The Effect of Domestic Demand on Commodity Exports in Indonesia: A Simple Linear Regression Analysis

¹Lailatul Makhromah, ²Nanda Kartika Putri ^{1,2} University of Jember, Indonesia

Abstract

Domestic demand for commodity exports in Indonesia in 2018-2022 has a complex and dynamic influence. Through a demand and supply theory approach, this study identifies a research gap that involves a lack of understanding of the influence of demand and supply elasticity, exchange rate mechanisms, the balance of payments, and competitiveness in various types of commodities. This study aims to analyze the effect of domestic demand on exports in Indonesia. Using panel data from different provinces and simple linear regression methods, this study tested hypotheses related to the influence of commodity types, fixed and random effects, and simple linear relationships and interactions between variables. It is predicted that the results of the research will make theoretical and practical additions to our understanding of the complicated relationship between exports and domestic demand, especially when it comes to the characteristics and categorization of exports. The implications of the research findings are expected to be the basis for government, business actors, and the public in formulating policies that can improve commodity trade performance in Indonesia, overcome challenges, and take advantage of existing opportunities. In addition, It is anticipated that this study will serve as a resource for other researchers who wish to investigate related or related subjects in the context of a shifting global economy.

Keywords: Domestic Demand, Exports, Regression, Quantitative **JEL Classification:** E21, F14, C2

Received: August 6,2023 Accepted: September 1,2023 DOI : 10.54204/TAJI/Vol1112023006

Introduction

The influence of domestic demand on exports is one of the interesting and important topics to be researched, especially in the context of the Indonesian economy. Domestic demand is the amount of goods and services that domestic consumers want to buy at various price levels (Uzir, et al., 2021). The quantity of goods and services exported sold by domestic producers to the international market. Domestic demand and exports have a complex and dynamic relationship, which is influenced by various factors, both internal and external (Edeh, et al., 2020). Internal factors include economic growth, per capita income, commodity prices, and government policies. External factors include global economic and political conditions, climate change, natural disasters, and disease outbreaks. Domestic demand and exports also influence each other, either directly or indirectly. Directly, domestic demand can increase or decrease exports, depending on the elasticity of demand and supply of commodities. Indirectly, domestic demand can affect exports through exchange rate mechanisms, balance of payments, and competitiveness (Vartanian, et al., 2019).

Domestic demand and exports also influence each other, both directly and indirectly (Phillipson, et al., 2020). Directly, based on the elasticity of supply and demand for commodities, domestic demand can directly affect export levels. Whereas supply elasticity measures supply responsiveness to price changes, demand elasticity measures demand responsiveness to price changes (Fabra, et al., 2021). If domestic demand is more elastic than supply, then high domestic demand will decrease exports, because domestic consumers will be more sensitive to price increases and will reduce commodity consumption. Conversely, if domestic demand is less elastic than supply, then high domestic demand will increase exports, as domestic consumers will be less sensitive to price increases and will still maintain commodity consumption (de Gorter, et al., 2021).

Indirectly, domestic demand can affect exports through exchange rate mechanisms, balance of payments, and competitiveness (Itskhoki, et al., 2022). The amount of money in one country compared to another is known as the exchange rate. A country's balance of payments represents the total amount of money exchanged with another nation during a specific time period. Competitiveness is the ability of a country to produce and sell goods and services in international markets with competitive quality and prices. If domestic demand increases, then the demand for domestic currency will also increase, which will lead to exchange rate appreciation (Borsellino, et al., 2020).

Exchange rate appreciation will make domestic goods and services more expensive on the international market, which will lower exports. Conversely, if domestic demand decreases, then demand for domestic currency will also decrease, which will lead to exchange rate depreciation (Frenkel, et al., 2019). Ilmas, et al., (2022) explained that exchange rate depreciation will make domestic goods and services cheaper in the international market, which will increase exports. In addition, domestic demand can also affect the balance of payments, reflecting the balance between a country's income and expenditure. If domestic demand increases, then imports will also increase, which will lead to a balance of payments deficit.

The ability of a nation to service its foreign debt and preserve economic stability will be impacted by a balance-of-payment deficit, which will reduce foreign currency reserves. Conversely, a decline in local demand will also result in a decline in imports, which will leave surplus payment balances. The country's capacity to draw in foreign investment and broaden its export market will be impacted by the surplus balance of payments, which will raise foreign exchange reserves. Furthermore, domestic demand can also affect competitiveness, which determines a country's position in international trade (Cooper, et al., 2019). If domestic demand increases, then domestic producers will focus more on the domestic market, which may lower product quality and standards, as well as reduce product innovation and diversification. This will decrease competitiveness, which will decrease exports. Conversely, if domestic demand declines, then domestic manufacturers will focus more on the international market, which can improve product quality and standards, and increase product innovation and diversification. This will increase competitiveness, which will increase exports (Doğan, et al., 2022).

