

Analysis of Economic Growth and Export Value Based on Interest Rates and Rupiah Exchange Rate

Nila Ayu Kusuma Wardani
Politeknik Balekambang Jepara
nilaayu.politbang@gmail.com

Abstract.

International trade is a tool in increasing the country's economic growth. This research intends to conduct an analysis of the open rate and the exchange rate on Indonesia's economic growth. An analysis was also conducted on the impact of interest rates, exchange rates and economic growth on the value of Indonesia's exports. Efforts to obtain scientific results require the use of scientific methods where in this research path analysis is used by utilizing the SPSS program. The results obtained are interest rates and exchange rates have a direct impact in the form of a negative impact on Indonesia's economic growth. The impact of interest rates is not significant but positive. while Indonesia's economic growth has a positive and significant impact on exports. Economic growth also mediates the effect of interest rates and exchange rates on the value of Indonesia's exports.

Keywords: Interest Rate; