative analysis results are presented in tabular and graphical forms and described descriptively based on theoretical objectives. Subsequently, hypothesis testing is conducted on the expected values of each equation to clarify the relationships between variables and derive information and meaning from the research problem. The simultaneous equation model is formulated as follows.

The equation for rice imports can be formulated as follows:

$$M_b = a_0 + a_1Qs_b + a_2Qd_b + a_3Pi_b + a_4Pd_b + a_5TM_b + a_6Er_b + e \quad (1)$$

Where a_0: Intercept; $a_1 – a_6$: Regression coefficients; M_b: Rice imports (tons/year); Qs_b: Rice production (tons/year); Qd_b: Domestic rice demand (tons/year); Pi_b: International rice price (USD/year); Pd_b: Domestic rice price (Rp/kg/year); TM_b: Rice import tariff (Rp/year); Er_b: Exchange rate (Rp/USD/year); e: *Error term*.

The equation for rice production can be formulated as follows:

$$Qs_b = b_0 + b_1La_b + b_2M_b + b_3Qs_p + b_4Pd_b + b_5Hb_s + e \quad (2)$$

Where b_0: Intercept; $b_1 – b_2$: Regression coefficients; Qs_b: Rice production (tons/year); Qs_b: Harvested area (hectares/year); M_b: Rice imports (tons/year); Qs_p: Paddy production (tons/year); Pd_b: Domestic rice price (Rp/kg/year); Hb_s: Substitute goods price (Rp/kg/year); e: *Error term*.

The equation for domestic rice demand can be formulated as follows:

$$Qd_b = c_0 + c_1Pd_b + c_2Pi_b + c_3Jp + c_4Qs_p + c_5Pd + c_6Hb_s + e \quad (3)$$

Where c_0: Intercept; $c_1 – c_3$: Regression coefficients; Qd_b: Domestic rice demand (tons/year); Pd_b: Domestic rice price (Rp/kg/year); Pi_b: International rice price (Rp/year); Jp: Population size (million people); Qs_p: Paddy production (tons/year); Pd: Income (million/capita); Hb_s: Substitute goods price (Rp/year); e: *Error term*.

The identification of the simultaneous equation model can be carried out by utilizing the regularity condition as a sufficient condition. Two requirements must be met for structural equations in the model to be identified (Hayono & Wardoyo, 2012)

The order condition is used to identify an equation by subtracting the number of variables in the equation from the total number of variables in the model (excluding the intercept) and ensuring that this difference equals or exceeds the number of endogenous variables in the model minus one. The order condition can be expressed as follows:

$$K – M > G – 1$$

Where: K-M = G-1: correctly identified; K-M > G-1: overly identified; K-M < G-1: under identified; K: Total number of variables specified in the model, including the intercept; M: Total number of variables in the identified equation; G: Total number of equations in the model.

The rank condition states that an equation is identified in a model if it is possible to compute at least one non-zero determinant of order G−1 from the coefficients of the variables present in other equations but absent in the equation itself.

Table 1 – Calculation of Order Condition

Equation	K	M	G	(K-M)>(G-1)	Note
M_b	10	7	3	12-7 > 3-1	*Over identified*
Qs_b	10	3	3	12-6 > 3-1	*Over identified*
Qd_b	10	4	3	12-7 > 3-1	*Over identified*

An equation identified as "over-identified" can be analyzed using the 2SLS (Two-Stage Least Squares) method. In this study, the estimation method used for the model is 2SLS. This method was chosen because it provides more consistent estimates and is simpler and easier to apply, while the 3SLS (Three-Stage Least Squares) and FIML (Full Information Maximum Likelihood) methods require more information and are more sensitive to measurement errors and model specification errors (Gujarati, 1999)

RESULTS AND DISCUSSION

Agriculture in Indonesia has advanced rapidly, producing various foodstuffs such as rice, corn, vegetables, fruits, rubber, coffee, sugar, tobacco, and others that contribute significantly to the prosperity and economic continuity of the Indonesian population. These products also offer opportunities for participation in international trade. One of the key agricultural products in terms of both consumption and production is rice. For the Indonesian population, rice is a staple food and a primary source of calories and protein. Moreover, rice is perceived as a socially superior food. This condition makes rice a commodity with a substantial influence on national economic stability. Rice also plays a crucial role in food security, economic resilience, and national political stability (Dirjen Pertanian 2022).