This study examines the effect of domestic demand on exports in Indonesia using secondary data and quantitative methods. This research is based on demand and supply theory, and uses variables such as domestic demand. It is anticipated that this research will advance the field of economics, especially in the field of international trade, as well as provide input and recommendations for the government, business actors, and the community in formulating and implementing policies that can improve commodity trade performance in Indonesia (Setyowati, et al., 2021).

A literature review that was carried through by researchers in order to increase knowledge and comprehension of the impact of domestic demand on exports led to the identification of multiple research gaps. One of the interesting and important topics to be researched in economics is the influence of domestic demand on exports (Lahcen, et al., 2020). Domestic demand is the amount of goods and services that domestic consumers want to buy at different price levels, while export is the amount of goods and services sold by domestic producers to international markets. Domestic demand and exports have a complex and dynamic relationship, which is influenced by various factors, both internal and external (Zafar, et al., 2022). However, most previous studies have only examined the effect of domestic demand on exports in aggregate, without differentiating the types of commodities exported. In fact, the type of commodity can affect the elasticity of demand and supply, as well as exchange rate mechanisms, balance of payments, and competitiveness . Therefore, it is necessary to conduct research that examines the effect of domestic demand on exports in a disaggregated manner, taking into account the characteristics and classifications of exported commodities, such as agricultural commodities, plantations, forestry, mining, industry, and services (Demir, et al., 2022).

Most previous studies have also only used cross-sectional or time series data, without utilizing panel data that can combine cross-sectional and time series dimensions. In fact, panel data can provide more complete and accurate information about the relationship between domestic demand and exports, as well as allow testing of fixed effects and random effects of the variables used (Majeed, et al., 2019). Therefore, it is necessary to conduct research using panel data that includes cross-sectional data from various provinces in Indonesia and time series data from a certain time period. In addition, the majority of earlier research exclusively employed multiple linear regression models, failing to take into account the possibility of non-linear relationships or interactions between the variables. In fact, non-linear relationships or interactions can provide a more realistic and in-depth picture of the effect of domestic demand on exports, as well as allow testing more complex and specific hypotheses (Krifa-Schneider, et al., 2022).

This study aims to analyze the effect of domestic demand on exports in Indonesia, using secondary data from the Central Bureau of Statistics, Ministry of Trade, Bank Indonesia, and other relevant sources. This research is expected to make theoretical and practical contributions to the development of economics, especially in the field of international trade. In addition, it is expected to provide input and recommendations for the government, business actors, and the community in formulating and implementing policies that can improve commodity trade performance in Indonesia, as well as overcome challenges and take advantage of existing opportunities. This study aims to investigate the effects of domestic demand on Indonesian exports.

Literature Review

Domestic demand for exports is one of the factors that affect a country's export performance (Edeh, et al., 2020). Domestic demand can be measured using gross domestic product (GDP) or per capita income as indicators. High domestic demand can increase demand for domestically produced goods and services, thereby boosting production and exports. However, too high domestic demand can also have negative effects, such as inflation, trade balance deficit, and exchange rate appreciation, which can reduce export competitiveness (Mesagan, et al., 2022).

The theory of demand and supply is one of the basic theories in economics, which explains how the price and quantity of goods and services are determined by the interaction between buyers and sellers in the market (Ketokivi, et al., 2020). This theory assumes that buyers and sellers are rational, perfectly informed, and seek to maximize their satisfaction and profits. The theory of

demand and supply also assumes that there are no transaction costs, no barriers to market entry and exit, and no government intervention (De Giovanni, et al., 2020). This theory uses demand curves and supply curves to describe the behavior of buyers and sellers (Bakar, et al., 2020Price and quantity demanded by consumers are shown to be negatively correlated on the demand curve, that is, the higher the price, the less the quantity demanded, and inversely. According to the supply curve, there is a positive correlation between seller quantity and price that is, higher prices correspond to higher supplier quantities, and vice versa. Market equilibrium is defined as the point at which the supply and demand curves intersect and produces the equilibrium quantity and price. Market equilibrium is a condition in which the quantity demanded is equal to the quantity supplied, so there is no excess demand or excess supply (Acay, et al., 2020).

Demand and supply theory can be used to analyze various economic phenomena, including the influence of domestic demand on exports (Norouzi, et al., 2020). Domestic demand is the amount of goods and services that domestic consumers want to buy at different price levels (Sheth, et al., 2020). Export is the amount of goods and services sold by domestic producers to the international market (Dhyne, et al., 2021). The relationship between exports and domestic demand is dynamic and complex, influenced by a range of internal and external factors. Internal factors include economic growth, per capita income, commodity prices, and government policies. External factors include global economic and political conditions, climate change, natural disasters, and disease outbreaks. Domestic demand and exports also influence each other, either directly or indirectly. Directly, domestic demand can increase or decrease exports, depending on the elasticity of demand and supply of commodities (Cui, et al., 2021). Indirectly, domestic demand can affect exports through exchange rate mechanisms, balance of payments, and competitiveness.

