



## Exchange Rate and Covid-19 Pandemic: The Empirical Evidence from Indonesia

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### Abstract

This study aims to analyze the influence of various internal and external factors on the movement of the IDR exchange rate. These factors include the Covid-19 pandemic, inflation, interest rates, the money supply and world oil prices. The method used in this study uses Autoregressive Distributed Lag (ARDL) analysis using time series data. The results of this study indicate that the Covid-19 pandemic has a positive effect on the IDR/USD exchange rate in the short and long term. Inflation and interest rates have no effect on the IDR/USD exchange rate in the short or long term. The money supply has an effect in the short term in the current period, one previous period (t-1) and three previous periods (t-3). The influence of the money supply is two-way (positive and negative), while in the long term the money supply has no effect on the IDR exchange rate. World oil prices have a positive effect in the short term in the two previous periods (t-2) and the previous four periods (t-4), as well as in the long term.

**Keywords:** IDR, Exchange Rate, USD, Covid-19, ARDL

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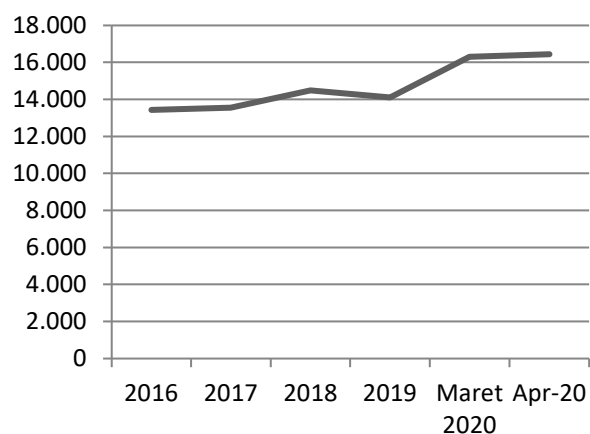
### INTRODUCTION

Developments that occur in this economic system led to international trade. Developed countries as well as developing countries often depend their economy on international trade activities. The main motive in conducting international trade is to make a profit.

According to Salvatore (2014) The advantage in this international trade activity is that if a country sells goods and services to another country, then these two countries will both have the advantage.

The use of the same currency unit is indispensable in international trade in order to

facilitate economic transactions between countries. The USD is the currency that is often used in international payments. Puspitaningrum (2014) stated that the United States is a fairly dominant trading partner, so that if there is an instability of the IDR against the USD, it will cause national economic shocks because trade is valued using USDs.



**Figure 1.** Movement of the IDR/USD Exchange Rate

Source: Badan Pusat Statistik, 2022

The exchange rate (exchange rate) is one of the macroeconomic indicators that is sensitive to external economic fluctuations as well as internal economic fluctuations. The more stable the currency exchange rate of a country, the stronger the country's economic fundamentals are in good condition.

Meanwhile, the higher the fluctuation, the greater the movement of the currency exchange rate, namely the appreciation or depreciation. Extreme fluctuations can cause imbalances both in terms of macroeconomics and microeconomics. Changes that occur in the IDR exchange rate are caused by several factors. Factors that affect changes in exchange rates include the economic condition of a country.

These economic conditions include inflation, interest rates, and the money supply or commonly referred to as fundamental factors. Other factors that also influence the movement of exchange rates are external factors or world conditions that have an impact on exchange rate stability. These external factors include the Covid-19 pandemic and world oil prices.

Figure 1. describes the movement of the IDR exchange rate which tends to weaken. The highest weakening of the IDR exchange rate occurred in 2020, the IDR exchange rate depreciated to IDR 16,824.00 on April 2, 2020. This depreciation was due to the pessimistic attitude of economic actors towards the Indonesian economy, especially regarding policies in handling Covid-19.

One of the macroeconomic indicators that is sensitive to external factors is the currency exchange rate. The uncontrolled increase in the number of Covid-19 sufferers caused panic in various circles of society, this panic affected the slowing of the country's economy and triggered an economic crisis. When there is an economic crisis, investment actors (investors) flock to protect their assets from risk.

One of the assets that tends to be safe during a crisis is foreign exchange. According to Setiyono (2020) During the economic crisis, global investors invest their funds in USDs which can trigger an increase in demand for USDs and cause the IDR exchange rate to depreciate.

