THE IMPACT OF WORLD OIL PRICE FLUCTUATIONS AND EXCHANGE RATES ON THE CURRENT ACCOUNT BALANCE IN INDONESIA

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Abstract

The position of the Current Account Balance is very important to maintain, because for a country the current account balance describes the situation or state of the economy in a country so it is important to pay attention to its development . This study was conducted to determine the impact of fluctuations in world oil prices and the rupiah exchange rate simultaneously and partially on the current account balance in Indonesia. This study is a quantitative study using the *Ordinary Least Square* (OLS) method. The results of the study indicate that simultaneously fluctuations in world oil prices and the rupiah exchange rate have a significant effect on the current account balance. Partially, the world oil price variable has an effect on the current account balance. Partially, the rupiah exchange rate variable has an effect on the current account balance. The current account balance variable can be explained by the world oil price variable and the rupiah exchange rate by 47.72% and the remaining 52.28% is explained by other variables that are not included in the equation model of this study.

Keywords: Current Account Balance, World Oil Prices and Exchange Rates

INTRODUCTION

Current account is very important for a country because the current account describes the situation or state of the economy in a country. In addition, the deficit in the current account balance can cause a crisis in the country concerned, therefore it is very important for economists to pay attention to the development of the current account and the factors that influence it.

Several macroeconomic crises in developing countries in recent years have once again emphasized the need for a clear understanding of the temporary and structural factors underlying a country's current account position. This is also the case with Indonesia. The current account balance is a component of the balance of payments that records the trade balance, the balance of services, income from investment and unilateral transactions.
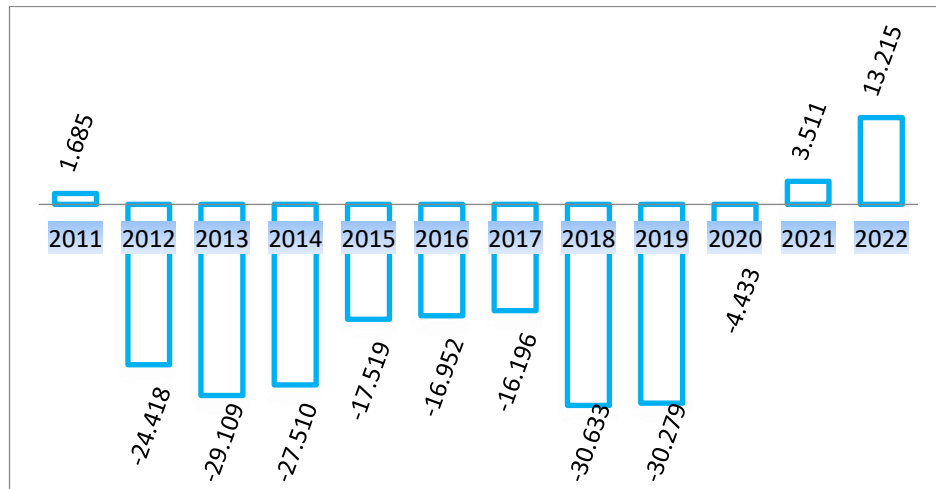
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Figure 1. Indonesia's Current Account Balance 2011-202 2 (USD Million)
Source: Bank Indonesia, 2025

Based on the image above, the development of the current account balance in Indonesia has fluctuated. In 2011 the current account balance experienced a surplus, from 2012 to 2020 it experienced a fairly high deficit. In 2021-2022 the current account balance experienced a surplus again. The deficit that occurred in 2012-2020 was due to a decrease in the surplus of the goods trade balance and an increase in the deficit in the services balance. This condition stems from an increase in imports, accompanied by a strengthening need for investment and production activities that exceed the increase in exports. In 2020 the current account balance increased compared to previous years. If this happens like this, it is feared in global developments, especially those that can pose a risk to the performance of the balance of payments as a whole, including the normalization of monetary policy in several developed countries, fluctuations in world oil prices and fluctuations in exchange rates (Astuty, 2019)
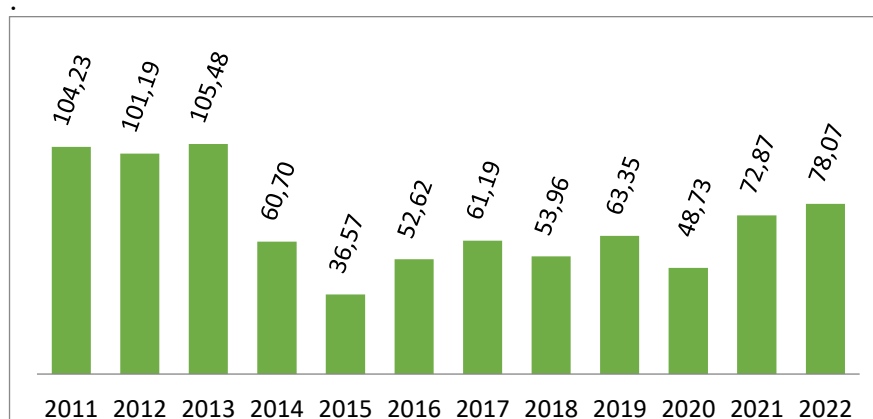

Figure 1 2011-2022 **(USD/Barrel)**
Source: Mundi Index, 2025

Based on the table above, world crude oil prices have fluctuated since 2011-2022. During the last twelve years, the highest world crude oil price was in 2013, which was 105.48 USD/Barrel, entering 2014 the oil price was below 100

USD/Barrel and the lowest oil price was in 2015 at 36.57 USD/Barrel and in 2021 and 2022 it began to show an increase again of 72.87 USD/Barrel and 78.07 USD/Barrel respectively. Price is an important thing in an economic activity, which has the meaning of an amount of money or goods and services exchanged by buyers for goods and services offered by sellers (Swastha, 2008:66). It is illustrated that the price of oil on the international market is higher than the price of oil on the domestic market, so the country tends to export. In accordance with the law of supply, if the price rises, the amount of goods offered will increase with the hope of improving the current account balance.
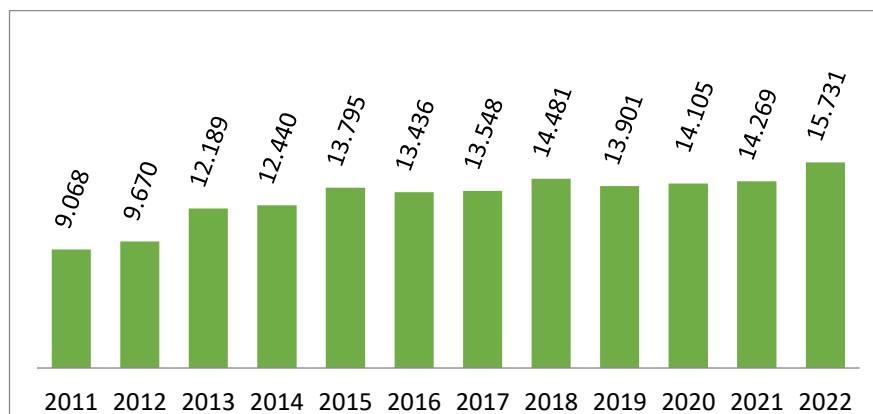

Figure 2 Exchange **Rate Against Dollar 2011-202 2**
Source: Bank Indonesia, 2025

Based on the table above, the rupiah exchange rate against the dollar from 2011 to 2022 continues to depreciate. Although in several years there has been appreciation, it is not significant, the highest appreciation in 2019 to IDR 500 to IDR 13,901 / USD, while it depreciated again until 2022 reaching IDR 15,731 / USD. The depreciation of the rupiah exchange rate against the dollar since 2012-2020 was followed by a deficit in the current account balance. Exchange rate fluctuations play a very important role in stabilizing the macro economy of a country. If the currency depreciates, commodity prices will become cheaper and become competitive in the world market and are expected to increase exports in the future. Vice versa (Wijaya, 2019). If exports increase, there will be an impact on the current account balance or often called the balance of trade of a country (Halwani, 2005: 159).