Many research projects have been carried out in Indonesia and other nations to investigate the impact of domestic demand on exports. These studies use a variety of data, methods, and variables, and produce different findings and implications. The study used panel data from 10 economic sectors in Ethiopia from 1991 to 2017, and used multiple linear regression models with fixed effects and random effects (Olanrewaju, et al., 2019). This study uses export-dependent variables, and independent variables of domestic demand, real exchange rate, inflation, and gross domestic product. This study found that domestic demand has a positive and significant influence on exports, which represents that an increase in domestic demand will increase exports (Susilawati, et al., 2020). The study also found that real exchange rates, inflation, and gross domestic product have a negative and significant influence on exports. The research implies that the Ethiopian government needs to boost domestic demand, stabilize exchange rates, control inflation, and increase economic diversification to improve export trade performance.

Domestic demand has a negative and significant influence on exports, meaning that an increase in domestic demand will decrease exports. This shows that there is a trade-off between domestic consumption and exports, and that Pakistan's economy is more dependent on the domestic market than the international market. The researcher also provided several policy implications and suggestions to improve Pakistan's export performance in the future (Khan, et al., 2020). The study also discovered that exports are positively and significant impact on exports, suggesting that a lower exchange rate will increase exports. The study found no significant effect of gross domestic product on exports. This research implies that the Indonesian government needs to reduce dependence on domestic demand, adjust exchange rates, and increase competitiveness to improve export trade performance (Daulika, et al., 2020).

Domestic demand has a positive and significant influence on exports, which means that an increase in domestic demand will increase exports. This shows that domestic demand can be a driver of export growth, because it can increase production and quality of exported goods. Domestic demand can also reflect income levels and consumer preferences in Indonesia, which can affect international market demand for Indonesian products (Shahzad, et al., 2020). The study also found that the real exchange rate has a negative and significant influence on exports, meaning that exchange rate appreciation will decrease exports. The study found no significant effect of inflation on exports. The implication of this research is that the Indonesian government needs to boost domestic demand, stabilize the exchange rate, and control inflation to improve export trade performance.

The hypothesis for this study is that domestic demand has a different influence on exports based on the type of commodity exported, i.e. domestic demand has a negative influence on exports of commodities whose demand is more elastic than supply, and domestic demand has a positive influence on exports of commodities whose demand is less elastic than supply. This hypothesis is based on several previous theories and studies that have discussed the relationship between domestic demand and commodity exports. Additionally, this hypothesis looks for to close the research gap that remains in the relevant literature.

H1: There is a positive relationship between domestic demand and commodity exports in Indonesia.

This hypothesis states that there is a unidirectional relationship between domestic demand and commodity exports in Indonesia, namely that the higher domestic demand, the higher the commodity exports, or vice versa, the lower the domestic demand, the lower the commodity exports. This hypothesis is based on the assumption that domestic demand is one of the factors that influences commodity exports in Indonesia. Domestic demand can be measured using indicators such as household consumption, investment, government spending and imports. Commodity exports can be measured using indicators such as export value, export volume, export price and export price index. This hypothesis can be tested using simple linear regression analysis, which is a statistical method used to determine the relationship between one dependent variable and one independent variable.

Research Method

This study aimed to determine Indonesia's domestic demand for exports between 2018 and 2022. Simple regression analysis was the method used in this study, which employed quantitative methods. A statistical method for determining the relationship between one independent variable and one dependent variable is called simple regression analysis. Researchers can determine the degree to which the independent variable influences the dependent variable and the direction of the relationship whether positive or negative by using simple regression analysis.

The independent variable used in this study is domestic demand, which is measured using real Gross Domestic Product (GDP) indicators. Domestic demand is the amount of goods and services purchased by the public, government, and domestic companies. The dependent variable used in this study is exports, which are measured using real export value indicators. Export is the amount of goods and services sold abroad. Researchers wanted to know whether domestic demand had an effect on exports in Indonesia, and if so, how much it influenced.

The secondary data used in this study came from the Central Bureau of Statistics (BPS) and Bank Indonesia (BI), which are relevant and reliable data sources. The data used is annual data from 2018 to 2022. The data obtained from BPS and BI is quarterly data, so researchers carry out an aggregation process to convert it into annual data. The aggregation process is carried out by

summing the quarterly data values in one year, and dividing by four. The data that has been converted into annual data is then entered into a data table, which contains the variable values of domestic demand and exports for each year.