Uncertainty and public panic due to the impact of Covid-19 is felt by various countries in the world, including Indonesia. Uncertainty due to the Covid-19 pandemic triggered the implementation of various policies that resulted in the weakening of the economic sector. The weakening of the economic sector is reflected in

the inflation rate which tends to decline. Conditions of demand for goods and services have weakened following the social distancing policy. The government has also made an appeal to work from home.

Setiyono (2020) stated that the implementation of PSBB and WFH had an impact on decreasing purchasing power, decreasing demand, decreasing production, income, and increasing production costs. Changes in the inflation rate in a country can affect the demand and supply of a currency so that it has an impact on exchange rate stability.

The macroeconomic indicator that also influences the IDR exchange rate is the interest rate. BI Rate is the policy interest rate that reflects the monetary policy stance or stance set by Bank Indonesia. During the Covid-19 outbreak, Bank Indonesia decided to lower interest rates BI 7-Day Reverse Repo Rate (BI7DRR). The decision was taken as one of the efforts to restore the national economy.

The macroeconomic indicator that also plays a role in the stability of the IDR exchange rate against the USD is the money supply or also known as the money supply. The definition of the money supply in the narrow sense is  $M_1$  and in the broad sense is  $M_2$ . According to Kiay Demak et al (2018)  $M_1$  includes currency and demand deposits, while  $M_2$  includes  $M_1$ , quasi money (savings, time deposits, demand deposits) and securities issued by the monetary authority owned by the domestic private sector.

The money supply plays an important role in the economy. The excess money supply can result in pressure on the domestic currency exchange rate. Oil is one of the energy that is needed for human life. This is because the processed products of crude oil are a source of energy for human life.

Chen & Chen (2007) stated that changes in world oil prices proved to be able to explain currency movements or exchange rates, especially when measured using the USD. During the Covid-19 outbreak in various countries, world oil price movements experienced a decline, both WTI (West Texas Intermediate) and Brent oil.

Brent crude oil is one of the crude oils in international trade which is often used as a benchmark for oil prices throughout the world, including Indonesia. The unit of measurement for crude oil used in trading is the Barrel and the currency used is the USD. Thus, if the world oil price increases, the currency of the oil-exporting country will appreciate and the currency of the oil-importing country will depreciate.

## RESEARCH METHODS

The approach used in this research is a quantitative approach. In this approach, the data are numerical and processed using statistical methods. Through quantitative methods, it can be obtained the significance of the relationship between the variables studied. The data used is secondary data obtained from existing sources. The resources in this study came from Ministry of Trade, Ministry of Health RI, Bank Indonesia, Central Statistics Agency and investing.com. The data taken are data on the exchange rate of the IDR against the dollar, data on the Covid-19 pandemic, inflation data, interest rate data (BI7DRR), data on the money supply and data on world oil prices of the Brent type.

The method of collecting data in this research is through literature studies and publications from various sources, namely through the websites of the relevant agencies. Literature studies are needed to strengthen this research through various references to journals,

books, theories, and previous studies. Meanwhile, publications from relevant agencies are used to prove scientific truth through actual data from various websites.

The data processing technique used by researchers to test the hypotheses that have been formulated is to use the method Autoregressive Distributed Lag (ARDL). According to Gujarati & Porter (2013) ARDL model is a time series data regression model that uses current or present data and the past time (lag) of explanatory variables. In economic events, the dependence of variable Y on variable X requires an interval of time, this time interval is called lag (Gujarati & Porter, 2013). The ARDL method can also be used to estimate the effect in the short and long term.