The change in consumption patterns has led to an increasing rice consumption rate in Indonesia, making rice a preferred food among the public. However, this increase in consumption has not been matched by productivity in Indonesia. Various factors contribute to this suboptimal productivity, including the rapid population growth, which leads to a production capacity that cannot meet the domestic consumption needs, and unfavorable weather conditions, such as the rainy season, which often results in flooded agricultural land due to heavy rainfall. Furthermore, the distribution system remains suboptimal and uneven.

These challenges have driven the government to import rice from other countries. The import policy significantly influences the balance to ensure that rice imports do not exceed the population's needs. The problems faced by rice farmers should receive serious attention from the government to meet domestic rice needs and reduce dependency on rice imports from other countries. Indonesia, known for its fertile land suitable for farming, should not rely on other countries to fulfill its food or rice needs.

Table 2 – The estimation results of the factors influencing rice imports in Indonesia

Equation			"R-sq"	F-Sat
Rice Imports (M_b)			0,839	6,943
	Coef.	Std. err	T-Ratio	P-Value
Constant	-1678868189	544247586,0	-3,085	0,015
Rice Production (Qs_b)	-6,746	4,199	-1,607	0,147
Rice Demand (Qd_b)	94,440	25,836	3,655	0,006
Foreign Rice Prices (Pi_b)	-104392,614	417739.492	0,250	0,809
Dosmetic Rice Prices (Pd_b)	8351,524	16457,723	-0,507	0,626
Import tariffs (TM_b)	-138,831	71,473	-1,942	0,088
Exchange marriage (Er_b)	-46249,385	12560,166	-3,682	0,006

In this study, the equation for rice imports in Indonesia is influenced by rice production (Qs_b), rice demand (Qd_b), international rice price (Pi_b), domestic rice price (Pd_b), rice import tariff (TM_b), and exchange rate (Er_b). These variables collectively have a significant impact on rice imports in Indonesia.

The results indicate a coefficient of determination (R-square) value of 0.839, meaning that 83.9% of rice imports in Indonesia (M_b) can be explained by these factors, while the remaining 16.1% is explained by other variables outside the model. The simultaneous testing at a 95% confidence level (α = 0.05) yielded an F-statistic of 6.943, which is greater than the F-table value of 3.58, meaning that the hypothesis (Ha) is accepted, and the null hypothesis (H0) is rejected. This suggests that rice production (Qs_b), rice demand (Qd_b), international rice price (Pi_b), domestic rice price (Pd_b), rice import tariff (TM_b), and exchange rate (Er_b) significantly influence rice imports in Indonesia.

Based on Table 2, the rice import equation can be formulated as follows:

$$M_b = - 1678868189 – 6{,}746\ Qs_b + 94{,}440\ Qd_b – 104392{,}614\ Pi_b + 8351{,}524\ Pd_b – 138{,}831\ TM_b – 46249{,}385\ Er_b$$

The constant value in the rice import equation is -1678868189, meaning that if all variables in the equation are assumed constant and unaffected by other factors, rice imports (Mb) in Indonesia will decrease by 1255856198 tons per year.

Rice Production (Qsb) has a coefficient of -6.746, meaning that for every ton increase in domestic rice production, rice imports will decrease by 4862 tons per year. Rice production has a negative relationship with rice imports because as rice production increases, rice imports decrease. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.147. This indicates that rice production does not have a significant effect on the volume of rice imports in Indonesia. This result aligns with the theory and expected values in this equation. The findings from (Azzahra et al. 2021) suggest that rice production does not have a significant impact on rice imports. The government should consider this when managing rice imports in Indonesia according to domestic needs, to minimize national income expenditures and improve domestic rice production through better agricultural sector empowerment. The government should maintain domestic economic stability and increase domestic production activities to reduce dependence on foreign rice imports.