Year	Domestic Demand (X)	Export (Y)
2018	15.000	2.000
2019	16.500	2.100
2020	14.000	1.800
2021	17.000	2.300
2022	18.500	2.400

 Table 1. Data on Domestic Demand and Export in Indonesia 2018-2022

To calculate the value of regression coefficients and constants, use predetermined mathematical formulas. The regression coefficient is a value that shows how much the dependent variable changes due to a change in one unit of the independent variable. A constant is the value of a bound variable when the independent variable is zero.

The formula for calculating the regression coefficient and constant is as follows:

$$b = \frac{n\sum XY - \sum X\sum Y}{n\sum X^2 - (\sum X)^2}$$
$$a = \frac{\sum Y - b\sum X}{n}$$

Where n is the number of observations (in this case, n = 5), X is the independent variable (domestic demand), and Y is the bound variable (export). The values of the regression coefficients and constants are then fed into a simple linear regression equation, which takes the form:

$$Y = a + bX$$

Where Y is the bound variable (export), X is the independent variable (domestic demand), a is the constant, and b is the regression coefficient. This simple linear regression equation illustrates the relationship between domestic demand and exports in Indonesia. Use the t-test to determine whether the regression coefficient is significant. A statistical method to determine whether the regression coefficient deviates significantly from zero is the t-test. If the regression coefficient differs significantly from zero, and that indicates that the independent and dependent variables are influenced by each other. There is no relationship between the independent and dependent variables if the regression coefficient is not significantly different from zero. In this study, the tvalue of the table at n-2 degrees of freedom is compared with the calculated t-value, where n is the number of observations. The significance level of 5% indicates that researchers are willing to accept a 5% error risk. Rejecting the null hypothesis indicates that the regression coefficient is significant if the t value is higher than the t value in the table. The researcher accepts the null hypothesis, which states that the regression coefficient is not significant, if the t value is less than the t value of the table.

After obtaining the value of the regression coefficient and constant, you can interpret the results of a simple regression analysis and can find out the direction and magnitude of the influence of domestic demand on exports in Indonesia by looking at the value and sign of the regression coefficient. There is a positive correlation between exports and domestic demand if the regression coefficient is positive, which means that if domestic demand increases, then exports also increase, and vice versa. There is a negative correlation between exports and domestic demand if the regression coefficient is negative, which means that if domestic demand increases, exports decrease, and vice versa. The magnitude of the influence of domestic demand on exports is evident from the regression coefficient's value, which displays how changing one unit of the independent variable affects the average of the dependent variable.

In addition, the value of the coefficient of determination is calculated, which is a measure of how well a simple linear regression equation describes the variation of the dependent variable. The percentage of variation of the dependent variable described by the independent variable is indicated by the coefficient of determination, which has a value between 0 and 1. When a simple linear regression equation has a high coefficient of determination, it can effectively explain variations in the dependent variable; conversely, when the coefficient of determination is low, it can only partially explain variations in the dependent variable. The value of the coefficient of determination can be ascertained using the formula:

$$R^2 = \frac{SSR}{SST}$$

Where R^2 is the coefficient of determination, SST is the total sum of squares, and SSR is the sum of squares resulting from regression. The variation of the bound variable described by the independent variable is indicated by the sum squared of the difference between the predicted value of the bound variable and the mean value of the dependent variable. The sum squared of the difference between the dependent variable's observation value and mean value, or SST, represents the dependent variable's overall variation. In this research, calculations use excel software to find out the calculations needed in simple regression analysis. Excel is an application program that can be used to process data quickly and easily. By using excel, researchers can calculate the values of regression coefficients, constants, t, R^2 , SSR, and SST using predetermined formulas. Using excel software can create data tables and graphs that display the relationship between domestic and export demand variables. Excel can also help to perform simple regression analysis more efficiently and accurately.

Variable	Explanation	Data Type	Source
Domestic	The level of consumption of goods and	Percent	Central Bureau of
Demand	services by society, companies and		Statistics
	government in a country.		
Commodity	Goods sold abroad with the aim of	Percent	Bank Indonesia
Exports	increasing national income.		

Tabel 2. Variable Description

Result and Discussion

Based on existing secondary data, simple regression analysis calculations are obtained after that:

Table 5. Summary Output					
SUMMARY OUTPUT					
Regression Statistics					
Multiple R	0,973346844				
R Square	0,947404079				
Adjusted R Square	0,929872106				

Table 3. Summary Output

Tamansiswa Accounting Journal International

ISSN 2775-1651

Standard Error	63,22412493
Observations	5

The R Square value obtained from the data is 0.9474, which shows that 94.74% of export variation can be explained by domestic demand variation. This value shows that this regression model has a very high level of explanation, or in other words, this regression model is very good for describing the relationship between domestic demand and exports in Indonesia.

