

Analysis of Effect of Real Gross Domestic Product (GDP), Exchange Rates, Inflation, and Foreign Exchange Reserves on the Oil and Gas and the Non-Oil and Gas Imports in Indonesia

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ABSTRACT

International trade is one of the efforts to increase the country's growth and economy, Indonesia is one of the countries that carry out international trade in the import of goods and services in the form of oil and gas and non-oil and gas. The purpose of this study was to analyze the effect of Real Gross Domestic Product, Exchange Rate, Inflation, and Foreign Exchange Reserves on Oil and Gas and Non-Oil and Gas Imports in Indonesia in the period 1991 to 2021. This study uses annual data based on Indonesian financial statistics published by Bank Indonesia and the Central Bureau of Statistics. Based on the results of the unit root test, the most appropriate model used in this study is the Autoregressive Distributed Lag (ARDL) model. indicated by R-Squared on oil and gas imports of 0.949479 or 94.9479% and R-Squared on non-oil and gas imports of 0.908210 or 90.8210%, partially in the short term Real Gross Domestic Product, Exchange Rate, and Inflation are positively and significantly related to imports oil and gas and non-oil and gas, foreign exchange reserves only have a positive and significant effect on oil and gas imports in the short term, in the long term Gross Domestic Product and Exchange Rate have a significant and negative effect on oil and gas imports and then no significant effect on non-oil and gas imports, Inflation has a significant effect and positive on oil and gas and

non-oil and gas imports in the long term, foreign exchange reserves have a significant and positive effect on oil and gas imports but do not have a significant and negative effect on non-oil and gas imports in the long term.

Keywords: Real GDP, Exchange Rate, Inflation, Foreign Exchange Reserves, Oil And Non-Oil Imports

INTRODUCTION

A limited resource forms one of the main driving factors in the conduct of trade activities called export and import activities. The profit that can be seen from the value of the country's exports and imports is seen in the balance of payments. If the value of exports is higher than the value of imports indicates the progress of a country's economy in terms of international trade activities, then vice versa if the value of exports is lower indicates that the country's economy is low from international trade activities.

International trade is one of the important aspects in the economy of every country in the world and aims to improve the welfare of the countries involved. International trade can be both export and import. International trade is trade carried out by residents of one country with residents of another country on

the basis of mutual agreement. The population here can be between individuals or individuals with individuals or between individuals with the government of a country, and between the government of a country with the government of another country (Setiawan and Lestari, 2011).

International trade is an act of buying and selling that is done in order to gain profit by involving two or more countries, while export and import activities are one of international trade, the main point on the purpose of imposing imports on a country due to consumption needs that are not met, trade with other countries can help it. Some countries import due to a shortage or failure in producing goods and services for the consumption needs of their population. Indonesia is rich in natural resources and human resources, but in fact imported products are more widely circulated in the market than domestic products, which can be seen from the development of the total value of oil and gas imports and non-oil and gas imports. This incident is due to the high demand for oil and gas and non-oil products each year, Indonesia's growth in oil and non-oil imports in each year experienced ups and downs or fluctuations.

A country may be able to meet its needs, but on the other hand there are needs that cannot

be met domestically due to reasons such as lack of capital, limited resources and inadequate skills. These unmet needs are usually obtained through trade activities with other countries so that interdependence is formed between countries. The existence of interconnectedness and dependence of countries on each other and the greater and developing openness of the world economy, the more important the role of international trade activities (Tjintia and Ketut, 2015).

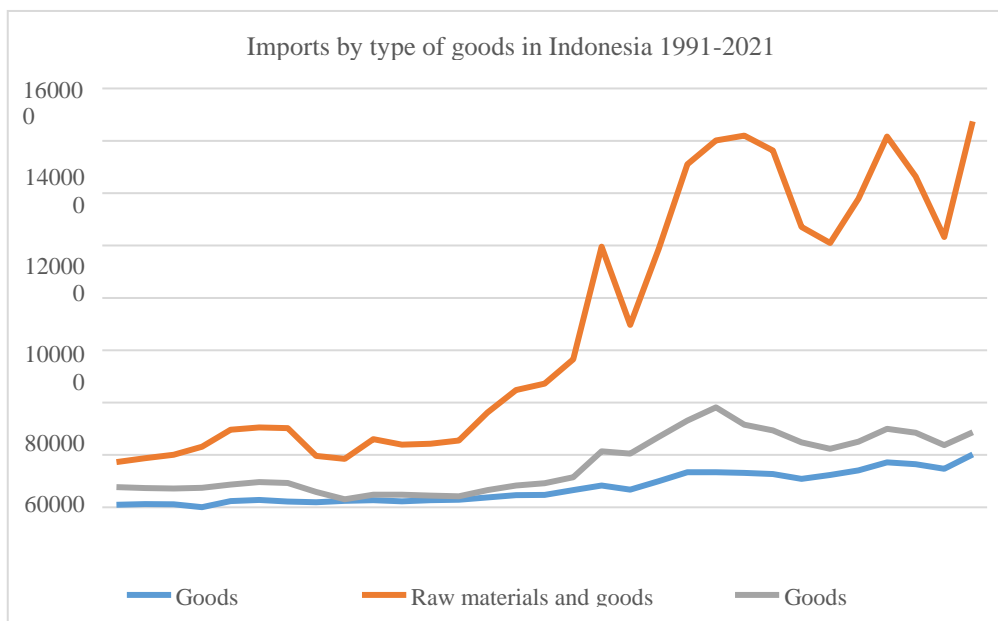
Indonesia's import value is tied to the influence of domestic demand for consumer goods, raw materials, and capital goods whose inventories have not been fully met by domestic industries. Import function is for the provision of basic material needs (consumer goods), then the provision of raw materials for industries in the country including industries that lead to exports, and the supply of capital goods that are still very limited produced by themselves in the country. Import function in other respects to start new products in the domestic market, attract a new industrial growth, and the expansion and improvement of the quality of existing industries, Indonesian imports consist of 3 groups of goods, namely :1 import of raw materials and auxiliary goods, 2 imports of consumer goods, 3 imports of capital goods.

Table 1 Types Of Imports By Use In Indonesia

Year	Consumer Goods	Raw Goods	Capital Goods	Total
1991	958,4	17.233,8	7.676,6	25.868,8
1992	1.212,8	18.700,0	7.366,8	27.279,6
1993	1.146,1	20.034,8	7.146,9	28.327,8
1994	1,430,2	23.133,6	7.419,7	31.983,5
1995	2.350,4	29.586,6	8.691,7	40.628,7
1996	2.805,9	30.469,7	9.652,9	42.928,5
1997	2.166,3	30.229,5	9.284,0	41.679,8
1998	1.917,6	19.611,8	5.807,5	27.336,9
1999	2.468,3	18.475,0	3.060,0	24.003,3
2000	2.718,7	26.018,7	4.777,4	33.514,8
2001	2.251,2	23.879,4	4.831,5	30.962,1
2002	2.650,5	24.227,5	4.410,9	31.288,9
2003	2.862,8	25.496,3	4.191,6	32.550,7
2004	3.786,5	36.204,2	6.533,8	46.524,5
2005	4.620,5	44.792,0	8.288,4	57.700,9
2006	4.738,2	47.171,4	9.155,9	61.065,5
2007	6.539,1	56.484,7	11.449,6	74.473,4

2008	8.303,7	99.492,7	21.400,9	129.197,3
2009	6.752,6	69.638,1	20.438,5	96.829,2
2010	9.991,6	98.755,1	26.916,6	135.663,3
2011	13.392,9	130.934,3	33.108,4	177.435,6
2012	13.408,6	140.126,1	38.154,8	191.689,5
2013	13.138,9	141.957,9	31.531,9	186.628,7
2014	12.667,2	136.208,6	29.303,0	178.178,8
2015	10.876,5	107.081,0	24.737,3	142.694,8
2016	12.351,7	100.945,8	22.355,3	135.652,8
2017	14.075,1	117.851,3	25.059,1	156.985,5
2018	17.181,3	141.581,2	29.948,8	188.711,3
2019	16.454,6	126.355,5	28.465,6	171.275,7
2020	14.656,0	103.209,9	23.702,9	141.568,8
2021	20.182,8	147.380,2	28.627,0	196.190,0

Source: Central Bureau of Statistics (BPS)



Source: Central Bureau of Statistics (BPS)

Figure 1 Imports by type of Indonesian goods in 1991-2021 (million US \$)

It can be seen from the data in Table 1, that imports in Indonesia are dominated by imports of raw materials and auxiliary goods, followed by imports of capital goods, imports of consumer goods, which include not only goods that people consume every day which cannot be produced in the country, but also goods that people can produce in their own country and still tend to import. This cause is related to the shift in consumption behavior and tastes of people who have a sense of pride by using products from other countries, the raw materials and auxiliary materials in Indonesia are very rarely it will be produced by the domestic itself, if the raw materials and auxiliaries in

the production in the country itself but at a cost that is still more expensive than other countries or lower quality than other countries will cause her lose compete with raw materials and auxiliary goods from other countries, as well as capital goods, imports of capital goods are still unable to be produced in the country itself, namely: tractors and agricultural equipment, containers and storage boxes, nuclear reactors and mechanical machines, generators and electronic devices, locomotives, aircraft and ships, optical equipment and passenger cars.