Rice Demand (Qdb) has a coefficient of 94440, meaning that for every ton increase in rice demand, rice imports will increase by 94440 tons per year. Rice demand has a positive relationship with rice imports because as rice demand increases, rice imports also increase. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.006. This indicates that rice demand significantly affects rice imports in Indonesia

International Rice Price (Pib) has a coefficient of -104392614, meaning that for every dollar increase in the international rice price, rice imports will decrease by 104392614 tons per year. The international rice price has a negative relationship with rice imports because as the international rice price increases, rice imports decrease. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.809. This indicates that the international rice price does not have a significant effect on rice imports in Indonesia. This finding is supported by (Prafajarika et al. 2016), where the analysis results showed a coefficient of -0.259 for international beef prices against rice import volume. This confirms that international prices have a negative relationship with imports.

Domestic Rice Price (Pdb) has a coefficient of 8351524, meaning that for every one rupiah increase in the domestic rice price, rice imports will increase by 8351524 tons per year. The domestic rice price has a positive relationship with rice imports because as the domestic rice price increases, rice imports also increase. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.626. This indicates that the domestic rice price does not have a significant effect on rice imports in Indonesia. This finding is supported by Amalia and Fahmi (2007), who stated that the domestic milk price positively affects milk import volumes in Indonesia. High domestic rice prices indicate that domestic rice production is low, prompting imports to meet domestic demand. Additionally, high domestic rice prices encourage importers to prefer importing rice from abroad.

Rice Import Tariff (TMb) has a coefficient of -138.831, meaning that for every one percent increase in the rice import tariff, rice imports will decrease by 138.831 tons per year. The rice import tariff has a negative relationship with rice imports because as the rice import tariff increases, rice imports decrease. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.088. This indicates that the rice import tariff significantly affects rice imports in Indonesia. According to Hasibuan et al. (2012), imposing import tariffs on imported goods will increase the price of imported products. Consequently, a country will produce more of the goods subject to import duties, leading to a reduction in the volume of those imports.

Exchange Rate (Erb) has a coefficient of -46249385, meaning that for every one rupiah/dollar increase in the exchange rate, rice imports will decrease by 46249385 tons per year. The exchange rate has a negative relationship with rice imports because as the exchange rate increases, rice imports decrease. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.006. This indicates that the exchange rate significantly affects rice imports in Indonesia. This finding is supported by Putri (2019), where the exchange rate negatively affects Indonesia's soybean import volume. The coefficient obtained was -3131, meaning that for every one percent strengthening of the exchange rate against the dollar, soybean import volumes decrease by 3131 tons per year.

Table 3 – The estimation results of the factors influencing rice production in Indonesia

Equation			"R-sq"	F-Sat
Rice Production (Qs_b)			0,779	6,338
	Coef.	Std. err	T-Ratio	P-Value
Constant	38507861,03	13187142,12	2,920	0,017
Harvest area (La_b)	99,142	83.094	-1,193	0,263
Rice import (M_b)	0,002	0,013	0,167	0,871
Rice Production (Qs_p)	0,473	0,247	1,913	0,088
Domestic Rice Prices (Pd_b)	-814,385	529,046	-1,539	0,158
Price of substance rice (Hb_s)	-12,715	11,050	-1,151	0,280

In this study, the equation for rice production in Indonesia is influenced by harvest area (La_b), rice imports (M_b), paddy production (Qs_p), domestic rice price (Pdb), and substitute goods price (Hb_s). The results indicate a coefficient of determination (R-square) value of 0.779, meaning that 77.9% of rice production (Qs_b) in Indonesia can be explained by these factors, while the remaining 22.1% is explained by other variables outside the model.

The simultaneous testing at a 95% confidence level ($\alpha = 0.05$) yielded an F-statistic of 6.338, which is greater than the F-table value of 3.48, meaning that the hypothesis (Ha) is accepted, and the null hypothesis (H_0) is rejected. This suggests that harvest area (La_b), rice imports (M_b), paddy production (Qsp), domestic rice price (Pd_b), and substitute goods price (Hb_s) significantly influence rice production in Indonesia.

Based on Table 3, the rice production equation can be formulated as follows:

$$Qs_b = 38507861{,}03 + 99{,}142\ La_b + 0{,}002\ M_b + 0{,}473\ Qs_p - 814{,}385\ Pd_b - 12{,}715\ Hb_s$$

The constant value in the rice production equation is 3850786103, meaning that if all variables in the equation are assumed constant and unaffected by other factors, rice production (Qsb) in Indonesia will increase by 3850786103 tons per year.