ANOVA	Table 4. Anova Analysis Calculation							
	Df		SS	MS	F	Significance F		
Regression		1	216008,1301	216008,1301	54,03864407	0,005202509		
Residuals		3	11991,86992	3997,289973				
Total		4	228000					

In the ANOVA table, there are several columns that have the following meanings:

DF stands for Degree of Freedom, which is the number of values that are free to change in a calculation. In this case, df for regression is 1, because there is only one independent variable (domestic demand). df for residuals is 3, since the number of observations is subtracted by the number of independent variables and constants (5 - 1 - 1). DF for the total is 4, since the number of observations is reduced by one (5 - 1).

Sum of squares, or SS for short, is the sum of squares of the deviation between the observed and the predicted values. The sum squared of the deviation between the expected export value and the mean export value is the regression's SS in this instance. The sum squared of the deviation between the actual and predicted export values is the residual's SS. The sum squared of the deviation between the actual and mean export values is the total's SS. MS stands for mean square, which is the average of the sum of squares. In this case, MS for regression is SS for regression divided by df for regression. MS for residual is SS for residual divided by df for residual.

The ratio of MS for residuals to MS for regression is denoted by F. The F value indicates the proportion of variation explained by the regression model as opposed to the variation for which the regression model is not responsible. The regression model's ability to describe variations in the data improves with a higher F value. Significance F is the probability that, in the event that the null hypothesis is correct, the F value will be equal to or higher than the computed F value. The null hypothesis asserts that there is no discernible difference between the actual export value and the value that the regression model predicts. The null hypothesis is rejected if significance F is less than the designated significance level, This indicates that the real export value and the export value that the regression model predicted differ significantly.

	Table 5. Coefficient calculation							
	Coefficie	Standard			Lower	Upper	Lower	Upper
	nts	Error	t Stat	P-value	95%	95%	95.0%	95.0%
	-		-		-		-	
	26,82926	293,40752	0,091440	0,93290	960,5829	906,924	960,5829	906,924
Intercept	829	67	286	6354	676	431	676	431
Domestic	0,132520	0,0180272	7,351098	0,00520	0,075149	0,18989	0,075149	0,18989

Tamansiswa Accounting Journal International						ISSN 2	2775-1651	
Demand (X)	325	83	154	2509	466	1185	466	1185

A simple linear regression equation obtained from the data is:

Y = -26,8293 + 0,1325X

Where Y is the bound variable (export), X is the independent variable (domestic demand), - 26.8293 is the constant, and 0.1325 is the regression coefficient. This equation shows that the relationship between domestic demand and exports in Indonesia is positive, which means that if domestic demand increases, exports will also increase, and vice versa. The regression coefficient of 0.1325 indicates that every increase in one unit of domestic demand will increase exports by 0.1325 units. The constant -26.8293 indicates that if domestic demand is zero, then exports will be worth -26.8293 units. This value does not make sense, since exports are unlikely to be negative. This shows that this regression model is not suitable for use at very low domestic demand values.

The t Stat value obtained from the data is 7.3511, which indicates that the regression coefficient has a very large value compared to its standard deviation. This value indicates that the regression coefficient has a very high level of confidence, or in other words, this regression coefficient is very statistically significant. The P-value obtained from the data is 0.0052, which indicates that the probability of the regression coefficient significantly different from zero is 0.52%. This value is smaller than the specified significance level, which is 5%, so I can rule out the null hypothesis, indicating a substantial influence between domestic demand and exports in Indonesia.

The Lower 95% and Upper 95% values obtained from the data are 0.0751 and 0.1899, which indicates that the 95% confidence range for the regression coefficient is between 0.0751 and 0.1899. This means that I can be sure with a 95% confidence level that the regression coefficient is actually somewhere between those values. This value also indicates that the regression coefficient does not include zero, which corroborates the conclusion that the regression coefficient is statistically significant. Based on the outcomes of the interpretation above, it can be explained that the R Square value obtained from a simple regression model between domestic demand and exports in Indonesia is 0.9474, which is a very high value. This shows that this regression model has a very high level of explanation, or in other words, this regression model is very good for describing the relationship between domestic demand and exports in Indonesia. In other words, 94.74% of export variations that occurred in 2018 to 2022 can be explained by variations in domestic demand in the same period. A high R Square value can be considered an indication that the regression model used matches the existing data, and can be used to make valid and accurate predictions or inferences. However, a high R Square value can also be caused by several other factors, such as the number of observations, the number of independent variables, or the presence of correlations between independent variables. Therefore, the R Square value cannot be used as the only measure to evaluate the quality of the regression model, but must be combined with other measures, such as Adjusted R Square, Standard Error, F Statistic, or Significance F. These measures can provide additional information about the limitations or weaknesses of the regression model used.