In Figure 1, we can see that the increase in the three categories of Indonesian imported

goods according to their very large use is imports for raw materials and auxiliary goods, followed by capital goods and consumer goods. The high import of raw materials and auxiliary goods shows the development of industries that need raw materials to be processed into finished materials. One of the causes of increased imports of raw materials and capital goods due to the high realization of foreign investment into Indonesia as well as the occurrence of inflation and high exchange rates that cause the price of imported prices are relatively cheaper than domestic goods. While the import of consumption tends to

rise every year due to an increase in the level of quality of life of the community caused by rising incomes and changes in consumption patterns of the community.

In Indonesia, exports and imports are differentiated into oil and gas exports and non-oil exports as well as imports, namely oil and gas imports and non-oil imports. The oil and gas group imported by Indonesia is crude oil, oil products, and gas and the non-oil and Gas Group imported by Indonesia is machinery or aircraft and mechanical equipment, electrical equipment, plastics and plastic goods, iron and steel, food, and cotton.

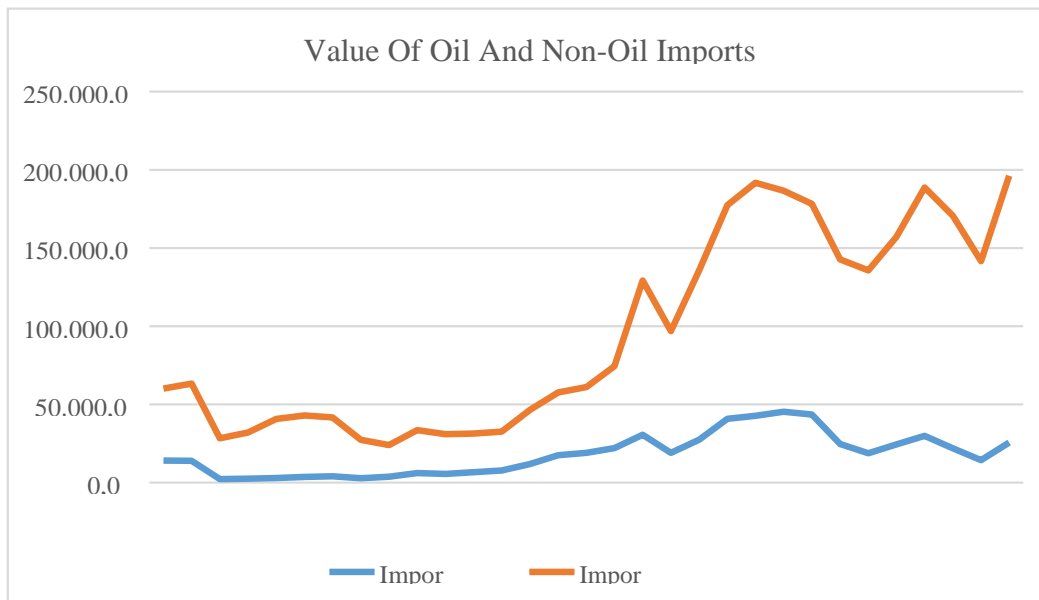
Table 2 Value Of Oil And Non-Oil Imports In Indonesia Year 2010-2021 (Million US Dollars)

Tahun	Migas	Non-Migas	Jumlah
1991	14.021,50	46.062,30	60.083,80
1992	13.806,70	49.489,40	63.296,10
1993	2.170,50	26.157,30	28.327,80
1994	2.367,20	29.621,40	31.988,60
1995	2.910,80	37.743,30	40.654,10
1996	3.589,70	39.338,90	42.928,60
1997	3.924,10	37.755,70	41.679,80
1998	2.653,70	24.683,20	27.336,90
1999	3.681,10	20.322,20	24.003,30
2000	6.019,50	27.495,30	33.514,80
2001	5.471,80	25.490,30	30.962,10
2002	6.525,80	24.763,10	31.288,90
2003	7.610,90	24.939,80	32.550,70
2004	11.732,00	34.792,50	46.524,50
2005	17.457,70	40.243,20	57.700,90
2006	18.962,90	42.102,60	61.065,50
2007	21.932,80	52.540,60	74.473,40
2008	30.552,90	98.644,40	129.197,30
2009	18.980,70	77.848,50	96.829,20
2010	27.412,70	108.250,6	135.663,3
2011	40.701,60	136.734,1	177.435,7
2012	42.564,40	149.126,6	191.691,0
2013	45.266,40	141.362,3	186.628,7
2014	43.459,90	134.718,9	178.178,8
2015	24.613,10	118.081,4	142.694,5
2016	18.739,40	116.913,4	135.652,8
2017	24.316,20	132.669,3	156.985,5
2018	29.868,80	158.842,5	188.711,3
2019	21.885,30	148.842,4	170.727,7
2020	14.256,80	127.312,0	141.568,8
2021	25.529,10	170.660,9	196.190,0

Source: Central Bureau of Statistics (BPS)

As can be seen from the table, non-oil and gas imports in Indonesia are more than oil and gas imports in Indonesia, oil and gas imports in Indonesia continued to decline from 1996 continued until the end of 2013, in 2012 until the end of 2013 oil production

in the state budget decreased which was far below the previous performance target, because oil imports soared followed by high demand and consumption of fuel in Indonesia, especially subsidized fuel fuel imports increased from before.



Source: BPS (Central Bureau of Statistics)
Figure 2 import value of oil and gas and non-oil in 1991-2021

In non-oil and gas imports, during 2006 experienced a considerable increase and then followed in the next year in 2007 and 2008 experienced a very drastic increase because Indonesia is experiencing a monetary crisis, where the Indonesian economy is experiencing high inflation and increased money supply is high so that the rising prices in the market or in the country and the government increased imports, Indonesia's imports in 2012 were declared the highest after 2021, this is due to the increase in non-oil and gas imports, from these data on the other hand in 2013 simultaneously domestic demand is still strong influence with non-oil and gas imports are still high which is driven by import growth and price recovery, Indonesia experienced the highest imports in 2021 with an increase of 38.58% which at the time of 2021 was high in non-oil and gas imports in Indonesia due to the number of sectors whose production was far below the production target due to the Covid-19

outbreak, the government carried out non-oil and gas imports on a larger scale. Indonesia is one of the countries that produce leading food products but still carry out import activities that are still very large, this is because the population in Indonesia is increasing but the amount of food production in production is not proportional to the increase, then the lack of government role in helping support the development of domestic industry, limited quality of human, The trigger for the rise and fall of imports cannot be separated from the drive of macro variables such as the rupiah exchange rate, inflation, gross domestic product, foreign exchange reserves, foreign investment, domestic investment, and foreign interest rates. The rise and fall of imports is strongly influenced by the situation and conditions that are influenced by the people of a country itself, one of the factors is the condition of purchasing power that depends on income proposed by Keynes, namely

income in each individual will result in changes in consumption patterns and purchasing power,

One of the factors that affect imports is the Gross Domestic Product (GDP). The effect of GDP on imports in a country is quite large. When GDP increases, people's purchasing power increases so that imports increase. As explained that the greater the

national income in a country, the greater the import (Herlambang, 2001: 267). In fact, the number of units of goods and services produced will be very difficult to record during the period so to estimate the change in output the figure used is the monetary value (money) seen in the value of gross domestic product (GDP)

Table 3 Gross Domestic Product By Constant Price Year 2010 – 2021 (Billion Rupiah)

