Moneter : Jurnal Keuangan Dan Perbankan, 11 (2) (2023) 291-302

Published by: Universitas Ibn Khaldun

Journal homepage: http://ejournal2.uika-bogor.ac.id/index.php/MONETER

E-ISSN : 2615-514. P-ISSN : 2302-2213

Analysis Of Change Rate And Interest Rate Changes To Indonesia's Trade Balance

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Article Information

History of the article:
Accepted: July 2023
Corrected:August 2023
Accepted:October 2023

Keywords:
Exchange Rate; International Trade; Interest Rate ; Trade Balance;

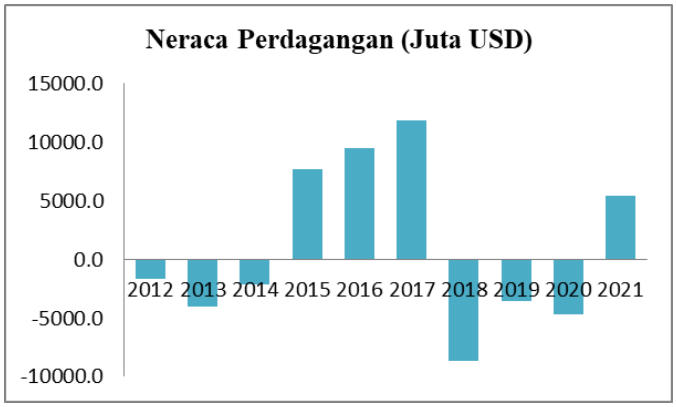
ABSTRAK

This research examines the impact of exchange rates and interest rates on Indonesia's trade balance from 1991 to 2021. International trade plays a crucial role in a country's economic activities, with exports and imports being key components. Monitoring these activities allows for the assessment of whether a nation's trade balance is in surplus or deficit. The trade balance of Indonesia is influenced by various factors, including exchange rates and interest rates. Employing the Error Correction Model (ECM) for analysis, both long-term and short-term effects were investigated. Classical assumption tests and significance tests, covering normality, multicollinearity, autocorrelation, partial (t tests), simultaneous (F test), R-Squared, and Adjusted R-Squared tests were conducted. The findings reveal that exchange rates have a significant impact on Indonesia's trade balance, with a stronger exchange rate leading to a favorable trade balance. Specifically, a robust exchange rate results in a reduction of export value surpassing that of imports. In contrast, interest rates were found to have no significant effect on the trade balance due to global economic disparities, financial market uncertainties stemming from the Covid-19 pandemic, and trade barriers imposed by individual countries.

Introduction

International trade can occur due to differences in the natural resources of each region or region. One of the most important components of any country's economy is international trade. Economic growth and the number of investors will both increase as a result of conducting profitable international trade between countries. If each country has a large export volume compared to imports, it will make the country's national income increase, thus positively affecting economic growth (Fitriani, 2019). All transactions that occur in international trade in a country will be recorded on the trade balance which usually consists of export and import factors (Putri & Arka, 2017). In international trade, the trade balance summarizes the large number of exports and imports that occur in a given period or year. The trade balance is a track record that contains the amount and information on the export and import activities of each country. Countries that do business internationally must have a trade balance to record export and import activities (Thirafi, 2020).

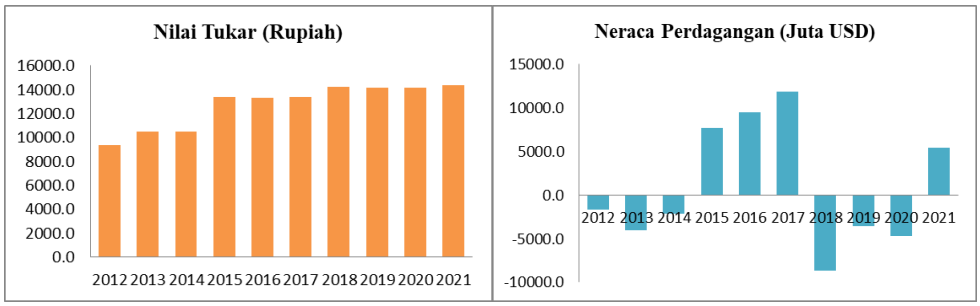
Indonesia's trade balance often experiences a deficit condition so that it is used as an aspect that can cause disruption to the economic growth of each country. The declining trade balance is due to the greater value of imports than the value of exports, which means that people's purchasing power for imported goods is higher. Therefore, the trade balance deficit will have an impact on the productivity of goods and services, if the trade balance is in deficit, the availability of domestic goods and services also falls and the results are not satisfactory. In addition, a deficit trade balance can also affect the availability of jobs. The trade balance greatly affects the survival of the people in the country. Given that the most populous country in Southeast Asia is Indonesia and has an open economic system, Indonesia will not be excluded from export-import operations; Nevertheless, the quality of Indonesia's human resources is still substandard. This is due to the lack of technological skills in the activities of producing goods and services.