Previous research on the current account balance has been conducted by Bondan Noviantoro; Emilia and Yohanes Vyn Amzar (2017) studied "The effect of CPO prices, world crude oil prices, world rubber prices and exchange rates on Indonesia's current account deficit". and Ina Namora Putri Siregar and Fuji Astuty (2019) studied "The Effect of Exchange Rates and Gross Domestic Product on the Current Account Balance Through the *Error Correction Model* (ECM) Approach". The two previous researchers have differences with the research to be conducted, namely in the data studied and the research methods used by Ina Namora Putri Siregar and Fuji Astuty.

Based on the background explanation above, the reason the researcher conducted the research using the current account balance variable as the dependent variable is because the researcher saw the performance of Indonesia's current account balance which experienced a deficit during 2012-2020, so the researcher was interested in conducting research with the title "The Effect of World Oil Prices and Exchange Rates on the Current Account Balance in Indonesia".

METHOD

The data approach and method used by the author in the study is quantitative data and the method chosen is *Ordinary Least Squares* (OLS) with the aim of finding out whether the independent variables influence the dependent variables simultaneously or partially (Widarjono, 2013:256). The determination of the sample in this study was by collecting data from the last 12 years, namely those observed during 2011–2022 .

In the regression model estimation method using panel data, the research estimation model can be carried out as follows:

$$Y = a + b_1 X_1 + b_2 X_2 + e$$

Information:

Y = Current Account Balance

a = Intercept (Constant)

X_1 = World Oil Prices

X_2 = Exchange Rate

$\beta_{1,2}$ = Regression coefficient of independent variables

e = Disturbance variable or *Error Term*

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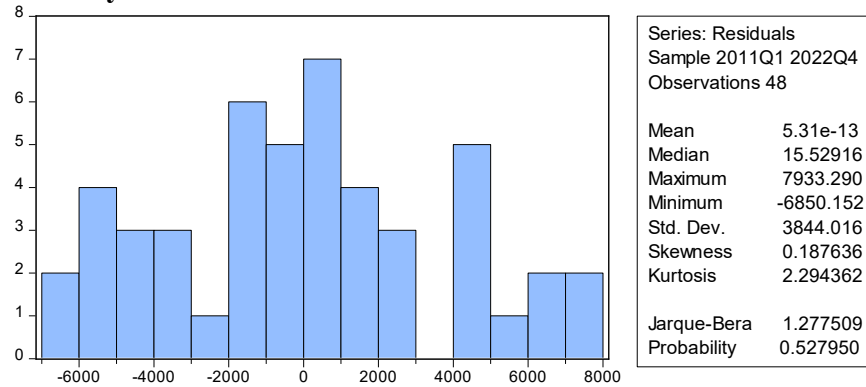## RESULTS AND DISCUSSION
Test Normality

Figure 1 Results Test Normality
Source : Data Processed Eviews (2025)

Based on Figure 4.1, it is known that *the Jarque-Bera prob. value* as big as $0.527960 > a = 0.05$. The results of the study indicate that the data in model study it is normally distributed or passed the normality test.

Test Multicollinearity

Table 1 Results Test Multicollinearity

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	38272292	119.0337	NA
X1	826.1216	15.84754	1.697613
X2	0.126511	66.69876	1.697613

Source: Data Processed Eviews (2025)

Based on table 4.1 known that mark *Centered The VIF* of each independent variable, world oil prices (X1) and the rupiah exchange rate (X3), is 1.697613 < 10. Because the *Centered value VIF* of each variable free more small from 10 so can it is said No there are symptoms of multicollinearity in each independent variable.

Test Heteroscedasticity
Table 2 Results Heteroscedasticity

Heteroskedasticity Test: Breusch-Pagan-Godfrey		
F-statistic	3.364097 Prob. F(2,45)	0.0635
Obs*R-squared	3.243275 Chi-Square Prob.(2)	0.1441
Scaled explained SS	3.551246 Chi-Square Prob.(2)	0.1694

Source: Processed Data Eviews (2025)

Based on the table above, it is known that *the Chi-Square probability value* on *Obs*Rsquare* as big as 0.1441 on α as big as 0.05, results test the show mark *prob.Chi-Square* on *Obs*R-square* is 0.1441 > α = 0.05This means that there is no heteroscedasticity problem in this study .