Year	PDB	Year	PDB
2004	4.905.622,69	2013	8.156.497,80
2005	5.184.878,76	2014	8.564.866,60
2006	5.470.096,45	2015	8.982.517,10
2007	5.817.175,28	2016	9.434.613,40
2008	6.167.002,90	2017	9.912.928,10
2009	6.452.465,78	2018	10.425.851,90
2010	6.864.133,10	2019	10.949.155,40
2011	7.287.635,30	2020	10.722.999,30
2012	7.727.083,40	2021	11.120.077,90

Source: Central Bureau of Statistics (BPS)

In Table 3, it shows that the mobility of Indonesia'S GDP from 2010 to 2021 has always increased, these changes certainly have an influence on the development of imports and Indonesia's imports have increased. Indonesia's annual national income has always increased due to Indonesia's success in managing its economy and reducing debt to the IMF and World Bank in the event of Government Reform, and the economic crisis that affected the Indonesian economy. Which at that time the economy was more supported by foreign debt, causing an economic crisis that had a quite real impact on the wheels of government at that time, then in 2020 which was where the decline in GDP in Indonesia was due to the Covid-19 outbreak which resulted in inhibition of economic activity in Indonesia which caused a decline in national, because the ability of a country to finance imports is often associated with national income which shows the purchasing power of the country in importing (Riris Septiana, 19;2011)

Another factor that affects imports is foreign exchange spare parts, foreign exchange spare parts can be interpreted as a number of currencies of other countries stored or

reserves of the central bank for the purposes of payment of foreign obligations or debts when carrying out an import and export financing or other activities to foreign parties who conduct international trade cooperation with a country.

Discussing foreign exchange reserves, it always intersects with export and import activities. The result of export activities is that a certain amount of money in the form of foreign exchange (foreign exchange) can be used as a means of payment for trade activities that occur between countries. As the level of exports of goods increases, a country's foreign exchange reserves will also increase. The purpose of this export-import activity is to meet the things that a country needs because of the limitations of production. If this activity is hampered, there will be an impact on the economic sector which is also hampered in the country. Thus the state must be willing to issue a number of foreign exchange reserves to meet domestic needs (Ridho, 21;2015).

The increase in foreign exchange reserves is the main form of a country's economy that gets a boost or help from external sector performance, currency exchange rates that move stable and tend to strengthen,

therefore economic planning should focus on exports and minimize the import of goods from abroad with the aim of having a lot of gold. The purpose of foreign exchange ownership is to fund foreign trade activities, finance imported goods, finance installments and interest on foreign debt. then with the strong push of foreign capital inflows in the same direction as the

strengthening of the economic fundamentals become one of the parameters that indicate the strong and weak economy of a country. Problems contained in foreign exchange reserves is a very important problem, because foreign exchange reserves can withstand a national economic stability and can also see whether the country is able or not to conduct international trade,

Table 4 Indonesia's foreign exchange reserves in 2010-2021 (million US dollars)

Year	Foreign Exchange Reserves	Year	Foreign Exchange Reserves
2010	96.207,00	2016	116.362,00
2011	110.123,00	2017	130.196,38
2012	112.781,00	2018	120.654,27
2013	99.387,00	2019	129.183,28
2014	111.862,00	2020	135.897,00
2015	105.931,00	2021	144.905,38

Source: Central Bureau of Statistics (BPS)

For several years, Indonesia's foreign exchange reserves fluctuated, in 2010 Indonesia's foreign exchange reserves experienced negative growth worth 96,207.00 million US dollars due to the high factor of Indonesian imports to other countries so that the need for foreign exchange to pay foreign debt also tends to be very large, during 2013, the Indonesian economy experienced obstacles and challenges that are quite, domestic pressure grew due to the government's indecision to immediately raise subsidized fuel prices which led to a higher deficit and the highest growth in 2017 due to high government debt securities, tax revenues, and foreign exchange for oil and gas exports

Macroeconomic and monetary stability in a country is strongly influenced by foreign exchange reserves, the greater the value of foreign exchange stored by the country, the higher the country is also able to conduct economic transactions and the value of International Finance will be the stronger the country's currency, the gap between nominal income from the export sector with financing for the import sector is inequality in the balance of payments.

Therefore, if excess imports are ensured, foreign exchange will decrease, the local currency exchange rate will fall relatively, a

country where the industry relies on import activities can cause it to stop. On the other hand, if excessive export activities, these factors can also cause companies to stop using their own raw materials obtained from within the country. So it requires a country to be able to balance both on the export side and on the import side.

Imports in Indonesia itself is also influenced by changes in inflation and exchange rates, according to Keynes's theory which says that inflation occurs due to the existence of some people whose life cycle exceeds economic limits, so that the price of domestic goods increases and imports also rise, then indirectly inflation (the price level of goods or services of a country) has an, If inflation rises, the exchange rate will also rise or depreciate, followed by a decrease in people's purchasing power due to high inflation, which has irregularities in the short term so that income decreases.

Inflation is the increase in the general price level of goods or commodities and services is always a certain period of time, inflation causes the price of imported goods to be cheaper than goods produced domestically (Sukirno, 2008:336), then in general inflation will cause oil and gas imports and non-oil and gas to grow faster.

Table 5 Indonesia Inflation Rate 2010-2021 (%)

Year	Inflasi	Year	Inflasi
2008	11,06	2015	3,02
2009	2,78	2016	3,61
2010	6,96	2017	3,13
2011	3,79	2018	2,72
2012	4,30	2019	1,56
2013	8,38	2020	3,98
2014	8,36	2021	3,02

Source: Central Bureau of Statistics (BPS)

Based on Table 5 above the inflation rate of Indonesia in 2008 experienced a very high increase of 11.06% which is where the world economy at that time the pressure of the global crisis, namely the decline in all commodities and also a decline in exports, it will have an impact on the decline in demand for rupiah, in 2010 to 2019 experienced fluctuations, which in 2011 Indonesia's inflation rate began to decline by 3.17% from the previous year and then began to rise by 0.51% in 2012 but in 2013 indonesia experienced a very high inflation rate compared to other years of 4.08% and then Indonesia's inflation rate began to improve from 2014 to 2019 although still fluctuating but the inflation rate is still stable.

High inflation will affect the exchange rate in Indonesia to be high accompanied by high prices as well as the way of international trade, Indonesia in the event of depreciation will cause a decrease in demand for domestic goods, because the fall in domestic prices led to a decline in

domestic interest rates and then encourage exports and become high export trade and, then the opposite also applies when the appreciation of the exchange rate causes an increase in demand for goods so that the current account is unstable due to the high value of imports compared to exports.

A country in conducting international trade needs to pay attention to the currency exchange rate of a country, as well as Indonesia, Indonesia must pay attention to the rupiah currency exchange rate before conducting international trade, so as not to cause a large budget deficit in the trade balance in importing oil and gas and non-oil from abroad into the country, The higher the value of foreign currency against the value of the domestic currency, it will lead to a decrease in the price of the value of the domestic currency or the fall in the value of the domestic currency (depreciation) against foreign currency and vice versa if the value of foreign currency (abroad) decreased against the domestic currency exchange rate, there will be

Table 6 exchange rate (Kurs) Rupiah to US Dollar

Year	Exchange Rate Pricing	Year	Exchange Rate Pricing
2008	10.950	2015	13.795
2009	9.400	2016	13.436
2010	8.991	2017	13.548
2011	9.068	2018	14.481
2012	9.670	2019	13.901
2013	12.189	2020	14.105
2014	12.440	2021	14.269

Source: Central Bureau Of Statistics

Based on the above data, the rupiah exchange rate against the US Dollar obtained from the Central Bureau of Statistics. in 2010 to 2015 always increased

every year, but in 2016 to 2021, in 2016 the exchange rate of rupiah to dollar was Rp.13,436 then in 2017 amounted to Rp. 13,548 where the Depression was 0.83%,

then in 2018 there was another economic depreciation of 6.89% which caused an increase in the exchange rate of Rp. 14,481, and in 2019 Indonesia experienced an economic appreciation of 4.01% where the rupiah exchange rate against the dollar fell by Rp. 13,901, then the impact of the global crisis in 2008 in which the decline in all commodities and the decline in exports also turned out to have a worse impact in 2009, economic growth in 2009 decreased greater than in 2008, then in 2013 Indonesia experienced the highest exchange rate increase where the very high exchange rate weakness caused by the influence of the global economy, the impact is the price of imported commodities, both oil and gas and non-oil. The above data states that the Indonesian exchange rate in 2016 to 2019 began to fluctuate.