This study aims to determine how the effects of the Covid-19 pandemic (X1), inflation (X2), interest rates (X3), money supply (X4) and the price of Brent oil (X5) on the movement of the IDR exchange rate. The ARDL model in this study can be expressed in the following equation:

$$\Delta Y_t = \alpha_0 \sum_{i=1}^n \alpha_{1i} \Delta Y_{t-1} + \sum_{i=1}^n \alpha_{2i} \Delta COV_{t-1} + \sum_{i=1}^n \alpha_{3i} \Delta INF_{t-1} + \sum_{i=1}^n \alpha_{4i} \Delta BI7DRR_{t-1} + \sum_{i=1}^n \alpha_{5i} \Delta JUB_{t-1} + \sum_{i=1}^n \alpha_{6i} \Delta BRENT_{t-1} + \theta_1 Y_{t-1} + \theta_2 COV_{t-1} + \theta_3 INF_{t-1} + \theta_4 BI7DRR_{t-1} + \theta_5 JUB_{t-1} + \theta_6 BRENT_{t-1} + e_t$$

Where  $\Delta$  is Inaction (lag), Coefficient  $\alpha_1 - \alpha_6$  is Dynamic relationship model in the short term, Coefficient  $\theta_1 - \theta_6$  is Long-term dynamic relationship model, Y is Exchange rate, Cov is Covid-19 pandemic, Inf is Inflation, BI7DRR is Interest rate, JUB is Money supply and Brent is World oil price.

## RESULTS AND DISCUSSION

The initial step that needs to be done before estimating the time series model is to

perform a unit root test or stationarity test. In the ARDL method, all variables must be stationary at the level or the first difference cannot be stationary at the second difference level.

**Table 1.** Unit Root Test Results

Variable	Stationarity Test		Information
	Rate Level	1st Difference	
Prob. Exchange rate IDR	0.0334	-	Stasioner
Prob. Covid-19	0.8280	0.0000	Stasioner
Prob. Inflation	0.7708	0.0000	Stasioner
Prob. Interest rate	0.8054	0.0006	Stasioner
Prob. Money supply	1.0000	0.0000	Stasioner
Prob. World oil price	0.4324	0.0000	Stasioner

Source: Data Processing Results Eviews 9, 2022

Based on the results of data processing in the stationary test, only the IDR exchange rate variable is stationary at the level level, while the Covid-19 variables, inflation, interest rates, money supply and world oil prices are stationary at the first difference level. The next stage is to conduct a cointegration test to see whether there is a long-term relationship. The cointegration test used is Bound Testing. Cointegration test shows the F-statistic value of 8.457496. The F-statistic value is greater than the upper bound value of the 5% significance level, which is 3.79.

This shows that all variables have cointegration in the long run. If the F-statistic value is greater than the upper bound value,

then there is cointegration in the variables used. The next stage is to perform a stability test to see whether the model is in a stable condition or not. The stability test used is the CUSUM test and the CUSUM Q. Figure 2 shows that the Cusum and Cusum Q tests are between two 5% significance lines, which means that the model used in this study is in a stable condition. The results of model testing using the Akaike Information Criteria method which produces an ARDL model with a lag (2,0,1,1,3,4).

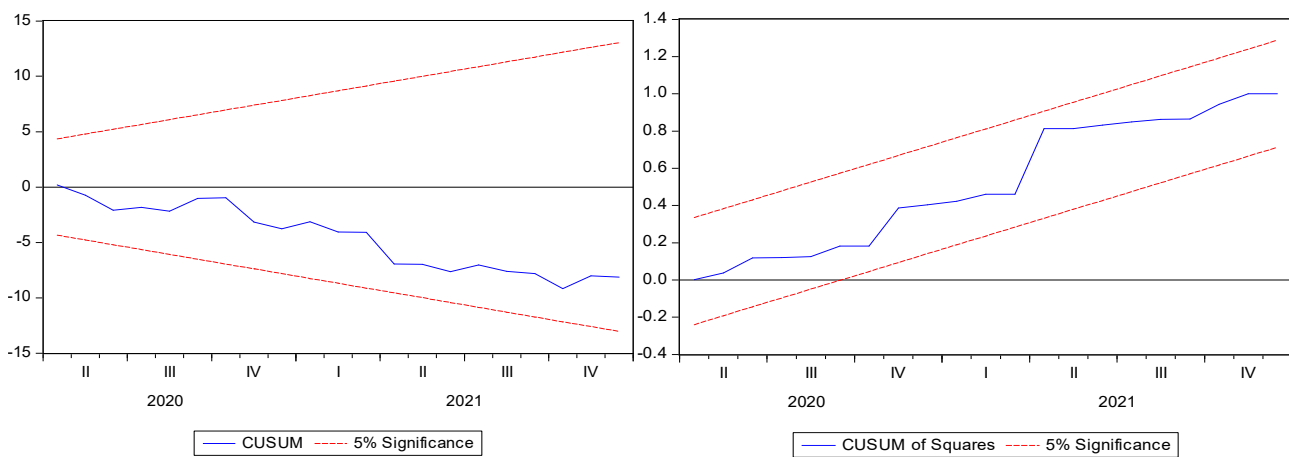
**Table 2.** Cointegration Test

Test Statistic	Value	K
F-statistic	8.457496	5

Critical Value Bonds		
Significance	Io Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Data Processing Results Eviews 9, 2022