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Test Autocorrelation

Table 4. 3 Results test Autocorrelation

Breusch-Godfrey Serial Correlation LM Test:		
F-statistic	2.459914 Prob. F(2,43)	0.2251
Obs*R-squared	2.482030 Chi-Square Prob.(2)	0.7762

Source: Data Processed Eviews (2025)

Based on the table above, the results of the autocorrelation test with the Breusch-Godfrey test show that the Chi-Square probability value obtained is 0.7762 > a (0.05). So it can be concluded that there is no autocorrelation in this study or it is free from autocorrelation problems.

***Ordinary Least Square* Analysis**

Table 4 *Ordinary Least Square* Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-16578.30	6186.460	-2.679771	0.0103
X1	49.36424	28.74233	3.717475	0.0093
X2	0.715271	0.355684	3.010972	0.0103

Source: Eviews Data Processing Results (2025)

Y= -16578.30 + 49.36424 (X_1) + 0.715271 (X_2)

Based on the regression equation above, the influence of each independent variable on the dependent variable can be explained as follows:

a. This study has a constant value of -16578.30 stating that if the world oil price ($X1_)$ and the rupiah exchange rate ($X3_)$ do not change or are equal to 0, then the value of the current account balance variable (Y) will be -16578.30.

b. The regression coefficient of world oil prices ($X1_)$ is 49.36424, meaning that if world oil prices increase by one unit and other variables are held constant, the current account balance will increase by 49.36424.

c. The regression coefficient of the rupiah exchange rate (X_2) is 0.715271 This means that if the rupiah exchange rate increases by one unit and other variables are held constant, the current account balance will increase by 0.715271.

Testing Hypothesis
Results F test (Simultaneous)

Table 4.6 5Test Results (F-Test)

R-squared	0.482475
Adjusted R-squared	0.477252
SE of regression	3928.510
Sum squared residual	6.94E+08
Log likelihood	-463.8089
F-statistic	4.177749
Prob(F-statistic)	0.005093

Source: Eviews Processed Data (2025)

Results from F-Test In this study, it can be seen in the table above where the $F_{count\ is}$ = 4.177749 while mark F_{table} = 3.20 (level significance α = 0.05). This means that H1 $_{is}$ accepted because F_{count} > F_{table} and the significance value is 0.005093 which is smaller than a = 0.05. This means that the world oil price variable and the rupiah exchange rate together affect the current account balance.

Results t-test (Partial)

Table 4.7 6Test Results (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-16578.30	6186.460	-2.679771	0.0103
X1	49.36424	28.74233	3.717475	0.0093
X2	0.715271	0.355684	3.010972	0.0103

Source: Eviews Processed Data (2025)

1. Variables World Oil Prices

The result of t_{count} namely (3.717475) > t_{table} (1.67866) and the partial t- *prob value* of the world oil price variable is 0.0093 < 0.05, this means that $_{H2}$ accepted because *prob* of *t-statistic* < α which means there is a positive and significant influence world oil prices against current account balance.

2. Rupiah Exchange Rate Variable

The result of the t_{count} is (3.010972) > t_{table} (1.67866) and the partial t- *prob value* of the rupiah exchange rate variable is 0.0103 < 0.05, this means that H2 $_{is}$ accepted because *the probability* of *the t-statistic* < α, which means that there is a positive and significant influence of the rupiah exchange rate on the current account balance.

Results Coefficient Determination

Table 4.8 7of the Determination Coefficient (R^2)

R-squared	0.482475
Adjusted R-squared	0.477252
SE of regression	3928.510
Sum squared residual	6.94E+08
Log likelihood	-463.8089
F-statistic	4.177749
Prob(F-statistic)	0.005093

Source: Data Processed Eviews (2025)

Based on the table above, it is known that the value of the coefficient of determination (R^2) model Multiple linear regression is seen in the *Adjusted R-squared value* of 0.4772. This means that all the independent variables in the research model are able to explain its influence on the dependent variable is 47.72%, and the remaining 52.28% is explained variable other Which No enter in equation model this research.