Naturally, imports are needed in every country, but it is better to reduce imports because too much import activity will cause a negative impact on the country's economy, the negative impact is that it can increase the country's dependence on certain products that come from abroad, creating competition for companies or industries in the country, In the trade balance, both export and import trade have a major effect on the Indonesian economy because a trade balance if imports are more than exports will experience a deficit in the trade balance and vice versa if exports are more than imports will cause a surplus in the trade balance.

Based on the above background, the researcher is interested in conducting a study in which the researcher takes free variables from previous studies that are suspected to affect oil and non-oil imports in Indonesia, namely real GDP, exchange rate, inflation and foreign exchange reserves and the dependent variable is oil and non-oil imports the study uses the time interval from 2010 to 2021.

LITERATURE REVIEW

International Trade

International trade is the trade that a country conducts with other countries on the basis of mutual trust and mutual benefit. International trade is not only carried out by developed countries, but also developing countries (in Galih, 2008).

Import

Imports are goods produced abroad and sold domestically (Mankiw, 2000: 67). The definition of import according to Soediyono (1999) is the activity of importation of goods from abroad in a country accompanied by official documents. While imports can be interpreted as the purchase of goods and services from abroad into the country with a cooperation agreement between 2 or more countries.

Gross Domestic Product

Gross Domestic Product (GDP) is defined as the value of goods and services produced in the country in a certain period (Sukirno, 2004: 34). GDP is the value of all goods and services produced by the population within a country both domestic and foreign in a given period (Mankiw, 2003: 6). Gross Domestic Product calculates the value of goods and services produced in the territory of a country without distinguishing citizenship in a certain period (Herlambang, 2001: 22).

Foreign Exchange Reserves

Bank Indonesia is the Central Bank responsible for the regulation and administration of the banking system in Indonesia and is responsible for the regulation of foreign exchange traffic (Amir, 2007: 9). Foreign exchange reserves are foreign currencies reserved by the Central Bank (Bank Indonesia) for financing and foreign obligations, including import financing or other payments to foreign parties (Hady, 2001:24). State foreign exchange reserves controlled by Bank Indonesia and recorded on the assets side of Bank Indonesia's balance sheet,

which include gold, foreign banknotes, and bills in the form of demand deposits, time deposits, money orders, foreign securities and others in foreign currency to foreign parties that can be used as a means of payment abroad (Bank Indonesia).

Rupiah Exchange Rate (Kurs)

Exchange rate is the exchange between two different currencies there is a comparison of value or price (Nopirin, 1999). The exchange rate can be defined as the amount of local money needed to obtain one unit of foreign currency. In the exchange rate there is appreciation and depreciation of the value of currencies that affect exports or imports (Sukirno, 2004). The exchange rate has an inverse relationship with the volume of imports. If the exchange rate depreciates or the value of the domestic currency falls and

the value of foreign currency strengthens, it will cause imports to decrease and exports to increase. Conversely, if the exchange rate appreciates or the value of the local currency strengthens and the value of foreign currencies weakens, it will result in an increase in imports and a decrease in exports.

Inflation

Inflation is the process of increasing the general prices of goods continuously. This does not mean that the prices of various goods rose by the same percentage. This increase may not occur at the same time. It is important that there is a continuous increase in the general price of goods over a certain period. The increase that occurs only once is not inflation (Nopirin, 2009).

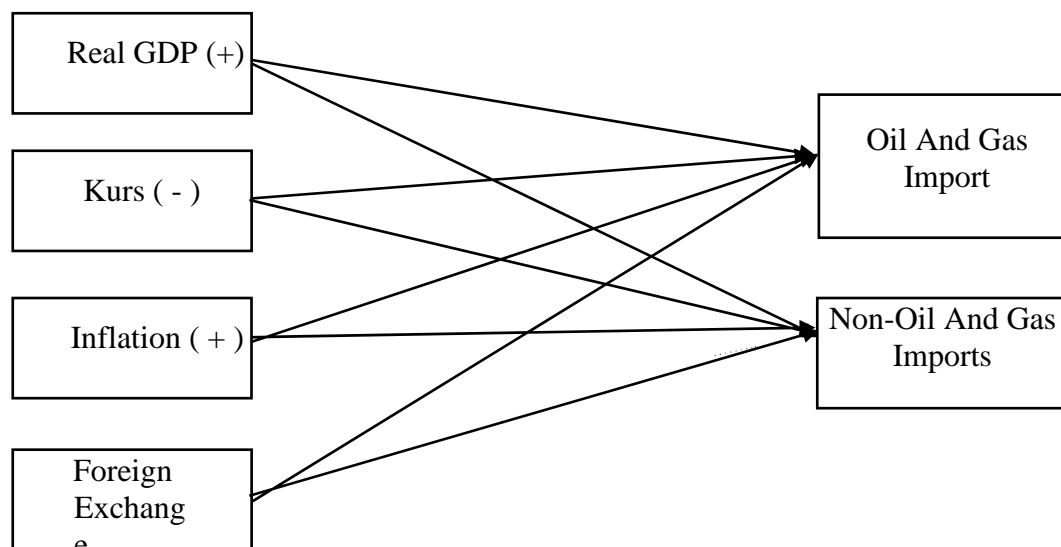


Figure 1. Conceptual Framework

Hypothesis

Based on background research and the relationship between variables, the research hypothesis:

1. Real GDP partially positive and significant effect on long-term and short-term oil and gas imports in Indonesia
2. Real GDP partially has a positive and significant effect on long-term and short-term non-oil and gas imports in Indonesia

3. Inflation is partially negative and significant effect on long-term and short-term oil and gas imports in Indonesia
4. Inflation is partially negative and significant effect on long-term and short-term non-oil and gas imports in Indonesia
5. Rupiah exchange rate partially negative and significant effect on long-term and short-term oil and gas imports in Indonesia
6. Rupiah exchange rate partially negative and significant effect on long-term and

- short-term non-oil and gas imports in Indonesia
7. Partial foreign exchange reserves have a positive and significant effect on long-term and short-term oil and gas imports in Indonesia
 8. Partial foreign exchange reserves have a positive and significant effect on long-term and short-term non-oil and gas imports in Indonesia.

MATERIAL AND METHODS

This study uses secondary data as a source of research. Secondary Data is obtained through official and trusted institutions that have collected and uploaded data within a certain period of time via the internet. These institutions are the World Bank, Bank Indonesia and the Central Statistics Agency (BPS). The Data taken is a 32-year time series data from 1991-2021 on oil and non-oil imports in Indonesia, real GDP, rupiah to USD exchange rate, inflation rate, and foreign exchange reserves. This research is also supported by reviewing literature studies and studying theories related to the research topic. The purpose of reviewing literature studies and studying theory is to

make an analysis to compare this study and previous research.

The type of data used in this study is secondary data that is time series data. Secondary Data is a source of data obtained indirectly or researchers do not go directly to the field to obtain data. Source data obtained from the Central Statistics Agency (BPS) and Bank Indonesia (BI). Data collection techniques in this study are data collection techniques from various sources such as books, journals, and previous research that support and become a reference in this study. The data sources used in this study to be processed in this study are real GDP data, inflation, foreign exchange reserves and oil and non-oil imports published by the Central Statistics Agency (BPS), and the rupiah exchange rate published by Bank Indonesia (BI).