**Figure 2.** Cusum Test and Q Cusum Test

Source: Data processing Results Eviews 9, 2022

Based on the table 3, it can be seen that the Covid-19 pandemic variable (Dummy) has a positive effect on the IDR/USD exchange rate in the short term with a coefficient value of 2033,616. This shows that the nominal increase in the nominal value of the IDR against the USD is 2033,616 IDRs higher than before the outbreak of the Covid-19 pandemic in Indonesia.

The inflation variable has no effect on the movement of the IDR/USD exchange rate in the short term. There is no significant inflation variable in all periods (lag). The interest rate variable (BI7DRR) has no effect on the movement of the IDR/USD exchange rate in the

short term. There is no significant interest rate variable (BI7DRR) in all periods (lag). The money supply variable has an influence on the movement of the IDR/USD exchange rate currently, one previous period (t-1) and three previous periods (t-3).

The relationship between the influence of the money supply variable is positive and negative (two-way). In the current period the money supply has a positive effect with a coefficient of 0.001053, then when the money supply increases by 1 billion, it results in an increase in the IDR exchange rate against the dollar by 0.001053 IDR.

The increase in the exchange rate in question is an increase in the nominal amount of the exchange rate so that the increase results in the depreciation of the IDR. In the previous period (t-1) the money supply had a negative effect with a coefficient value of -0.001211, so when the money supply increased by 1 billion IDR, it resulted in a decrease in the IDR exchange rate against the dollar by 0.001211 IDR.

In the previous three periods (t-3) the money supply has a negative effect with a coefficient of -0.001210, so when the money supply increases by 1 billion IDR, it results in a

decrease in the IDR exchange rate against the dollar by 0.001210 IDR. The decline in the exchange rate in question is a decrease in the nominal amount of the exchange rate so that the decrease results in an appreciation of the IDR.

The Brent oil price variable has a positive influence on the movement of the IDR/dollar exchange rate in the two previous periods (t-2) and the four previous periods (t-4). In the two previous periods (t-2) Brent had a coefficient of 15,38553, an increase in the price of Brent oil by 1 barrel caused an increase in the IDR exchange rate against the dollar by 15,38553 IDR.

**Table 3.** ARDL Output Output Estimation Results

Variable	Coefficient	t-Statistic	Prob.*
D(KURS(-1))	-0.209064	-1.835715	0.0742
D(KURS(-2))	-0.170640	-1.590109	0.1201
D(COV)	2033.616	5.242602	0.0000
D(INF)	-127.0352	-0.725373	0.4727
D(INF(-1))	-280.2249	-1.681666	0.1008
D(BI7DRR)	-79.46910	-0.334240	0.7400
D(BI7DRR(-1))	270.3541	1.207085	0.2349
D(JUB)	0.001053	2.234664	0.0314
D(JUB(-1))	-0.001211	-2.606319	0.0130
D(JUB(-2))	-0.000695	-1.328728	0.1919
D(JUB(-3))	-0.001210	-2.522393	0.0160
D(BRENT)	-3.973259	-0.618972	0.5396
D(BRENT(-1))	2.666933	0.429208	0.6702
D(BRENT(-2))	15.38553	2.205128	0.0336
D(BRENT(-3))	2.584509	0.426322	0.6723
D(BRENT(-4))	18.03277	2.873538	0.0066
C	45.15446	0.782046	0.4390
R-Square	0.808936		
F-Statistic	10.05542		
Prob (F-Statistic)	0.000000		
Durbin-Watson stat	2.182919		

Source: Data Processing Results Eviews 9, 2022

In the previous four periods (t-4) Brent had a coefficient of 18,03277, an increase in the world price of Brent oil by 1 barrel caused an increase in the IDR exchange rate against the dollar by 18,03277 IDR. The increase in the exchange rate in question is an increase in the nominal amount of the exchange rate so that the increase causes the depreciation of the IDR.