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Discussion
The Impact of World Oil Prices and the Rupiah Exchange Rate on the Current Account Balance

Based on the results of simultaneous testing, world oil prices and the rupiah exchange rate have a significant influence on the current account balance, as evidenced by the $_{calculated}$ F value. (4,177749) > F $_{table}$ (3.20) with sig 0.005093 < 0.05. This means that there is an influence between the world oil price variables and the rupiah exchange rate together or simultaneously on the current account balance, so H1 $_{is}$ accepted and H0 $_{is}$ rejected. Based on the results of the determination coefficient (R2 $^{)}$ seen in the *Adjusted R-squared value* , independent variables in the research model are able to explain their influence on the dependent variable by 47.72%, and the remaining 52.28% is explained by other variables that are not included in the equation model of this study. The results of this study are in line with research conducted by Bondan Noviantoro; Emilia and Yohanes Vyn Amzar (2017) and research by Komang Mas Aditha Cahyanata and Made Suyana Utama (2023) which states that world oil prices and the rupiah exchange rate have a simultaneous influence on the current account balance.

The Impact of World Oil Prices on the Current Account Balance

Based on partial testing, the world oil price variable has a $_{calculated\ t\ value}$ (3.717475) > t $_{table}$ (1.67866) and the *prob value of* 0.0093 < 0.05. The coefficient value of the world oil price variable shows a positive effect on the current account balance. This means that if the world oil price increases by one unit, it will cause the current account balance to increase by one unit assuming other independent variables are considered constant. This means that the world oil price variable has a positive and significant effect on the current account balance. then this means that H2 $_{is}$ accepted and H0 $_{is}$ rejected.

The results of this study are in accordance with the theory that states that if the price increases, the amount of goods offered will increase in the hope of increasing the current account balance. Because international oil prices are higher than domestic prices, the supply of oil abroad will increase, so that world oil prices have an influence on the current account balance in Indonesia (Swastha, 2008:66).

The results of this study are in line with research conducted by Bondan Noviantoro; Emilia and Yohanes Vyn Amzar (2017) and research by Komang Mas Aditha Cahyanata and Made Suyana Utama (2023) which stated that world oil prices have a significant effect on the current account balance.

The Impact of the Rupiah Exchange Rate on the Current Account Balance

Based on partial testing, the rupiah exchange rate variable has a $_{calculated\ t\ value}$ (3.010972) > t $_{table}$ (1.67866) and the *prob value* of 0.0103 < 0.05. The coefficient value of the rupiah exchange rate variable shows a positive effect on the current account balance. This means that if the rupiah exchange rate increases by one unit, it will cause the current account balance to increase by one unit assuming other independent variables are considered constant. This means that the rupiah exchange rate variable has a positive and significant effect on the current account balance. then this means that H2 $_{is}$ accepted and H0 $_{is}$ rejected.

The results of this study are in accordance with the theory that if the currency

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depreciates, the price of commodities will be cheaper and become competitive in the world market and is expected to increase exports in the future (Nopirin, 2009:165). And vice versa. If exports increase, there will be an impact on the current account balance. So when the domestic exchange rate depreciates, it will increase the current account balance.

. The results of this study are in line with research conducted by Ina Namora Putri Siregar and Fuji Astuty (2019) and research by Erric Wijaya (2019) which states that the rupiah exchange rate has a positive and significant effect on the current account balance.

CONCLUSION

The position of the Current Account Balance is very important to maintain, because for a country the current account balance describes the situation or state of the economy in a country so it is important to pay attention to its development. Because international oil prices are higher than domestic prices, the supply of oil abroad will increase, so that world oil prices have an influence on the current account balance in Indonesia. If the currency depreciates, commodity prices will be cheaper and become competitive in the world market and are expected to increase exports in the future.

The policy implications of these results emphasize the importance of maintaining the stability of the current account balance by maintaining the stability of the rupiah exchange rate by suppressing demand for foreign currency so that. Currency depreciation should not be continuously seen as a negative thing, therefore if the currency depreciates the government collaborates with exporters and producers to be more productive supported by government assistance such as subsidies and technological machine assistance. The government needs to increase the production of export goods, especially world oil, so that when prices rise exports can be increased.

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