RESULTS

Short-term ARDL test results Y1 (oil and gas imports)

From the results of regression on ARDL can be seen that the value of R-Squared on the estimated short-term model ARDL model is as follows :

Table 7 Short-Term Estimation Results Of ARDL Model

Method : ARDL				
Selected Model : ARDL (3, 2, 3, 3, 3)				
Variable	Coefficient	Std. Error	t-statistic	Prob*
D(LOGIM(-1))	-0.232400	0.199337	-1.165867	0.2772
D(LOGIM(-2))	-0.020378	0.076857	-0.265149	0.7976
D(LOGIM(-3))	-0.130204	0.073727	-1.766034	0.1154
D(LOGPDB)	9.304445	1.975975	4.708786	0.0015
D(LOGPDB(-1))	-5.355217	2.499566	-2.142458	0.0645
D(LOGPDB(-2))	-16.89138	4.434727	-3.808889	0.0052
D(INF)	0.017616	0.007500	2.348883	0.0468
D(INF(-1))	0.031159	0.013276	2.347015	0.0469
D(INF(-2))	0.010329	0.005908	1.748137	0.1186
D(INF(-3))	-0.011675	0.003830	-3.048329	0.0159
D(LOGNT)	1.227882	0.299844	4.095068	0.0035
D(LOGNT(-1))	-0.655263	0.571670	-1.146225	0.2848
D(LOGNT(-2))	-1.797758	0.592939	-3.031943	0.0163
D(LOGNT(-3))	-0.540582	0.475657	-1.136495	0.2886
D(LOGCDV)	0.939439	0.388207	2.419943	0.0419
D(LOGCDV(-1))	0.909992	0.498851	1.824175	0.1056
D(LOGCDV(-2))	-1.032159	0.605352	-1.705056	0.1266
D(LOGCDV(-3))	0.779074	0.454808	1.712975	0.1251
C	0.701432	0.185988	3.771914	0.0055
R-Squared	0.949479			
F-Statistic	8.352765			
Prob(F-Statistic)	0.002323			

Source: Results Of Data Eviews 12

Can be seen in Table 5.12 that can be concluded that the explanatory variables can describe the model, can be seen in the value of R- Squared value of 0.949479 which is equivalent to 94.9479% while the remaining 5.0521% is explained by other variables outside the model, the above results also show the significance level of variables either simultaneously or partially, there are two ways to perform simultaneous tests by comparing statistics and tables or by comparing the p-value with the level of significance (α), the above results can be seen that the p-value of 0.002323, which p-value < α (0.05), it can be concluded that the independent variables of GDP, inflation, exchange rate, and foreign exchange reserves simultaneously have a significant effect on oil and gas imports in Indonesia.

In the short-term estimation results above using the ARDL model in Table 5.12, it can be seen that each of all independent variables (GDP, inflation, exchange rate, and foreign exchange reserves) against oil and gas imports at different coefficients and probabilities, it can be described as follows :

1. Known variable GDP at run time D (LOGPDB) has a significant and positive effect due to the p-value of D (LOGPDB) of 0.0015 and its coefficient of 9.304445, then if the probability value < @ 5%, then the variable is significantly affected and with a positive coefficient value, it means that changes in GDP in the current year GDP affect oil and gas imports, then at lag 1 or D (LOGPDB (-1) GDP negative and insignificant effect due to the results above the probability value of 0.0645 < 0.05 and its coefficient of -5.355217, it means that changes in GDP in the previous year did not have a significant and negative effect, then at lag 2 or D (LOGPDB (-2) The probability value of 0.0052 and the - 16.89138 it can be concluded that the lag 2 GDP significant and negative effect, it means that changes in GDP 2 years earlier negative and significant effect on oil and gas imports in Indonesia in the short term, in

accordance with the hypothesis is the current GDP or D (LOGPDB), it can be concluded that GDP in the current period in accordance with the research hypothesis where GDP has a significant and positive effect on oil and gas imports by calculating the increase in GDP per unit, there is an increase in oil and gas imports of 9.304445 in Indonesia

2. Known variable inflation at the time of current D (INF) has a probability of 0.0468 and a coefficient of 0.017616 then because the probability value < @ (5%) and a positive coefficient value then it can be interpreted that at the present time that inflation has a significant effect and a positive effect on oil and gas imports in Indonesia in the short term, then, then in lag 1 Where D(INF(-1) has a probability value of 0.0469 < 0.05 and a coefficient value of 0.031159 which is positive, it can be interpreted that changes in inflation in the previous year had a significant and positive effect on oil and gas imports in Indonesia in the short term, in lag 2 inflation or D(INF(-2) has a probability value of 0.1186 > 0.05 in the previous 2 years did not have a significant and positive effect on oil and gas imports, at lag 3 inflation or D (INF (-3) has a probability value of 0.0159 < 0.05 and a coefficient value of -0.011675, it can be interpreted that changes in inflation in the previous 3 years have a significant and negative effect on oil and gas imports in Indonesia in the short term, then in accordance with the hypothesis in the short term is inflation in the present (D(INF)) and inflation in the previous year (D(INF(-1)), it can be concluded that inflation in the current period and inflation at lag 1 in accordance with the hypothesis where inflation has a significant and positive effect on oil and gas imports with calculations in the current period when inflation rises by one unit, there is an increase in oil and gas imports by

- 0.017616 and then at lag 1 if inflation increases by one unit, there is an increase in oil and gas imports by 0.031159 in Indonesia in the short term.
3. Known exchange rate variable at current time D (LOGNT) which has a probability value of 0.0468 and coefficient value of 1.227882 which is where the probability value $< @ (5\%)$ and the coefficient value has a positive value then it can be interpreted that the exchange rate has a significant and positive effect on oil and gas imports in Indonesia in the short term, then at lag 1 exchange rate D (LOGNT (-1)) has a probability value of $0.2848 < 0.05$ and a coefficient value of -0.655263 , it can be interpreted that the change in exchange rates in the previous 1 year has no significant and negative effect on oil and gas imports in Indonesia in the short term, then the exchange rate at lag 2 or D (LOGNT (-2)) has a probability value of $0.0163 < 0.05$ and its coefficient value of -1.797758 , it can be interpreted that changes in exchange rates in the previous 2 years have a significant and negative effect on oil and non-oil imports in Indonesia in the short term. The exchange rate at lag 3 or D (LOGNT(-3)) has a probability value of $0.2886 > 0.05$ and its coefficient value of -0.540582 then it can be interpreted that the change in exchange rates in the previous 3 years did not have a significant and negative effect on oil and gas imports in Indonesia in the short term, it can be concluded that in accordance with the hypothesis is the lag 2 in which the exchange rate has a significant and negative effect on oil and gas imports in Indonesia in the short term with the calculation that if the exchange rate increases by one unit, there will be a decrease in oil and gas imports of 1.797758 in Indonesia in the short term.
 4. Known variable foreign exchange reserves oada running time D (LOGCDV) which has a probability value of 0.0419 and the value of the coefficient of 0.909992 which is where the value of the probability of $< @ (5\%)$ then and the value of the coefficient is positive then it can be interpreted that the current foreign exchange reserves have a significant and positive effect on oil, foreign exchange reserves at lag 1 or D (LOGCDV(-1)) has a probability value of $0.1056 > 0.05$ and a coefficient value of 0.909992, it can be interpreted that changes in foreign exchange reserves at 1 year earlier did not have a significant and positive effect on oil and gas in Indonesia in the short term, foreign exchange reserves at lag 2 or D (LOGCDV- 2) has a probability value of $0.1256 > 0.05$ and a coefficient value of -1.032159 , it can be interpreted that the change in foreign exchange reserves of the previous 2 years did not have a significant and negative effect on oil and gas imports in Indonesia in the short term, then at lag 3 foreign exchange reserves or D (LOGCDV(-3)) has a probability value of $0.1251 > 0.05$ significant and positive effect on oil and gas imports in Indonesia in the short term, it can be concluded that the current foreign exchange reserves in accordance with the hypothesis in the study where foreign exchange reserves have a significant and positive effect on oil and gas imports in Indonesia in the short term, with the calculation that if the increase in foreign exchange reserves increased by one unit, there was an increase in Miga imports of 0.939439 in Indonesia in the short term.