Based on the results of the Bound Test, this study shows the existence of cointegration in the long term, so that long-term estimates can

be made with the results that can be seen on table 4. Based on the Autoregressive Distributed Lag (ARDL) model, it can be seen that the CointEq coefficient value is -1.379705 with a t-statistic of -9.032970 with a probability value of 0.0000 below alpha 0.05, so the model in this study has short-term cointegration. A CointEq value of -1.379705 with a probability of 0.0000 and a negative value indicates the model is heading towards equilibrium at a rate of 1.37 percent per month.

**Table 4.** Results of Long-Term Estimates

Variable	Coefficient	t-Statistic	Prob
CointEq(-1)	-1.379705	-9.032970	0.0000
Cointeq = D(KURS) - (1473.1473.9502*D(COV) -295.1792*D(INF) + 138.3521 *D(BI7DRR) - 0.0015*D(JUB) + 25.1478*D(BRENT) + 32.7276)			
Long Run Coefficients			
Variable	Coefficient	t-Statistic	Prob
D(COV)	1473.950194	4.647524	0.0000
D(INF)	-295.179214	-1.689402	0.0993
D(BI7DRR)	138.352050	0.825245	0.4144
D(JUB)	-0.001494	-1.989704	0.0539
D(BRENT)	25.147765	2.476935	0.0178
C	32.727627	0.784842	0.4374

Source: Data Processing Results Eviews 9, 2022

The Covid-19 pandemic variable (Dummy) has a positive effect on the long-term IDR/USD exchange rate with a coefficient value of 1473.950194. This shows that the nominal value of the exchange rate is significantly higher at 1473,950194 IDRs compared to before the Covid-19 pandemic in Indonesia. Inflation variable in the long term has no effect on the IDR/dollar exchange rate.

The variable interest rate (BI7DRR) in the long term has no effect on the IDR/dollar exchange rate. The variable of the money supply in the long run has no effect on the IDR/dollar

exchange rate. The variable world oil price (Brent) in the long term has a positive effect on the IDR/USD exchange rate with a coefficient value of 25.147765 and a prob value. 0.0178 is smaller than alpha 0.05.

The increase in the change in the price of world oil Brent by 1 barrel caused an increase in the IDR exchange rate against the dollar by 25.147765 IDR. The increase in the exchange rate in question is the addition of the nominal amount of the exchange rate so that the increase results in the depreciation of the IDR exchange rate. Based on the results of data testing using

the ARDL (Autoregressive Distributed Lag) model to determine the determinants of the IDR exchange rate with the Covid-19 pandemic variables, inflation, interest rates, money supply and world oil prices, the coefficient of determination or  $R^2$  value is 0.808936.

These results show that the Covid-19 pandemic variables, inflation, interest rates, money supply and world oil prices have an influence or are able to explain the movement of the IDR exchange rate by 80.89% while the rest is explained by other variables outside the research variables. The variable that has a dominant influence on the movement of the IDR exchange rate is the Covid-19 pandemic, this is indicated by the coefficient value and the largest std.error compared to other variables.

The model estimate in the short term explains that the Covid-19 (Dummy) variable has a positive effect on the IDR/USD exchange rate with a coefficient value of 2033,616. This means that the nominal increase in the nominal value of the IDR against the USD is 2033,616 IDRs higher than before the Covid-19 outbreak in Indonesia. While in the long term the Covid-19 variable (Dummy) also has a positive effect on the IDR/dollar exchange rate with a coefficient value of 1473.950194. This means that the nominal increase in the nominal value of the IDR against the USD is 1473,950194 compared to before the Covid-19 outbreak in Indonesia.

Previous research that is in accordance with the results of this study is research conducted by Haryanto (2020) which states that every 1% increase in Covid-19 cases results in an increase in the nominal exchange rate of the IDR against the USD or a depreciation of the IDR by 0.02%. The results of this study are also in line with research conducted by Setiyono (2020) which stated that the Covid-19 pandemic had a

significant effect on the depreciation of the IDR exchange rate.