Source: BPS Indonesia and Bank Indonesia 2022

Figure 1. Indonesia Trade Balance Graphs (Million USD) for the Period 2012-2021

Judging from Figure 1, Indonesia's trade balance is clearly visible and often in deficit. The trade balance deficit is strongly influenced by the slowdown in global economic growth and the decline in Indonesia's export prices, which ultimately causes export performance to decline. Meanwhile, on the other hand, imports are still carried out to meet domestic demand. The increasing dependence on foreign production or imports for goods and capital, along with the increasing cost of goods and services caused by the decline in the rupiah, eventually resulted in a trade deficit. The global economy and international trade have both been significantly impacted by the Covid-19 pandemic. Due to the coronavirus, there have been significant changes to the global business model, such as the widespread social restrictions imposed by the affected countries on the time and money needed to send goods, the implementation of health regulations has also increased shipping costs, and export and import restrictions on certain goods, such as food and health, As well as disruptions in supply chains in China and the United States that are affected by disruptions and changes in supply and demand. China is Indonesia's main commercial partner when it comes to building cross-border trade relations. In addition, Indonesia is the Southeast Asian country with the largest population, which may also have an impact on the rise and fall of the trade balance, a large population is predicted to increase the production of goods and services and export standards, but the trade balance remains negative.The Indonesian government always makes efforts to stabilize the country's economic condition so that the trade balance does not decline. A decrease in the trade balance is a risk that must be borne by a country (Azizah, Tan, & Emilia, 2019).

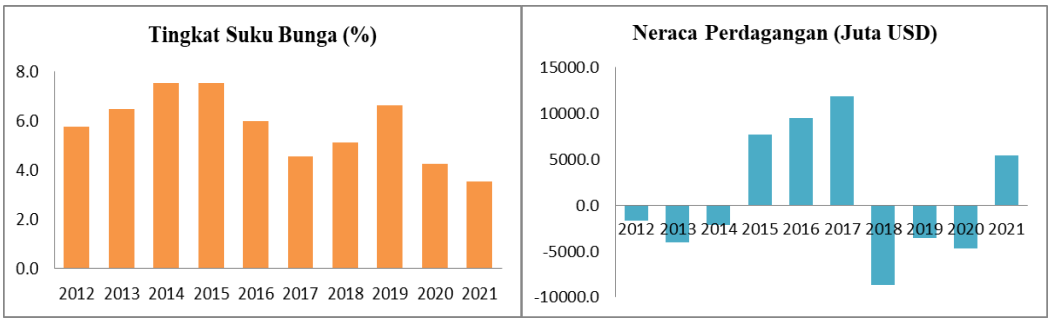


Source: BPS Indonesia and Bank Indonesia 2022

Figure 2. Indonesia's Exchange Rate and Trade Balance Graphs for the period 2012-2021

Based on the data in figure 2, where in 2017 the rupiah exchange rate decreased, but the trade balance tends to increase. It is assumed that when the volume of imports exceeds the volume of exports, the trade balance should show a deficit, however, the trade balance in Indonesia actually experiences a surplus. the increase in the value of the rupiah compared to the US currency, namely the relatively significant dollar, is what causes the decline in the rupiah exchange rate. The financial crisis also hit Indonesia, which resulted in a decline in the value of the rupiah relative to the dollar. Increasing exports is one of the strategies to balance trade so that the exchange rate can stabilize, but in 2017 when export volumes increased year by year which meant that the rupiah could strengthen, the opposite was due to the trade war between China and the US,

As well as the uncertainty of the European money market, this has made the dollar stronger almost all over the world. Therefore, it is not in accordance with the theory expressed by Keynes where if the exchange rate is specified, it means that the performance in the money market has improved, but when the exchange rate falls, the price of imported raw materials needed to produce goods and services increases, resulting in a decrease in the performance of a company. The weakening of the exchange rate can have an impact on export activities that utilize imported materials where the cost of raw materials used becomes more expensive due to the depreciation of the rupiah



Source: BPS Indonesia and Bank Indonesia 2022

Figure 3. Interest Rate and Trade Balance of Indonesia Graphs for the period 2012-2021

In Figure 3, it can be seen that interest rates are clearly experiencing year-over-year fluctuations. In 2017, there was a gap where interest rates decreased but the trade balance increased. The trade balance actually declined in 2018 as a result of the sluggish Indonesian economy and the weak rupiah exchange rate against the dollar, which is one of the reasons for the increase in interest rates. In addition, interest rates rose in 2018. For example, in 2020-2021, the government issued a policy through Bank Indonesia to cut the interest rate to 3.5%, or the lowest level in 30 years. This policy was carried out during the pandemic to prevent consumption and economic growth from falling. Stable interest rates are important for the macroeconomic environment and financial system to remain stable. If the macroeconomic situation of the country stabilizes, it will affect the trade balance.

There is a discrepancy with the classical theory which states, interest is the cost of funds that can be borrowed or investment funds. Interest rates are one of the factors that can determine whether a person will invest or save. More money is offered when the interest rate is greater, then the trade balance and interest rate have a positive relationship. Indonesia's exports and imports can be affected by interest rates. With a high interest rate, this can reduce people's consumption and loans, there will be a reduction in credit to importers, thereby reducing the value of imports. Meanwhile, if the amount of interest is low, there will be an increase in consumption which will increase the value of imports

BIBLIOGRAPHY REVIEW

Keynesian Theory of Aggregate Demand

The economic theory proposed by Keynes in (Sukirno.S, 2020), The macroeconomic situation in the economy is seen from what happens to the aggregate demand of the community, if the aggregate demand is higher than the aggregate supply (production produced) within a certain period of time, it will cause a shortage of production so that production will increase and prices will also increase. Vice versa, if aggregate demand is lower than aggregate supply, it will cause an overproduction situation so that output will obey and prices will fall. Therefore, the key to Keynesian macroeconomic policy is how governments can influence aggregate demand (affect the macro situation), thus approaching full employment opportunities (Satya, 2014).

Exchange Rate Theory

According to Keynes in (Sapridawati, Indrawati, Sofyan, & Zirman, 2021), Changes in the exchange rate in economic growth are affecting both sides, including domestic demand and domestic supply, which will affect changes in interest rates in the money market. The Keynesian approach assumes that currency prices are determined in financial capital markets and trade flows are not inclined towards equilibrium. It is further assumed that the influence of income is more important in determining the current transaction than is the

price effect. As revenue growth increases, it will increase imports which means the demand for foreign exchange money will increase. The increase in people's income will increase people's purchasing power. The country may decrease or increase its currency in other currencies by changing rates.

Interest Rate Theory

According to Keynes in (Upadiyanti, Bagiada, & Parameswara, 2018), interest rates are a monetary phenomenon. So the supply and demand for money determines whether the interest rate is high or low. As long as money can affect interest rates, then money can also affect economic activity. Changes in interest rates will in turn affect the desire to invest, thereby affecting economic income.

According to (Rompas, 2018) Interest rate is the difference between interest and the number of loans, the amount of rent, and the rewards that will be obtained if someone is willing to lend funds or money for a certain period of time. The interest rate can determine the type of investment that can benefit the investors. More companies will enjoy a good return on capital if the interest rate is lower. The more investors will invest the lower the interest rate paid

Method

Population and Sample

The population used in this study is Indonesia, and the variables used are exchange rate, interest rate and trade balance between 1991 and 2021. Meanwhile, the samples used in this study were taken using the Non-Probability Sampling technique, which did not give every component or member of the population an equal opportunity to be selected as a sample, using a procedure known as purposive sampling, which is performed taking into account certain factors. Time series data from 1991 to 2021 will be used to create samples for this study, bringing the total to 31 observations.

Data Type and Data Source

The type of data in this study is secondary data in the form of a time series which is indirectly collected, presented, and published by many parties to be used as research objects. Meanwhile, the data sources used in this study came from several sources, namely data on Trade Balance, Exchange Rate, and Interest Rate from the official website of BPS (https://www.bps.go.id/) , the World Bank, Bank Indonesia (BI), the Ministry of Trade and scientific journals related to this research.

Data Collection

In supporting the data needs of these findings, this data collection is carried out using several ways, namely the documentation method made using how to make copies into Microsoft Excel 2010 to make it easier to process using software programs, as well as by literature studies, namely by reading, reviewing, and also researching from various literature in the form of websites, books, journals, and various other sources related to discussions in research.