Long-term ARDL test results Y1 (oil and gas imports)

Table 8 Long-Term ARDL Test Results Of Oil And Gas Imports

Variabel	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGPDB)	-9.358149	2.187522	-4.277966	0.0027
D(INF)	0.034294	0.015920	2.154193	0.0634
D(LOGNT)	-1.276748	0.558942	-2.284225	0.0517
D(LOGCDV)	1.154278	0.397673	2.902584	0.0198
C	0.507269	0.126284	4.016830	0.0039

Source: Results Of Data Eviews 12

The results of long-term estimates using the ARDL model in Table 8 above can be described as follows :

1. GDP or D (LOGPDB) in the long term has a probability value of 0.027 which is at the level of @ 1%, 5%, and 10%. GDP has a significant effect due to the probability value of < @ 1%, 5%, and 10%, and the coefficient value of -9.358149 which is where GDP has a negative effect on oil and gas imports, then it means that in the long term the increase in GDP has a significant relationship to oil and gas imports in Indonesia by responding if GDP rises by one unit then there is a decrease in oil and gas imports of 9.358149 in the long term in indonesia
2. Inflation or D (INF) in the long term can be seen in the table above has a probability value of 0.0634 which is at the level of @ 1%, 5%, and 10%. Inflation has a significant effect due to the probability value of < @ 10%, and the value of the inflation coefficient of 0.034294 where inflation has a positive effect on oil and gas imports, it means that in the long term the increase in inflation has a significant effect on oil and gas imports by responding if inflation rises one unit then the increase in oil and gas imports of 0.034294 in Indonesia.
3. The exchange rate or D (LOGNT) in the long term can be seen in the table above

has a probability value of 0.0517 which is at the level of @ 1%, 5%, and 10%. The exchange rate (Kurs) has a significant effect because the probability value < @ 10%, and the value of the exchange rate coefficient of -1.276748 where the exchange rate has a negative effect on oil and gas imports, it means that in the long term the increase in the exchange rate has a significant effect on oil and gas imports by responding if the increase in the exchange rate of one unit then the decline in oil and gas imports of 1.276748 in Indonesia.

4. Foreign exchange reserves or D (LOGCDV) can be seen in the table above in the long term foreign exchange reserves have a probability value of 0.0198 with a level of 1%, 5%, and 10%, foreign exchange reserves have a significant effect due to the probability value of < @ 5%, and 10%, and the value of foreign exchange reserves coefficient of 1.154278 which is, this means that in the long term the increase in foreign exchange reserves has a significant effect on oil and gas imports by responding if the increase in foreign exchange reserves by one unit, the increase in oil and gas imports amounted to 1.154278 in Indonesia.

Short-term ARDL test results Y2 (non-oil and gas imports)

Table 9 short-term ARDL estimation results

Method		: ARDL		
Selected Model		: ARDL (2, 2, 0, 2, 3)		
Variabel	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGINM(-1))	-0.275986	0.226246	-1.219850	0.2442
D(LOGINM(-2))	0.043848	0.118549	0.369875	0.7174
D(LOGPDB)	4.802893	1.301149	3.691270	0.0027
D(LOGPDB(-1))	-1.884513	1.747282	-1.078540	0.3004
D(LOGPDB(-2))	-2.838900	1.614443	-1.758439	0.1022
D(INF)	0.008895	0.003846	2.312530	0.0378
D(LOGNT)	0.668868	0.229012	2.920667	0.0119

D(LOGNT(-1))	-0.365416	0.419909	-0.870225	0.4000
D(LOGNT(-2))	-0.461633	0.398505	-1.158410	0.2675
D(LOGCDV)	-0.010371	0.244970	-0.042335	0.9669
D(LOGCDV(-1))	0.985053	0.277746	3.546591	0.0036
D(LOGCDV(-2))	-0.094285	0.311768	-0.302421	0.7671
D(LOGCDV(-3))	-0.426859	0.187393	-2.277880	0.0403
C	0.121979	0.113678	1.073021	0.3028
R-Squared				0.908210
F-Statistic				9.894374
Prob(F-Statistic)				0.000102

Source: Results Of Data Eviews 12

Can be seen in Table 9 that it can be concluded that the explanatory variables can describe the model, can be seen in the value of R- Squared of 0.908210 which is equivalent to 90.8210% while the rest of 9.1790% is explained by other variables outside the model, the above results also show the significance level of the variables either simultaneously or partially, there are two ways to perform simultaneous tests by comparing statistics and tables or by comparing the p-value with the level of significance (@), the above results can be seen that the p-value of 0.000102, which p-value < @ (0.05), it can be concluded that the independent variables of GDP, inflation, exchange rate, and foreign exchange reserves simultaneously have a significant effect on non-oil and gas imports in Indonesia.

Then on the results of the short-term estimates above using the ARDL model in Table 9 can be seen that each of the independent variables (GDP, inflation, exchange rate, and foreign exchange reserves) against non-oil and gas imports at different levels of coefficients and probabilities, the interpretation of the relationship is as follows :

1. Known variable GDP at run time D (LOGPDB) has a significant and positive effect due to the p-value of D(LOGPDB) of 0.0027 and its coefficient of 4.802893, then if the probability value of < @ 5%, then the variable affects significantly and with a positive coefficient value, it means that changes in GDP in the current year GDP has a positive and significant effect, then at lag 1 or D (LOGPDB (-1) GDP negative and insignificant effect due to the results above the probability value of

0.3004 < 0.05 and its coefficient of -1.884513, it means that changes in GDP in the previous year did not have a significant and negative effect on non-oil and gas imports, then at lag 2 or D (LOGPDB (-2) The probability value of 0.1002 and coefficient -2.838900 it can be concluded that at lag 2 GDP effect is not significant and negative, it means that changes in GDP 2 years earlier have a negative and insignificant effect on non-oil and gas imports in Indonesia in the short term, in accordance with the hypothesis is GDP, it can be concluded that the GDP in the current period in accordance with the research hypothesis where GDP has a significant and positive effect on oil and gas imports with the calculation that if GDP increased by one unit, there was an increase in non-oil and gas imports of 4.802893 in Indonesia in the short term

2. Known variable inflation at run time D (INF) has a probability value of 0.0378 and the coefficient value of 0.008895, if the probability value of < @ 5% inflation maka significant effect on non-imports-it can be concluded that inflation has a significant and positive effect on non-oil and gas imports in accordance with the research hypothesis that inflation has a significant and positive effect on non-oil and gas imports by calculating if inflation increases by one unit, there will be an increase in non-oil and gas imports by 0.008895% in Indonesia in the short term.
3. Known variable exchange rate at run time or D (LOGNT) has a probability value of 0.0119 and a coefficient value of 0.668868 which is where the probability

value of $< @ 5\%$, it means that the exchange rate at run time has a significant and positive effect on non-imports- oil and gas in Indonesia in the short term, at a lag of 1 exchange rate or $D(\text{LOGNT}(-1))$ has a probability value of 0.4000 which is where the probability value $> @ 5\%$ and a coefficient value of -0.365416, it means that at a lag of 1 that the exchange rate is not significant and negative effect on non-oil and gas imports, then at the lag 2 exchange rate or $D(\text{LOGNT}(-2))$ has a probability value of 0.2675 which is where the probability value $> @ 5\%$ and the coefficient value of -0.461633, it means that the exchange rate at lag 2 does not significantly and negatively affect non-oil and gas imports in Indonesia in the short term, it can be concluded that the exchange rate has a significant and positive effect on the current period, but at lag 1 and lag 2 foreign exchange reserves have a negative effect on non-oil and gas imports but do not have a significant relationship, at lag 1 if the exchange rate increases by one unit, it reduces non-oil and gas imports by 0.365416 and at lag 2 if the exchange rate increases by one unit, it reduces non-oil and gas imports by 0.365416 in the short term in Indonesia.

4. Known foreign exchange reserves at run time or $D(\text{LOGCDV})$ has a probability value of 0.9669 and has a coefficient of -0.010371 which is where the probability value $> @ 5\%$ and the coefficient value is negative, it means that foreign exchange reserves at the current time do

not have a significant and negative effect on non-oil and gas imports in Indonesia, at lag 1 foreign exchange reserves or $D(\text{LOGCDV}(-1))$ foreign exchange reserves have a probability value of 0.0036 and a coefficient value of 0.985053 significant and positive effect on non-oil and gas imports, At lag 2 foreign exchange reserves or $D(\text{LOGCDV}(-2))$ has a probability value of 0.7671 which is where the probability value $> @ 5\%$ and the value of the coefficient is negative, it means that changes in foreign exchange reserves 2 years earlier had no significant and negative effect on non-imports- of oil and gas, then at lag 3 foreign exchange reserves or $D(\text{LOGCDV}(-3))$ has a probability value of 0.0403 and a coefficient of -0.426859 which is where the probability value of $< @$ and a positive coefficient value means that changes in foreign exchange reserves 3 years earlier had a significant and negative effect on non-oil and gas imports, it can be concluded that the foreign exchange reserves in accordance with the hypothesis is the foreign exchange reserves at lag 1 or changes in foreign exchange reserves 1 previous year which has a significant and positive effect on non-oil and gas imports with the calculation that if the foreign exchange reserves increased by one unit, it increased non-oil and gas imports by 0.985053 in the short term in Indonesia.