The significant difference between the actual export value and the export value predicted by the regression model can be seen from the F value and F Significance obtained from the ANOVA table. The calculated F value is 54.0386, which indicates that the regression model has much greater variation than the residual variation. The calculated Significance value of F is 0.0052, which indicates that the probability of obtaining an F value equal to or greater than the calculated F value, if the null hypothesis is correct, is 0.52%. This value is smaller than the specified significance level, which is 5%, as a means to reject the null hypothesis, which indicates that the

export value predicted by the regression model and the actual export value differ significantly. Accepting the alternative hypothesis implies rejecting the null hypothesis, which indicates that Indonesia's exports and domestic demand are significantly influenced. This influence is positive, which means that if domestic demand increases, then exports will also increase, and vice versa. This is in accordance with the regression coefficient obtained from the regression model, which is 0.1325, which shows that every increase in one unit of domestic demand will increase exports by 0.1325 units.

The constant obtained from the regression model is -26.8293, which means if domestic demand is zero, then exports will be worth -26.8293 units. This value does not make sense, since exports are unlikely to be negative. This shows that this regression model is not suitable for use at very low domestic demand values. The constant value obtained from the regression model is also not statistically significant, since the Stat t value obtained is -0.0914, which is smaller than the table t value of 3.182 at a significance level of 5% and a degree of freedom of 3. The t value of this table is obtained from a trusted source. The value of the regression coefficient obtained from the regression model is also statistically significant, since the Stat t value obtained is 7.3511, which is greater than the table t value of 3.182 at a significance level of 5% and degrees of freedom of 3. The t value of this table is obtained from a trusted source. Since the Stat t value is greater than the table t value, I can reject the null hypothesis, which means that there is a significant difference between the calculated and zero regression coefficient values. The P-value obtained from the data is 0.0052, which indicates that the probability of the regression coefficient significantly different from zero is 0.52%. This value is smaller than the specified level of significance, which is 5%, the reason for it to reject the null hypothesis, indicating that the computed regression coefficient's value differs significantly from zero.

The results show that there is a positive influence between the two variables, namely domestic demand and commodity exports. That is, if domestic demand increases, then commodity exports will also increase, and vice versa. High domestic demand indicates that there is a large and potential market for the commodity within the country. This will encourage producers to increase production and quality of these commodities, so as to meet domestic demand and also export to international markets. When domestic demand is high, income also contributes to the income and welfare of producers of these commodities. This will provide incentives and motivation for them to continue to develop and improve these commodities, so as to increase competitiveness and export of these commodities.

Conclusion

The analysis results show that there is a positive and significant relationship between domestic demand and exports in Indonesia, which means that if domestic demand increases, exports will also increase, and vice versa. This relationship can be explained by several factors, such as currency exchange rates, competitiveness, quality, preferences, and global economic conditions. The regression model used has a very high level of explanation, namely 94.74%, which shows that this regression model can describe the relationship between domestic demand and exports in Indonesia well. One factor that influences the relationship between domestic demand and exports is the currency exchange rate. Currency exchange is the exchange rate between one country's currency and another country's currency. Currency exchange rates can affect the competitiveness of a country's products in international markets. If a country's currency exchange rate strengthens, the price of its products will become more expensive for other countries, so export demand will decrease. Conversely, if a country's currency exchange rate weakens, the price of its products will become the expensive for exports will increase.

Currency exchange rates can also affect domestic demand, because they can affect people's purchasing power.

Suggestion

One of the factors that can affect the performance of commodity trading in Indonesia is domestic demand. Domestic demand is the amount of goods and services that domestic consumers want to buy at different price levels. Domestic demand can have a positive or negative influence on exports, depending on the elasticity of demand and supply of commodities. Domestic demand can also affect exports through exchange rate mechanisms, balance of payments, and competitiveness. Therefore, the government needs to carry out various policies that can increase balanced and sustainable domestic demand, as well as increase the production and supply of quality and competitive commodities. Furthermore, recommendations for additional research constitute a significant component of this study. The study's findings allow for a number of recommendations to be made to the government and to researchers going forward.

The government can encourage balanced and sustainable domestic demand, which can increase exports without sacrificing the welfare of domestic consumers. This can be done by increasing per capita income, lowering commodity prices, and providing incentives and subsidies for domestic consumers, especially for commodities whose demand is more elastic than supply, such as rice, sugar, and cooking oil. This policy can increase the purchasing power of domestic consumers, as well as reduce dependence on imports of these commodities. The government can increase the production and supply of quality and competitive commodities, which can increase exports without reducing domestic supply. This can be done by improving productivity, quality, and commodity standards, as well as developing environmentally friendly technologies and innovations, especially for commodities whose demand is less elastic than supply, such as rubber, coffee, and chocolate. This policy can improve production efficiency and effectiveness, as well as expand the market and market share of these commodities. It is important to anticipate and respond to various external factors that may affect domestic demand and exports, such as climate change, natural disasters, and disease outbreaks. This can be done by increasing adaptation and mitigation capacity, as well as building effective early warning and emergency response systems, especially for commodities that are vulnerable to environmental and health disturbances, such as rice, corn, and soybeans. This policy can reduce the risks and negative impacts of these external factors, and take advantage of existing opportunities and potentials.