The results of this study are also supported by the findings of Cardona-Arenas & Serna-Gómez (2020) which shows that positive cases of Covid-19 affect the depreciation of the Peso/USD exchange rate. The COVID-19 pandemic has raised concerns for financial market players in the face of global uncertainty. Investors prefer to invest in assets that are considered safe even though the profitability tends to be lower.

This research is also supported by the opinion of Madura & Fox (2011) which states that there are three factors that affect the exchange rate including fundamental factors, technical factors and market sentiment. Market sentiment is mostly caused by rumors or news that cause panic among the public. The outbreak of the Covid-19 pandemic is one of the news that has caused panic in the global community.

The results of this study are different from the research conducted by Banerjee et al.,(2020) by using the VAR model which resulted in the finding that the increase in Covid-19 cases had no significant effect on the Indian currency exchange rate. This is due to the lockdown policy in India which is quite effective in controlling the spread of Covid-19.

Short-term and long-term model estimates explain that inflation has no effect on the IDR/USD exchange rate. This is indicated by the short-term probability value of  $0.4727 > 5\%$  significance level. While in the long term the probability value is  $0.0993 > 5\%$  significance level. The results of this study are in accordance with research conducted by Dwidowati et al (2020) which states that inflation has no effect on the IDR exchange rate in Indonesia in the period 2006-2018. This research is also supported by research conducted by Hidayat &



Usman (2015) which states that the inflation rate has no significant effect on the exchange rate. Research conducted by Fauji (2016) also revealed that inflation has no significant effect on the IDR exchange rate.

These findings are different from the findings Puspitaningrum (2014) which shows that inflation has an influence on the IDR/dollar exchange rate for the 2003-2012 period, the higher the inflation rate in Indonesia results in the depreciation of the IDR against the USD. This research is also not in line with the research conducted Perwitasari (2016) which states that inflation has a significant negative effect on the IDR exchange rate.

Short-term and long-term model estimates explain that interest rates do not have a significant effect on the IDR/USD exchange rate. This is indicated by the short-term probability value of  $0.7400 > 5\%$  significance level. While in the long term the probability value is  $0.4144 > 5\%$  significance level. The results of this study are in accordance with the research Hidayat & Usman (2015) which states that interest rates have no effect on exchange rates.

This research is also supported by research conducted Hazizah et al (2017) which shows that the interest rate does not affect the movement of the IDR exchange rate, this is because the interest rates of the two countries during the period 2005-2013 experienced slight fluctuations so that even though the central bank made a policy of raising or lowering interest rates, the exchange rate did not necessarily respond to it immediately.

The results of this study are different from the research conducted by Perwitasari (2016) which states that if interest rates are high then people are interested in investing, so the demand for currency increases and the IDR

appreciates. This research is also not in accordance with research Fang et al (2021) which states that the China-US interest rate gap affects the RMB exchange rate.

Based on the results of research data processing, the money supply only has a significant effect on the IDR/USD exchange rate in the short term. The money supply in the short term has an effect on the current, one previous period (t-1) and three previous periods (t-3). In the current period, the money supply has a positive influence with a coefficient value of 0.001053, meaning that when the money supply increases by 1 billion IDR, it causes an increase in the IDR exchange rate against the USD by 0.001053 IDR.

The increase in the exchange rate in question is an increase in the nominal amount of the exchange rate so that the increase results in the depreciation of the IDR. In the previous period (t-1) the money supply had a negative effect with a coefficient value of -0.001211, meaning that when the money supply increased by 1 billion IDR, it resulted in a decrease in the IDR exchange rate against the dollar by 0.001211 IDR.

In the previous three periods (t-3) the money supply has a negative effect with a coefficient value of -0.001210, meaning that when the money supply increases by 1 billion IDR, it causes a decrease in the IDR exchange rate against the dollar by 0.001210 IDR. The decline in the exchange rate in question is a decrease in the nominal amount of the exchange rate so that the decline results in the appreciation of the IDR. Meanwhile, in the long term, the probability value is  $0.0539 > 5\%$  significance level.

The positive relationship between the money supply and the IDR/USD exchange rate is

explained by research conducted by Kiay Demak et al (2018) which states that the money supply has a significant positive effect on the IDR/USD exchange rate. The results of this study are also in line with research conducted by Yuliyanti (2014) which says that the money supply in a broad sense between Indonesia and the United States has a positive influence on changes in the IDR/USD exchange rate.