Harvest Area (Lab) has a coefficient of 99142, meaning that for every one hectare increase in harvest area, rice production will increase by 99142 tons per year. Harvest area has a positive relationship with rice production, indicating that as the harvest area increases, rice production also increases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.263. This indicates that harvest area does not have a significant effect on rice production in Indonesia. The insignificance of harvest area on production may be due to the declining rice production despite an increase in the harvest area. This finding is supported by Alkamalia et al. (2017), who stated that the cocoa plantation area variable positively influences cocoa bean production, with a coefficient of

1153, indicating that an increase in the plantation area would lead to a 1153-ton increase in cocoa bean production.

Rice Imports (Mb) has a coefficient of 0.0002, meaning that for every ton increase in rice imports, rice production will increase by 0.0002 tons per year. Rice imports have a positive relationship with rice production, indicating that as rice imports increase, rice production also increases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.871. This indicates that rice imports do not have a significant effect on rice production in Indonesia.

Paddy Production (Qsp) has a coefficient of 0.0473, meaning that for every ton increase in paddy production, rice production will increase by 0.0473 tons per year. Paddy production has a positive relationship with rice production, indicating that as paddy production increases, rice production also increases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.088. This indicates that paddy production significantly affects rice production in Indonesia. This finding is supported by Nurhudayah et al. (2018), who stated that corn production positively affects corn supply, with a coefficient of 2284.

Domestic Rice Price (Pdb) has a coefficient of -814385, meaning that for every one-rupiah increase in the domestic rice price, rice production will decrease by 814385 tons per year. Domestic rice price has a negative relationship with rice production, indicating that as the domestic rice price increases, rice production decreases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.158. This indicates that the domestic rice price does not have a significant effect on rice production in Indonesia. The result contradicts the theory that the domestic rice price should positively influence rice production, as an increase in the domestic rice price should lead to an increase in rice production. However, in this study, a negative value was obtained. This finding is supported by Riyadi (2013), who found that the domestic cocoa bean price positively but insignificantly affects cocoa production, with a coefficient of 0.007, indicating that a 1% increase in the domestic cocoa bean price would increase cocoa production by 0.007%.

Substitute Goods Price (Hbs) has a coefficient of -12715, meaning that for every ton increase in the substitute goods price, rice production will decrease by 12715 tons per year. Substitute goods price has a negative relationship with rice production, indicating that as the substitute goods price increases, rice production decreases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.280. This indicates that the substitute goods price does not have a significant effect on rice production in Indonesia.

Table 4 – The estimation results of the factors influencing rice demand in Indonesia

Equation			"R-sq"	F-Sat
Rice Demand (Qd_b)			0,841	7,037
	Coef.	Std. err	T-Ratio	P-Value
Constant	28479608,87	6309482,292	4,514	0,002
Foreign rice price (Pi_b)	-12714,032	6917,585	-1,838	0,103
Domestic rice price (Pd_b)	318,727	165,062	1,931	0,090
Total population (Jp)	-0,464	0,277	-1,672	0,133
Rice production (Qs_b)	0,090	0,065	1,387	0,203
Income (Pd)	234,208	128,602	1,821	0,106
The price of substance (Hb_s)	1,620	2,361	0,686	0,512

In this study, the equation for rice demand in Indonesia is influenced by international rice price (Pi_b), domestic rice price (Pd_b), population (Jp), rice production (Qs_b), income (Pd), and substitute goods price (Hb_s). The results indicate a coefficient of determination (R-square) value of 0.841, meaning that 84.1% of rice demand (Qd_b) in Indonesia can be explained by these factors, while the remaining 15.9% is explained by other variables outside the model.

The simultaneous testing at a 95% confidence level ($\alpha = 0.05$) yielded an F-statistic of 7.037, which is greater than the F-table value of 3.58, meaning that the hypothesis (Ha) is accepted, and the null hypothesis (H0) is rejected. This suggests that international rice price

(Pi_b), domestic rice price (Pd_b), population (Jp), rice production (Qs_b), income (Pd), and substitute goods price (Hb_s) significantly influence rice demand in Indonesia.