Data Analysis Techniques

In this study, the motto used was the Error Correction Model (ECM). The ECM method is a time series regression method used in analyzing long-term and short-term relationships in research variables. In order to use the Error Correction Model, there is a requirement that must be met is that variable data is not stationary at the level level, but stationary at the same level of difference. One of the ECM methods includes stationaryness test, cointegration test, long-term estimation test, short-term estimation test, classical assumption test, t test, F test, R-Squared test and Adjusted R-Squared.

RESULTS

Description of the object of study

The Indonesian state is the object of this study. Indonesia is a country located in the Pacific and Indian Oceans, between the Asian continent and Australia. Indonesian astrological coordinates are 6 LU- 11 LS and 95 BT- 141 BT. Its total area is 3,273,810 km2 of ocean and 1,919,440 km2 of land. Indonesia has 17,000 islands, 34 provinces. Indonesia is a densely populated country in Southeast Asia with a population of 278,752,361 million. It should be with a large population, Indonesia has a surplus trade balance, but in

fact Indonesia's trade balance is often recorded to be in a trade deficit position due to the high purchasing power of the people for imported goods, even though Indonesia itself has a wealth of natural resources such as the oil and gas sector including crude oil, gold, copper and the plantation sector including tea, coffee, rice, spices and rubber. Indonesia's international trade is a global economic activity. Imports and exports are important in the development of a country. The increase in exports has a positive impact on the Indonesian economy.

Stationaryity Test

Table 1. Level Stationaryity Test Results

Variabel	**Level I (0)**			
	ADF t-statistic	*Critical Values*	Prob.*	Keterangan
LNNP	-2.296996	-3.670170	0.1794	Tidak Stasioner
LNNT	-1.909495	-3.679322	0.3235	Tidak Stasioner
SB	-6.214680	-3.752946	0.0000	Stasioner

Source: Eviews 12 Data Processing Results

Based on the table above, it is known that the ADF t-Statistic value from the stationaryness test of the variables of trade balance, exchange rate, and GDP, shows that the t-Statistic value < from the critical value of the MacKinnon table (1%), it can be concluded that the data from the trade balance variable and exchange rate are not stationary at a rate of 1%, which means that the variable data can be continued to use the Error Correction Model or continued to another level selection stage, namely 1st difference.

The ADF t-Statistic value from the stationaryness test of the interest rate variable shows that the t-Statistic value > from the critical value of the MacKinnon table (1%), so it can be concluded that the data from the stationary interest rate variable at the level of 1% even though the data explains the stationary result, it is still continued to the other level selection stage, namely 1st difference so that it remains in the same differentiation

Table 2. First Difference Level Stationaryity Test Results

Variabel	**Level I (0)**			
	ADF t-statistic	*Critical Values*	Prob.*	Keterangan
LNNP	-6.422410	-2.679322	0.0000	Stasioner
LNNT	-5.738551	-2.967767	0.0001	Stasioner
SB	-3.213004	-2.991878	0.0316	Stasioner

Source: Eviews 12 Data Processing Results

Based on the table above, it is known that the ADF t-Statistic value from the stationaryness test of the variables of trade balance, exchange rate and interest rate, shows that the t-Statistic value is > from the critical value of the MacKinnon table (5%), it can be concluded that the data from the trade balance variable, exchange rate and stationary interest rate at the level of 5%, which means that the data is stationary at the First Difference level and is in the same differentiation. If the data has been stationary, there is no need to test again to another level.

Cointegration Test

Table 3. Cointegration Test Results

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.060611	0.0038
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

Source : Eviews 12 Data Processing Results

Based on the table above, it shows that the Augmented DickeyFuller t-Statistic value from the cointegration test is -4.060611, meaning that it shows that the t-Statistic value > from the critical values of the MacKinnon

table (1%, 5% and 10%) respectively, namely -3.670170, -2.963972, and -2.621007, it can be concluded that the data from the error value occurred cointegration at the levels of 1%, 5% and 10%.

Long-term estimation

Table 4. Long-Term Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.19558	2.322977	6.110945	0.0000
LNNT	2.796992	0.470343	5.946708	0.0000
SB	-0.039768	0.028211	-1.409638	0.1701

Source : Eviews 12 Data Processing Results

Based on the table above, it can be seen that the results of the long-term estimation test are as follows:

First. Exchange rate

Based on the results of the regression above, it shows that the probability value of the exchange rate variable is smaller than alpha (0.0000 < 0.05), so it can be concluded that H1 is accepted and H0 is rejected, which means that exchange rate variables have a significant effect on the trade balance in the long term.

Second**. Interest Rate**

Based on the results of the regression above, it shows that the variable probability value of interest rates is greater than alpha (0.1701 > 0.05), so it can be concluded that H0 is accepted and H2 is rejected, which means that interest rates do not have a significant effect on the trade balance in the long term.