Long-Term ARDL Estimate Y2 (Non-Oil And Gas Imports)

Table 10 Long-Term ARDL Test Results Y2 (Non-Oil And Gas Imports)

Variabel	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGPDB)	0.064505	1.484499	0.043453	0.9660
D(INF)	0.007219	0.003855	1.872537	0.0838
D(LOGNT)	-0.128379	0.393788	-0.326010	0.7496
D(LOGCDV)	0.368090	0.344280	1.069159	0.3044
C	0.098998	0.100819	0.981932	0.3441

Source: Results Of Data Eviews 12

The results of long-term estimation using ARDL model in Table 10 above can be described as follows :

1. GDP or $D(\text{LOGPDB})$ in the long term has a probability value of 0.9660 which is at the level of $@ 1\%$, 5% , and 10% .

GDP does not have a significant effect due to the probability value $> @ 1\%$, 5% , and 10% , and the coefficient value of 0.064505 where GDP has a positive effect on non-oil and gas imports, it means that in the long term the increase in GDP does not have a significant relationship and a positive effect on non-oil and gas imports in Indonesia by responding if GDP increases by one unit then there is an increase in non-oil and gas imports of 0.064505 in Indonesia.

2. Inflation or $D(INF)$ in the long term has a probability value of 0.0836 which is at the level of $@ 1\%$, 5% , and 10% , inflation has a significant effect due to the probability value of $< @ 10\%$ and the coefficient value of 0.007219 which is where inflation has a positive effect on non-oil and gas imports, it means that in the long term inflation has a significant relationship and a positive effect on non-oil and gas imports in Indonesia by responding if inflation rises by one unit then there is an increase in non-oil and gas imports of 0.007219 in Indonesia.
3. The exchange rate or $D (LOGNT)$ in the long term has a probability value of 0.7496 which is where the level of $@ 1\%$, 5% , and 10% , the exchange rate has no significant effect due to the probability value $> @ 1\%$, 5% , and 10% and coefficient value of -0.128379 which is where the exchange rate has a negative effect on non-oil and gas imports, this means that in the long term the exchange rate does not have a significant relationship and a negative effect on non-oil and gas imports in Indonesia with the response if the exchange rate rises by one unit, there is a decrease in non-oil and gas imports of 0.128379 in Indonesia.
4. Foreign exchange reserves or $D (LOGCDV)$ in the long term has a probability value of 0.3441 which is where the level $@ 1\%$, 5% , and 10% , foreign exchange reserves have no significant effect due to the probability value $> @ 1\%$, 5% , and 10% and coefficient value of 0.368090 which is

where foreign exchange reserves have a positive effect on non-oil and gas imports, this means that in the long term, foreign exchange reserves do not have a significant relationship and have a positive effect on non-oil and gas imports in Indonesia with the response that if foreign exchange reserves increase by one unit, there will be an increase in non-oil and gas imports of 0.368090 in Indonesia.

DISCUSSION

Effect Of GDP On Oil And Gas Imports In The Short And Long Term

In the results obtained, variable GDP in the short term has a significant value against oil and gas imports, the relationship in the short term is positive, then the hypothesis is accepted in the short term, this is because oil and gas is one of the drivers of the production sector, the fulfillment of domestic oil and gas consumption is quite a lot while, so when oil and gas imports increase, the production of goods and services will increase this will also increase economic growth (gross domestic product), the results of this study are supported by previous research namely Muhammad Afan Rifai (2019), and Mutika, Haryadi, Siti Hodijah (2015) which states that oil and gas imports have a significant and positive effect, This is also in accordance with the theory of David Ricardo (Comparative Cost) which states that when countries are less efficient in producing a good then involving international trade is an effective thing even though the ratio of the two countries' profits is different but it is better to do than not doing trade at all.

Then the influence of GDP on oil and gas imports in the long term has a significant effect and has a negative relationship where this can happen because the higher economic growth in Indonesia will increase domestic oil and gas production and attract the attention of investors to conduct large-scale oil production in Indonesia which causes Indonesia to reduce oil and gas imports, (2016) which states that oil and gas

imports have a significant effect on economic growth where having oil and gas reserves as a source of energy in carrying out economic activities every day is a must, a large supply of energy is the desire of every country, because many countries are still very dependent on oil and gas to carry out economic activities. The realization is that Indonesia is still importing oil and gas from several other countries, the value of oil and gas imports continues to experience ups and downs throughout 2015-2020 (BPS, 2021). New in 2018 – 2020 (BPS, 2021). Oil and gas imports have decreased significantly, meaning that Indonesia has been able to process oil and gas from its natural resources without having to import from other countries.

Effect Of Inflation On Oil And Gas Imports In The Short And Long Term

In the results obtained, variable inflation in the short term and long term has a significant value on oil and gas imports, the relationship in the short term is positive, then in accordance with the hypothesis, the inflation regression coefficient which shows that if there is an increase in inflation one unit will increase oil and gas imports by 0.017% and in the long%, in terms of the amount of increase in oil and gas imports in the long term and short term as a result of rising inflation in Indonesia is quite stable. Therefore, the government's policy to maintain low and stable inflation can be an alternative that can reduce Indonesia's imports and is also expected to further increase profits in Indonesia's trade balance. The results of this study are supported by the results of research conducted by Jusmer Sihotang, Yabes Oberatos Gulo (2020) and Islami & Rizki (2018) which stated that inflation has a significant and positive effect on oil and gas imports in Indonesia.

Effect Of Exchange Rate On Oil And Gas Imports In The Long And Short Term

In the results obtained, exchange rate variables in the short term and long term have a significant effect on oil and gas

imports, the exchange rate has a positive relationship in the short term in the ongoing time this is due to the weakening of the Indonesian exchange rate partially which causes high oil and gas imports then in the 2nd lag the exchange rate has a significant effect and has a negative relationship which in the previous 2 years the Indonesian exchange rate in 2019 increased and caused a decrease in oil and gas imports in Indonesia in 2020, the value of the exchange rate coefficient in the short term of -1.797758 then if it rises by one unit on the exchange rate it will reduce oil and gas imports by 1.797758 Rupiah and the coefficient in the long term of -1.276748 which means that if the exchange rate rises by one unit it will reduce oil and gas imports by 1.276748 Rupiah, then in accordance with The Theory of Purchasing Power Parity proposed by Gustav Cassel who said that a comparison of the value of other currencies is determined by the purchasing power of money against goods and services in each country, the results of this study are supported by the results of research conducted by Surayandanu (2014) which states that the US dollar exchange rate has a significant and negative effect on imports due to the increase in the dollar exchange rate continues to increase due to unstable economic conditions causing domestic industry vulnerable to bankruptcy.

Effect Of Foreign Exchange Reserves On Oil And Gas Imports In The Short And Long Term

In the results obtained, foreign exchange reserves in the short and long term have a significant effect and have a positive relationship with oil and gas imports. In the penden term, the coefficient value of foreign exchange reserves is 0.909992, which means that if foreign exchange reserves increase by one unit, it will increase oil and gas imports by 0.909992 rupiah in the short term, in the long term, the coefficient value of foreign exchange reserves is 1.154278 which means that if foreign exchange reserves increase by one unit, it will

increase imports by 1.154278 Rupiah in the, exchange rate, and inflation to foreign exchange reserves in 1994-2018, the results of this study show that imports have a significant and positive effect on foreign exchange reserves and research from Erlangga (2014) which states that when Indonesia's foreign exchange reserves increase, the volume of imports will also increase, this is because Indonesia will be able to finance more imports when it has more foreign exchange reserves.

Effect Of GDP On Non-Oil And Gas Imports In The Short And Long Term

In the results obtained, GDP in the short term has a significant effect and has a positive relationship to non-oil and gas imports, but in the long term GDP does not have a significant effect and has a positive relationship in the long term, in the short term GDP has a coefficient of 4.802893 which means that if GDP increases by one unit, then in the long term that has a coefficient value of 0.064505, which means that if GDP increases by one unit, it will increase non-oil and gas imports by 0.064505 rupiah in the long term, in accordance with the theory that GDP has a positive effect on non-oil and gas imports, this research is also supported by Kuswantoro, Gita Rosianawati (2016) , Foreign exchange reserves and the Rupiah exchange rate against non-oil and gas imports in Indonesia which states that GDP has a significant effect and has a positive relationship in the long and short term, this study is also in accordance with the research of W IchasanDimas (2014) which states that the government decided to import with consideration of the urgent needs of its citizens, so the government is forced to import to meet the needs of the people in Indonesia.