This study has analyzed the observed phenomena using appropriate data, methods, and variables, but also has some limitations that can be opportunities for future research. This study only examines the effect of domestic demand on commodity exports, without considering the effect of commodity exports on domestic demand. In fact, commodity exports can also have a reverse impact on domestic demand, either directly or indirectly, through the mechanism of income, prices, and availability of goods. Therefore, future research can use simultaneous or dynamic approaches, to analyze the interrelationship between domestic demand and commodity exports in Indonesia. In addition, it only uses quantitative analysis methods, without including qualitative factors that can also affect domestic demand and commodity exports, such as consumer preferences, product quality, technological innovation, and other factors. Therefore, further research can use qualitative analysis methods, such as case studies, interviews, surveys, etc., to obtain more in-depth and holistic information and insights on domestic demand and commodity exports in Indonesia.

Limitation

This article has several limitations or limitations that need to be considered in interpreting the results of the analysis. First, this article only uses annual data from 2018 to 2022, which may not reflect long-term patterns and trends of the relationship between domestic demand and exports in Indonesia. More and longer data can provide a more accurate and valid picture of the relationship. Second, this article uses only one independent variable, domestic demand, to explain the dependent variable, exports. In fact, there are many other factors that also affect exports, such as currency rates, competitiveness, quality, preferences, and global economic conditions. This article cannot include these other factors, thus ignoring their effect on exports. This can lead to biases or errors in regression coefficient estimation and export predictions. To overcome this limitation, more complex articles, such as multiple regression, can be used to include more than one independent variable that is relevant and significant to export. Third, this article uses data from reliable sources, namely BPS and BI, but the data can also contain measurement, processing, or reporting errors, which can affect the results of the analysis. To overcome this limitation, the data used in this article should first be checked and validated, and if necessary, made corrections or adjustments.

References

- Acay, B., Bas, E., &; Abdeljawad, T. (2020). Fractional economic models based on market equilibrium in the frame of different type kernels. Chaos, Solitons & Fractals, 130, 109438.
- Bakar, N. A., &; Rosbi, S. (2020). Effect of Coronavirus disease (COVID-19) to tourism industry. International Journal of Advanced Engineering Research and Science, 7(4).
- Borsellino, V., Schimmenti, E., &; El Bilali, H. (2020). Agri-food markets towards sustainable patterns. Sustainability, 12(6), 2193.
- Casula, M., Rangarajan, N., &; Shields, P. (2021). The potential of working hypotheses for deductive exploratory research. Quality &; Quantity, 55(5), 1703-1725.
- Cooper, R. N. (2019). Currency devaluation in developing countries. In The International Monetary System (pp. 183-211). Routledge.
- Cui, Q., He, L., Liu, Y., Zheng, Y., Wei, W., Yang, B., &; Zhou, M. (2021). The impacts of COVID-19 pandemic on China's transport sectors based on the CGE model coupled with a decomposition analysis approach. Transport Policy, 103, 103-115.
- Daulika, P., Peng, K. C., &; Hanani, N. (2020). Analysis on export competitiveness and factors affecting of natural rubber export price in Indonesia. Agricultural Socio-Economics Journal, 20(1), 39-44.
- De Giovanni, P. (2020). Blockchain and smart contracts in supply chain management: A game theoretic model. International Journal of Production Economics, 228, 107855.
- de Gorter, H., Drabik, D., Just, D. R., Reynolds, C., &; Sethi, G. (2021). Analyzing the economics of food loss and waste reductions in a food supply chain. Food Policy, 98(1), 1-10.
- Demir, F., &; Razmi, A. (2022). The real exchange rate and development theory, evidence, issues and challenges. Journal of Economic Surveys, 36(2), 386-428.
- Dhyne, E., Kikkawa, A. K., Mogstad, M., &; Tintelnot, F. (2021). Trade and domestic production networks. The Review of Economic Studies, 88(2), 643-668.
- Doğan, B., Ferraz, D., Gupta, M., Huynh, T. L. D., & Shahzadi, I. (2022). Exploring the effects of import diversification on energy efficiency: Evidence from the OECD economies. Renewable Energy, 189, 639-650.