Test the Classical Assumptions of Long-Term Estimates

Long-Term Normality Test

Table 5. Long-Term Normality Test Results

Jarque-Bera	**0.395832**
Probability	0.820439

Source : Eviews 12 Data Processing Results

In the table, it can be seen that the Jarque-Bera value is 0.395832 and the Probability value is 0.820439, proving that both values are greater than 0.05 (α), so it can be concluded that the distributed model is normal.

Long-Term Multicholinearity Test

Table 6. Long-Term Multicholinearity Test Results

Variable	Centered VIF
C	NA
LNNT	6.448098
SB	2.311938

Source : Eviews 12 Data Processing Results

In the table, it can be seen that the results of long-term Centered VIF (Variance Inflation Factor) on exchange rate and interest rate variables, have a value smaller than 10 (VIF < 10). So that conclusions can be drawn that this model is free from multicholinearity.

Long-Term Autocorrelation Test

Table 7. Long-Term Autocorrelation Test Results

Prob. F(2,25)	0.2995
Prob. Chi-Square(2)	0.2405

Source : Eviews 12 Data Processing Results

Based on the table above, it can be seen that the probality value is 0.2405, so it can be concluded that the data is free from autocorrelation problems because the probability value is greater than 0.05 (α).

Short-term estimation

Table 8. Short-term estimation results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.178415	0.195176	-0.914121	0.3694
D(LNNT)	2.000703	0.705233	2.836941	0.0089
D(SB)	-0.028541	0.028859	-0.988951	0.3322
ECT(-1)	-0.724741	0.175641	-4.126257	0.0004

Source : Eviews 12 Data Processing Results

Based on the table above, it can be seen that the results of the short-term estimation test are as follows:

First. Exchange rate

Based on the table above, it shows that the probability value of the exchange rate is 0.0089 < 0.05, so it can be concluded that H1 is accepted and H0 is rejected, which means that the exchange rate has a significant effect on the trade balance in the short term.

Second. Interest Rate

Based on the table above, it shows that the probability value of interest rates is 0.3322 > 0.05, so it can be concluded that H0 is accepted and H2 is rejected, which means that interest rates do not have a significant effect on the trade balance in the short term.

Test Short-Term Classical Assumptions

Short-Term Normality Test

Table 9. Short-Term Normality Test Results

Jarque-Bera	**1.802862**
Probability	0.405988

Sumber : Hasil Olah Data Eviews 12

In the table, it can be seen that the Jarque-Bera value of 0.405988 and the Probability value of 1.802862, prove that both values are greater than 0.05 (α), so it can be concluded that the distributed model is normal

Uji Multikolinearitas Jangka Pendek

Table 10. Short-Term Multicholinearity Test Results

Variable	Centered VIF
C	NA
D(LNNT)	2.117680
D(SB)	2.667929
ECT(-1)	1.002097

Source : Eviews 12 Data Processing Results

In the table, it can be seen that the results of short-term Centered VIF (Variance Inflation Factor) on variable exchange rates and interest rates have a value smaller than 10 (VIF < 10). So that conclusions can be drawn that this model is free from multicholinearity.

Short-Term Autocorrelation Test

Table 11. Short-Term Autocorrelation Test Results

Prob. F(2,23)	0.7737
Prob. Chi-Square(2)	0.7182

Source : Eviews 12 Data Processing Results

Based on the table above, it can be seen that the probalility value is 0.7182, so it can be concluded that the data is free from autocorrelation problems because the probability value is greater than 0.05 (α).

Model Interpretation

Table 12. Interpretation of Long-Term Estimation Models

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14.19558	2.322977	6.110945	0.0000
LNNT	2.796992	0.470343	5.946708	0.0000
SB	-0.039768	0.028211	-1.409638	0.1701

Source : Eviews 12 Data Processing Results

Based on the regression results in the table above, it can be known the long-term model equation as follows:

$$\boldsymbol{NP\,t = 14.19558 + 2.796992\,LN(NT) - 0.039768\,SB}$$

The interpretation of the equations of the long-term model formed above can be understood as follows :

First. The constant of 14.19558 shows the trade balance of 14.19558.

Second. The exchange rate regression coefficient of 2.796992 shows an increase of 1 unit of exchange rate, the trade balance has increased by 2.796992.

Third. The interest rate regression coefficient of -0.039768 shows an increase of 1 unit of interest rate, the trade balance has decreased by 0.039768.