Based on Table 4, the rice demand equation can be formulated as follows:

$$Qd_b = 28479608{,}87 - 12714{,}032\ Pi_b + 318{,}727\ Pd_b - 0464\ Jp + 0{,}090\ Qs_b + 234{,}208\ Pd + 1{,}620\ Hb_s$$

The constant value in the rice demand equation is 2847960887, meaning that if all variables in the equation are assumed constant and unaffected by other factors, rice demand (Qdb) in Indonesia will increase by 2847960887 tons per year.

International Rice Price (Pib) has a coefficient of -12714032, meaning that for every one-dollar increase in the international rice price, rice demand will decrease by 12714032 tons per year. The international rice price has a negative relationship with rice demand, indicating that as the international rice price increases, rice demand decreases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.103. This indicates that the international rice price does not have a significant effect on rice demand in Indonesia.

Domestic Rice Price (Pdb) has a coefficient of 318727, meaning that for every one-rupiah increase in the domestic rice price, rice demand will increase by 318727 tons per year. The domestic rice price has a positive relationship with rice demand, indicating that as the domestic rice price increases, rice demand also increases. This result is contrary to the theory that higher prices generally lead to lower demand. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.090. This indicates that the domestic rice price significantly affects rice demand in Indonesia. The study's findings contradict the general theory of demand, where higher prices should result in lower demand. However, in this study, domestic rice price has a positive influence on rice demand.

Population (Jp) has a coefficient of -0.464, meaning that for every increase of one person in the population, rice demand will decrease by 0.464 tons per year. The population has a negative relationship with rice demand, indicating that as the population increases, rice demand decreases. This may be due to changes in food consumption patterns, where people are shifting from rice to other staples such as corn, wheat, and instant foods. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.133. This indicates that the population does not have a significant effect on rice demand in Indonesia.

Rice Production (Qsb) has a coefficient of 0.0090, meaning that for every ton increase in rice production, rice demand will increase by 0.0090 tons per year. Rice production has a positive relationship with rice demand, indicating that as rice production increases, rice demand also increases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.203. This indicates that rice production does not have a significant effect on rice demand in Indonesia.

Income (Pd) has a coefficient of 234208, meaning that for every one-rupiah increase in income, rice demand will increase by 234208 tons per year. Income has a positive relationship with rice demand, indicating that as income increases, rice demand also increases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.106. This indicates that income does not have a significant effect on rice demand in Indonesia. This finding is supported by Septiadi and Joka (2019), who stated that income positively influences rice demand, with a coefficient of 444.4005, indicating that an increase in income leads to an increase in rice demand.

Substitute Goods Price (Hbs) has a coefficient of 1620, meaning that for every one-ton increase in the substitute goods price, rice demand will increase by 1620 tons per year. The substitute goods price has a positive relationship with rice demand, indicating that as the substitute goods price increases, rice demand also increases. The statistical analysis of the t-test with a probability value at the 10% significance level yielded a P-value of 0.512. This indicates that the substitute goods price does not have a significant effect on rice demand in Indonesia.

CONCLUSION

This study demonstrates that several key variables significantly influence rice imports in Indonesia. Specifically, the demand for rice, import tariffs, exchange rates, paddy production, and domestic rice prices are the factors that have a significant impact on rice imports. The findings reveal that:

1. An increase in rice demand leads to a significant rise in rice imports, reflecting the strong dependency on imports to meet domestic consumption needs;
2. Higher import tariffs are associated with a reduction in rice imports, indicating the effectiveness of tariff policies in controlling import volumes;
3. A stronger exchange rate leads to a decrease in rice imports, highlighting the role of currency value in international trade;
4. Higher paddy production is linked to reduced rice imports, suggesting that boosting domestic production can lessen dependency on foreign rice;
5. Higher domestic rice prices contribute to an increase in rice imports, signaling the need for policies that stabilize domestic prices to manage import levels.

These findings underscore the importance of comprehensive agricultural policies that address production efficiency, demand management, and trade regulations to achieve food security and economic stability in Indonesia.

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