- Edeh, J. N., Obodoechi, D. N., &; Ramos-Hidalgo, E. (2020). Effects of innovation strategies on export performance: New empirical evidence from developing market firms. Technological Forecasting and Social Change, 158, 120167.
- Fabra, N., Rapson, D., Reguant, M., &; Wang, J. (2021, May). Estimating the elasticity to realtime pricing: evidence from the Spanish electricity market. In AEA Papers and Proceedings (Vol. 111, pp. 425-429). 2014 Broadway, Suite 305, Nashville, TN 37203: American Economic Association.
- Frenkel, J. A. (2019). A monetary approach to the exchange rate: doctrinal aspects and empirical evidence. In Flexible Exchange Rates/h (pp. 68-92). Routledge.
- Ilmas, N., Amelia, M., &; Risandi, R. (2022). Analysis of the Effect of Inflation and Exchange Rate on Exports in 5-Year Asean Countries (Years 2010–2020). Trisakti Economic Journal, 2(1), 121-132.
- Itskhoki, O., &; Mukhin, D. (2022). Sanctions and the exchange rate (No. w30009). National Bureau of Economic Research.
- Ketokivi, M., &; Mahoney, J. T. (2020). Transaction cost economics as a theory of supply chain efficiency. Production and Operations Management, 29(4), 1011-1031.
- Khan, Z., Ali, M., Jinyu, L., Shahbaz, M., &; Siqun, Y. (2020). Consumption-based carbon emissions and trade nexus: evidence from nine oil exporting countries. Energy Economics, 89, 104806.
- Krifa-Schneider, H., Matei, I., &; Sattar, A. (2022). FDI, corruption and financial development around the world: A panel non-linear approach. Economic modelling, 110, 105809.
- Lahcen, B., Brusselaers, J., Vrancken, K., Dams, Y., Da Silva Paes, C., Eyckmans, J., & Rousseau, S. (2020). Green recovery policies for the COVID-19 crisis: modelling the impact on the economy and greenhouse gas emissions. Environmental and Resource Economics, 76, 731-750.
- Majeed, M. T., &; Mazhar, M. (2019). Financial development and ecological footprint: a global panel data analysis. Pakistan Journal of Commerce and Social Sciences (PJCSS), 13(2), 487-514.
- Mesagan, E. P., Alimi, O. Y., &; Vo, X. V. (2022). The asymmetric effects of exchange rate on trade balance and output growth. *The Journal of Economic Asymmetries*, 26, e00272.
- Norouzi, N., de Rubens, G. Z., Choupanpiesheh, S., &; Enevoldsen, P. (2020). When pandemics impact economies and climate change: Exploring the impacts of COVID-19 on oil and electricity demand in China. Energy research &; social science, 68, 101654.
- Olanrewaju, B. T., Olubusoye, O. E., Adenikinju, A., &; Akintande, O. J. (2019). A panel data analysis of renewable energy consumption in Africa. Renewable energy, 140, 668-679.
- Phillipson, J.; Gorton, M.; Turner, R.; Shucksmith, M.; Aitken-McDermott, K.; Acreage, F.; Cowie, P.; Hubbard, C.; Maioli, S.; McAreavey, R & Shortall, S. (2020). The COVID-19 pandemic and its implications for rural economies. Sustainability, 12(10), 3973.
- Setyowati, W., Widayanti, R., &; Supriyanti, D. (2021). Implementation of e-business information system in indonesia: Prospects and challenges. International Journal of Cyber and IT Service Management, 1(2), 180-188.
- Shahzad, U., Ferraz, D., Doğan, B., &; do Nascimento Rebelatto, D. A. (2020). Export product diversification and CO2 emissions: Contextual evidences from developing and developed economies. Journal of Cleaner Production, 276, 124146.
- Sheth, J. (2020). Impact of Covid-19 on consumer behavior: Will the old habits return or die. Journal of business research, 117, 280-283.

- Sokhanvar, A., Çiftçioğlu, S., &; Lee, C. C. (2023). The effect of energy price shocks on commodity currencies during the war in Ukraine. Resources Policy, 82, 103571.
- Susilawati, S., Falefi, R., &; Purwoko, A. (2020). Impact of COVID-19's Pandemic on the Economy of Indonesia. Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 3(2), 1147-1156.
- Uzir, M. U. H., Al Halbusi, H., Thurasamy, R., Hock, R. L. T., Aljaberi, M. A., Hasan, N., & Hamid, M. (2021). The effects of service quality, perceived value and trust in home delivery service personnel on customer satisfaction: Evidence from a developing country. Journal of Retailing and Consumer Services, 63, 102721.
- Vartanian, P. R., &; Garbe, H. D. S. (2019). The Brazilian economic crisis during the period 2014-2016: is there precedence of internal or external factors. Journal of International and Global Economic Studies, 12(1), 66-86.
- Zafar, M. W., Saleem, M. M., Destek, M. A., &; Caglar, A. E. (2022). The dynamic linkage between remittances, export diversification, education, renewable energy consumption, economic growth, and CO2 emissions in top remittance-receiving countries. Sustainable Development, 30(1), 165-175.