Table 13. Interpretation of Short-Term Estimation Models

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.178415	0.195176	-0.914121	0.3694
D(LNNT)	2.000703	0.705233	2.836941	0.0089
D(SB)	-0.028541	0.028859	-0.988951	0.3322
ECT(-1)	-0.724741	0.175641	-4.126257	0.0004

Source : Eviews 12 Data Processing Results

Based on the regression results in the table above, the short-term model equation can be known as follows:

$$\boldsymbol{NP_t = -0.178415 + 2.000703\,LN(NT) - 0.028541\,SB - 0.724741\,ECT(-1)}$$

The interpretation of the equations of the short-term model formed above can be understood as follows :

First. A constant of -0.178415 indicates a trade balance of -0.178415.

Second. The exchange rate regression coefficient of 2.000703 shows an increase of 1 unit of exchange rate, the trade balance has increased by 2.000703.

Third. The interest rate regression coefficient of -0.028541 indicates an increase of 1 unit of interest rate, the trade balance has decreased by 0.028541.

Fourth. The result of the ECM test has a lag of residual value of -0.724741 which means negative, the value is required to be negative and also significant. This proves that the error correction is 72.47%.

Hypothesis Test and Analysis
t-test

Table 14. Long Term t Test Results

Variable	t-Statistic	Prob.
C	6.110945	0.0000
LNNT	5.946708	0.0000
SB	-1.409638	0.1701

Source : Eviews 12 Data Processing Results

First. Tukar Exchange Rate Variables
The results of the regression above show that the exchange rate variable has a t_hitung > t_tabel namely (5.946708) > (2.048407), so H1 is accepted and H0 is rejected, so it can be said that the exchange rate has a significant effect on the trade balance in the long term.

Second. Variable Interest Rate
The results of the regression above show that the variable interest rate has a t_hitung < t_tabel namely | (-1.409638)| < (2.048407), once H0 is accepted and H2 is rejected, it can be said that interest rates have no significant effect on the trade balance in the long term.

Table 15. Short-Term t Test Results

Variable	t-Statistic	Prob.
C	-0.914121	0.3694
D(LNNT)	2.836941	0.0089
D(SB)	-0.988951	0.3322
ECT(-1)	-4.126257	0.0004

Source : Eviews 12 Data Processing Results

First. Exchange Rate Variables
Based on the table above, it shows that the exchange rate variable has a t_hitung > t_tabel namely (2.836941) > (2.048407), so it can be concluded that H1 is accepted and H0 is rejected, it can be said that the exchange rate has a significant effect on the trade balance in the short term.

Second. Variable Interest Rate
Based on the table above, it shows that the variable interest rate has a t_hitung < t_tabel namely | (-0.988951)| < (2.048407), if it can be concluded that H0 is accepted and H2 is rejected, it can be said that interest rates have no significant effect on the trade balance in the

Test F

Table 16. Long-Term F Test Results

F-statistic	14.69498
Prob(F-statistic)	0.000007

Source : Eviews 12 Data Processing Results

Based on the results of long-term regression, the influence of exchange rates and interest rates on the trade balance obtained a F_hitung value of 14.69498 > F_tabel of 3.340386 and a probability value of 0.000007 < alpha (0.05), so it can be concluded that the variables of exchange rate and interest rate simultaneously significantly affect the bound variable, namely the trade balance in the long term.

Table 17. Short-Term F Test Results

F-statistic	7.187645
Prob(F-statistic)	0.000537

Source : Eviews 12 Data Processing Results

Based on the results of short-term regression, the influence of exchange rates and interest rates on the trade balance obtained a F_hitung value of 7.187645 > F_tabel of 3.340386 and a probability value of 0.000537 < alpha (0.05), so it can be concluded that the variables of exchange rate and interest rate simultaneously significantly affect the bound variable, namely the trade balance in the short term.

Test R-Squared and Adjusted R-Squared

Table 18. Long-Term R-Squared and Adjusted R-Squared Test Results

R-squared	0.620173
Adjusted R-squared	0.577970

Source : Eviews 12 Data Processing Results

It can be seen from the table above, that the long-term R-Squared value of 0.620173, which means that the free variables of this study, namely exchange rates and interest rates, explain its effect on the bound variable, namely the trade balance of 62.01%, so that the remaining 37.99% is influenced by other free variables that are not contained in this study. While the long-term Adjusted R-Squared value is 0.577970, this means that the free variables in this study, namely exchange rates and interest rates, explain their effect on the bound variable, namely the trade balance of 57.79%, so that the remaining 42.21% is influenced by other free variables that are not found in this study.