GDP is the value of goods and services produced by a country both domestic and foreign countries in a certain period (Mankiw, 2003: 6), the high and low value of a country's imports depends on the population of a country that has a different

level of satisfaction and depends on the ability of a country to produce goods in the country itself, a population prefers to buy imported goods with the aim that getting a better quality of domestic products and also a country to import because in the country is not the availability of these materials for domestic production, this study is also in accordance with

The Effect Of Inflation On Non-Oil And Gas Imports In The Short And Long Term.

In the results obtained, inflation in the short and long term has a significant effect and has a positive relationship to non-oil and gas imports, with a coefficient value in the short term of 0.008895 which means that if inflation increases by one unit will increase on-oil and gas imports by 0.008895% in the short term and in the long term the coefficient value of 0.007219 which means that if inflation increases by one unit will increase non-oil and gas imports by 0.007219% in the long term, so in accordance with the theory that inflation has a positive and significant effect on non-oil and gas imports, this study is also supported by research from Dwi Kartikasari and Rifki Khoirudin (2022) entitled determinant analysis affecting imports in Indonesia which states that inflation has a positive and significant effect on imports in the long and short term,

High and low inflation affects non-oil and gas imports because the main characteristic of inflation is the increase in goods and services contained in the country within a certain period of time, it causes people to be much more interested in buying imported goods because the distance of much cheaper import prices increases the high demand for imports in the community, then with high inflation can cause high demand for domestic imports.

The Effect Of Exchange Rates On Non-Oil And Gas Imports In The Short And Long Term.

In the results obtained, the exchange rate in the short term has a significant effect and has a positive relationship to non-oil and gas imports in the short term, but at lag 1 and lag 2 the exchange rate has a negative relationship to non-oil and gas imports but does not significantly affect, the exchange rate at the current time has a coefficient of 0.668868 which means that if the exchange rate increases by one unit will increase non-oil and gas imports by 0.668868 rupiah in the short term, so it is not in accordance with the hypothesis that the exchange rate has a negative relationship to non-oil and gas imports in Indonesia, in this case the global currency exchange rate of each country in use as a means of international payment, foreign exchange rates will change depending on the supply and demand of foreign exchange, in the floating exchange rate, if the exchange rate is depressed, it will increase exports to a country and imports will decrease, but if the exchange rate appreciates, it will increase imports to a country and exports tend to decrease.

In the long term the exchange rate has no significant effect and has a negative relationship to non-oil and gas imports, the value of the exchange rate coefficient of -0.126379 which means that if the exchange rate increases by one unit will reduce non-oil and gas imports by 0.126379 rupiah in Indonesia, then the relationship is in accordance with the theory but does not have a significant effect on non-oil and gas imports, this study is also supported by research from Ida Bagus Wira Satria Wiguna and Anak Agung Ayu Suresmiathi D (2014) entitled The effect of foreign exchange, foreign exchange, GDP and inflation on imports of compressor machines from China which states that the exchange rate has a negative and insignificant effect on imports.

Effect Of Foreign Exchange Reserves On Non-Oil And Gas Imports In The Short And Long Term

In the results obtained, foreign exchange reserves in the short term at the current time

does not have a significant effect and has a negative relationship to non-oil and gas imports, but at lag 1 foreign exchange reserves have a significant effect and have a positive relationship to non-oil and gas imports, where in the previous 1 year foreign exchange reserves have a coefficient value of 0.985053 which means that if foreign exchange reserves increase by one unit, it will increase non-oil and gas imports by 0.985053 rupiah in the short term in Indonesia and in the long term foreign exchange reserves have no significant effect and have a positive relationship with non-oil and gas imports which have a coefficient value of 0.368090 which means that if foreign exchange reserves increase by one unit, it will increase imports by 0.368090 rupiah in Indonesia, therefore, it is not in accordance with the hypothesis that foreign exchange reserves have a significant and positive effect on non-oil and gas imports in Indonesia in the long term.

Increasing foreign exchange reserves can increase imports in a country because foreign exchange reserves are still in a safe position if they meet import needs for a minimum period of three months, according to Kuswantoro and Gita Rosianawati (2016) if a country's foreign exchange reserves are not sufficient for three months of imports, then these conditions are considered vulnerable, this study was also supported by Sekar Ayu Nawangwulan entitled determinant analysis of Indonesia's foreign exchange reserves which states that imports in the short term have a significant effect and have a positive relationship to imports but in the long term foreign exchange reserves do not have a significant effect and have a positive relationship to imports in Indonesia.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Based on the results of the study, it can be concluded as follows:

1. Real GDP (Gross Domestic Product) in the short term has a significant effect

- and has a positive relationship to oil and gas imports in Indonesia, and in the long term GDP has a significant effect and has a negative relationship to oil and gas imports in Indonesia.
2. Real GDP Gross Domestic Product in the short term has a significant effect and has a positive relationship to non-oil imports in Indonesia, and in the long term GDP does not have a significant effect and has a positive relationship to non-oil imports in Indonesia.
 3. Inflation in the short term has a significant effect and has a positive relationship to oil and gas imports in Indonesia, and in the long term inflation has a significant effect and has a positive relationship to oil and gas imports in Indonesia.
 4. Inflation in the short term has a significant effect and has a positive relationship to non-oil imports in Indonesia, and in the long term inflation has a significant effect and has a positive relationship to non-oil imports in Indonesia.
 5. The exchange rate (exchange rate) in the short term has a significant influence and has a positive relationship to oil and gas imports in Indonesia, in the long term the exchange rate (exchange rate) has a significant influence and has a negative relationship to oil and gas imports in Indonesia.
 6. The exchange rate (Kurs) in the short term has a significant effect and has a positive relationship to non-oil and gas imports in Indonesia, in the long term the exchange rate has no significant effect and has a negative relationship to non-oil and gas imports in Indonesia.
 7. Foreign exchange reserves in the short term have a significant influence and have a positive effect on oil and gas imports in Indonesia, in the long term foreign exchange reserves have a significant influence and have a positive effect on oil and gas imports in Indonesia.
 8. Foreign exchange reserves in the short term do not have a significant effect and have a negative relationship to non-oil imports in Indonesia, in the long term foreign exchange reserves do not have a significant effect on and have a positive relationship to non-oil imports in Indonesia.

RECOMMENDATIONS

Suggestions researchers from research that has been done are as follows:

1. GDP has a positive relationship on oil and gas and non-oil imports, an increase in real gross domestic product will be able to increase Indonesia's oil and non-oil imports in the short term, the policy that needs to be done is to improve the competitiveness of domestic production through improving the quality of existing products in the country, improving the quality of human resources in Indonesia and controlling the increase in domestic production costs in order to compete on foreign products and can reduce the rate of increase in imports in Indonesia.
2. Inflation has a positive relationship with oil and gas imports and non-oil, inflation has a significant effect on the increase in oil and non-oil imports in the long term and short term, so the government should maintain the stability of inflation so as not to increase too high by reducing import demand in the country so that inflation stability can be maintained properly, stabilize people's income (wage level), set maximum prices and supervise and distribute goods.
3. The exchange rate has a positive relationship to oil and non-oil imports in the short term but is negative in the long term, seeing the high exchange rate can cause the international economy to become unstable because the high exchange rate can reduce the level of imports and increase exports, but the trade balance becomes unstable only by focusing on the exchange rate,

- the government should focus on other factors such as increasing productivity, quality of production, and create a conducive business climate and others.
4. Foreign exchange reserves have a positive relationship to oil and gas imports and negative to non-oil, the government should increase foreign exchange reserves in order to maintain economic resilience in Indonesia, the government should improve the quality of human resources in Indonesia in order to tercptanya encouragement from foreigners to be able to invest funds into Indonesia and the creation of an increase in the value of foreign exchange reserves and in the long term able to increase the value of the economic sector of goods and services.
 5. For further research, due to the limited scope of this research, for further research more looking for monetary and fiscal economic relations with the international economy, the number of variables should be added more variables such as interest rates, foreign debt, investment, and others, in the research methods used should be able to compare several econometric methods both dynamic and static methods such as VAR (Vector Autoregression), VECM (Vector Error Correction Model), Partial adjustment Model (PAM), BSM (Buffer Stock Model), and others, With the target is to find new theories that are more relevant to be applied in real or real practice.

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