The positive relationship between the money supply and the IDR/USD exchange rate is also supported by the monetary approach of the foreign exchange rate theory which states that the coefficient of the money supply has a positive influence on exchange rate movements. So, if the money supply increases, the IDR will depreciate.

The negative relationship between the money supply and the movement of the IDR/USD exchange rate is a decrease in the value of the IDR against the dollar which causes the IDR to appreciate. The negative relationship between the money supply and the IDR/USD exchange rate is explained by research conducted by Triyono (2008) which states that a decrease in the money supply variable affects the increase in the IDR exchange rate (depreciation) or in other words an increase in the money supply can cause the IDR to appreciate.

Based on the results of research data processing, world oil prices (Brent) have a positive influence on the exchange rate of the IDR/USD both in the short and long term. In the short term, the variable world oil price (Brent) has an influence on the two previous periods (t-2) and the previous four periods (t-4). In the previous two periods (t-2) Brent had a positive influence with a coefficient value of 15.38553, meaning that an increase in the world price of Brent oil by 1 barrel caused an increase in the

IDR exchange rate against the dollar by 15.38553 IDR.

In the previous four periods (t-4) Brent had a positive influence with a coefficient value of 18,03277, meaning that an increase in the world price of Brent oil by 1 barrel caused an increase in the IDR exchange rate against the dollar by 18,03277 IDR. The increase in the exchange rate in question is an increase in the nominal amount of the exchange rate so that the increase results in the depreciation of the IDR.

The long-term price of Brent oil has a positive effect on the IDR/USD exchange rate. The coefficient of the world oil price variable shows a value of 25.147765 with a probability of 0.0178 which is smaller than the 5% significance value. This means that when the world price of Brent oil increases by 1 barrel, the IDR exchange rate against the USD also increases by 25.147765 IDR, which causes the IDR to depreciate.

Previous research that is in accordance with this research is research conducted by Nizar (2012) which states that if the price of oil in the international market increases, it will cause the IDR exchange rate to weaken. This depreciation occurred due to the increasing demand for foreign exchange in order to pay for world oil imports.

The results of this study are also supported by the findings of Kin & Courage (2014) which states that the price of oil has a significant effect on the exchange rate of the South African rand. This study states that an increase in oil prices causes a depreciation or a weakening of the rand exchange rate. Other research that also supports this research is research conducted by ZAFAR (2022) which states that the increase in world oil prices significantly affects the depreciation of the Pak-rupee currency. The results of this study are in line with the theory of supply and

demand for foreign exchange which states that if the increase in demand for foreign currency causes the value of the foreign currency to strengthen, so that the domestic currency depreciates.

Study (Bénassy-Quéré et al., 2007; Chen & Chen, 2007; Lizardo & Mollick, 2010) also stated that changes in crude oil prices proved to be able to explain the movement of foreign exchange rates or exchange rates, especially those measured against the USD. The results of this study are different from the research conducted by Jain & Biswal (2016) which states that there is a causal relationship between world oil prices and the Indian currency exchange rate, the decline in world oil prices resulted in the depreciation of the Indian rupee.

## CONCLUSION

The Covid-19 pandemic has a positive influence on the movement of the IDR/USD exchange rate in the short and long term. The increase in cases of the Covid-19 pandemic will result in an increase in the nominal amount of the IDR exchange rate against the dollar, so that the IDR will depreciate.

Inflation has no effect on the movement of the IDR/USD exchange rate in both the short and long term. The interest rate (BI7DRR) has no effect on the movement of the IDR/USD exchange rate in both the short and long term. The money supply has an influence on the movement of the IDR/USD exchange rate in the short term in the current period, one previous period (t-1) and three previous periods (t-3).

The relationship that the money supply variable has is a two-way relationship (positive and negative). In the long term, the money supply variable has no influence on the movement of the IDR/USD exchange rate. The

world oil price (Brent) has a positive influence on the movement of the IDR/USD exchange rate in the short term in the two previous periods (t-2) and the previous four periods (t-4). The variable world oil price also has a positive effect in the long term.

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