Table 19. Short-Term R-Squared and Adjusted R-Squared Test Results

R-squared	0.534889
Adjusted R-squared	0.460471

Source : Eviews 12 Data Processing Results

It can be seen from the table above, that the short-term R-Squared value is 0.534889, which means that the free variables of this study, namely exchange rates and interest rates, explain their effect on the bound variable, namely the trade balance of 53.48%, so that the remaining 46.52% is influenced by other free variables that are not contained in this study. While the short-term Adjusted R-Squared value is 0.460471, this means that the free variables in this study, namely exchange rates and interest rates, explain their effect on the bound variable, namely the trade balance of 46.04%, so that the remaining 53.96% is influenced by other free variables that are not found in this study.

Economic Analysis and Discussion

Analysis of the Effect of Exchange Rates on the Trade Balance

Based on the test results of long-term and short-term estimates, it is known that H0 is rejected and H1 is accepted, which can be interpreted to mean that according to hypothesis one (H1) the exchange rate has a significant impact on the trade balance. When the exchange rate strengthens, it can have a good impact so that the trade balance is in a surplus position. The exchange rate is one of the determinants in international trade, with a stronger exchange rate, the purchasing power of the people is even higher. Exchange rate appreciation will change the position of the trade balance, this is because the value of exports is greater than the value of imports. An appreciating exchange rate can also increase a country's economic growth.

The results of this study are in line with the theory where if the exchange rate is specified, it means that the performance in the money market has improved, but if the exchange rate decreases, it will cause an increase in import costs on raw materials used in producing goods and services, it results in a decrease in performance in a company. The weakening of the exchange rate can have an impact on export activities that utilize imported materials where the cost of raw materials used becomes more expensive due to the depreciation of the rupiah. Therefore, the exchange rate is expected to be stable or strengthen so that the trade balance also experiences a surplus, because weakening or depreciation of the exchange rate can result in a trade balance deficit.

The results of this study are also in line with the research conducted by (Puri, N. Y. & Amaliah 2021) which states that the exchange rate has a significant effect on the trade balance. When the exchange rate strengthens (appreciation) will affect the trade balance experiencing a trade surplus. By strengthening the exchange rate, it will suppress the value of exports to be greater than the value of imports. However, if the exchange rate depreciates (weakens), it will have a bad impact, resulting in a trade balance experiencing a

trade deficit. So that the government continues to strive so that the rupiah exchange rate continues to appreciate by improving the quality of domestic goods so that people are more interested in buying domestic products and refrain from imported products. In addition, Bank Indonesia also strives to maintain exchange rate stability by issuing a dual intervention policy in the foreign exchange market and the provision of SBN from the secondary market. Bank Indonesia has also provided foreign exchange swaps at a lower price level.

Analysis of the Effect of Interest Rates on the Trade Balance

Based on the test results of long-term and short-term estimates, it is known that H0 is accepted and H2 is rejected, which can be interpreted to mean that not in accordance with the hypothesis of two (H2) interest rates does not have a significant impact on the trade balance. This is due to uncertainty in global financial markets, uneven global economic growth, and inflation in Indonesia which is lower than previously estimated.

The results of this study are not in line with the theory that if the interest rate is high, the offer of funds will be more, so that with a lot of funds it will increase public consumption which will ultimately affect the trade balance into a surplus. Basically, the interest rate also affects investment, which affects the pace of exports and imports. With high interest rates, there will be an increase in exports which can be one way for the trade balance to remain in a position of trade surplus. Given the positive correlation between interest rates and the trade balance, it is expected that the trade balance will be surplus if interest rates are high, but if interest rates are low triggered by changes in interbank interest rates, it will affect the trade balance into a trade deficit.

Although the results of this study are not in line with the theory, they are in line with the research conducted by (Asnawi & Hasniati, 2018) which states that the trade balance is not affected by interest rates, which means that if interest rates rise or fall, the trade balance will not hissit. However, if interest rates increase, it will attract investors to invest so that the funds owned will be more and more in encouraging exports, so that the trade balance will move to a position of trade surplus. In addition, the interest rate reduction that occurred from 2020 to 2021 by 3.5% due to the Covid-19 pandemic which has an impact on the whole world, including Indonesia, so that the government through Bank Indonesia has set a low interest rate policy expected to stabilize the economy. In addition, this policy of lowering interest rates aims to increase public demand and purchase of goods and services and contain the trade deficit caused by the Covid-19 pandemic. Changes in interest rates are also intended to respond to the production gap between demand and supply in the domestic economy. When economic pressures increase and inflation increases, Bank Indonesia can raise interest rates to contain the pace of the economy that is too fast. Bank Indonesia continues to strive and strengthen policies to open up economic sectors that are profitable and Covid-19 safe in an effort to revive the country's economy. The Covid-19 pandemic has made credit demand in Indonesia inelastic, and changes in interest rates have also had little impact on credit demand.

Conclusion

This research was conducted to analyze the effect of exchange rates and interest rates on Indonesia's trade balance throughout the period 1991 to 2021. The following are the conclusions that can be drawn from the study: a. In the long and short term, the rupiah exchange rate affects the trade balance because the exchange rate plays a role in the sustainability of international trade transaction payments so that the exchange rate and trade balance are interconnected where if there is a change in the exchange rate, it will also cause changes in the trade balance. When the rupiah exchange rate appreciates (strengthens), public consumption will be higher and the production of goods will increase, thus affecting the value of exports which also increases and makes the trade balance in a surpus position.In the long and short term, interest rates have no effect on the trade balance because inflation in Indonesia is lower than previously expected and the Covid-19 pandemic has not made the trade balance experience a surplus or deficit. Here are the suggestions that researchers can give in this study, which are as follows: a. Theoretical Aspects : 1. For the next researcher who will examine using trade balance-bound variables, it is better to use free variables that are different from this study. 2. For subsequent researchers, it is expected to increase the scope and data of the research in a longer period of time, so as to better influence the implementation of the research. a. Practical Aspects. It is expected that the government can make export volumes higher than import volumes by making policies related to international trade, so that the trade balance remains in a surplus position. As well as considering

other instruments such as exchange rates and interest rates as a basis for setting a policy. It is expected for research institutes that will use the same research variables namely exchange rates, interest rates, and trade balances in order to be able to research and study more in-depth indicator information for further research.

Reference

Asnawi, & Hasniati. (2018). Pengaruh Produk Domestik Bruto, Suku Bunga, Kurs Terhadap Neraca Perdagangan Di Indonesia. *Jurnal Ekonomi Regional Unimal, Volume 01 Nomor 01*, 1-7.

Azizah, L., Tan, S., & Emilia. (2019). Estimasi Model Neraca Perdagangan Indonesia Dalam Periode 1998-2017. *E-Journal Perdagangan Industri dan Moneter, Vol. 7. No. 3*, 123-136.

Fitriani, E. (2019). Analisis Pengaruh Perdagangan Internasional Terhadap Pertumbuhan Ekonomi Indonesia. *Jurnal Riset Bisnis dan Manajemen, Volume IX No. 1*, 17-26.

Puri, N. Y., & Amaliah, I. (2021). Pengaruh Inflasi, Suku Bunga, PDB, Nilai Tukar dan Krisis Ekonomi terhadap Neraca Perdagangan Indonesia Periode 1995-2017. *Volume 1, No. 1*, 9-19.

Putri, N. H., & Arka, S. (2017). Analisis Pengaruh PDB dan Kurs Dollar Amerika Terhadap Neraca Perdagangan Melalui Foreign Direct Investment Di Indonesia Tahun 1996-2015. *E-Journal Ekonomi Pembangunan, Vol. 6 , No. 9*, 1802-1835.

Rompas, W. F. (2018). Analisis Pengaruh Tingkat Suku Bunga Dan Nilai Tukar Terhadap Permintaan Kredit Pada Perbankan Di Kota Manado. *Jurnal Berkala Ilmiah Efisiensi, Volume 18 No. 02*, 204-215.

Sapridawati, Y., Indrawati, N., Sofyan, A., & Zirman. (2021). Pengaruh Inflasi Dan Nilai Tukar Rupiah Terhadap Penerimaan Pajak Pertambahan Nilai. *Jurnal Ekonomi, Vol. 2, No. 1*, 1-21.

Satya, V. E. (2014). Pelaksanaan Transparansi Fiskal Pemerintah Tahun 2013. *Vol. 19 No. 2*, 145-166.

Sukirno, S. (2020). *Makroekonomi : Teori Pengantar.* Depok: Rajawali Pers.

Thirafi, L. (2020). Dua Dekade Terakhir Neraca Perdagangan Indonesia. *Jurnal Ekonomi & Pendidikan*, 70-82.

Upadiyanti, M. Y., Bagiada, K., & Parameswara, A. G. (2018). Pengaruh Inflasi dan BI Rate Terhadap Volume Simpanan Masyarakat pada Bank Umum Pemerintah di Indonesia Periode 2013-2017. *Warmadewa Economic Development Journal, Volume 1, Nomor 2*, 59-67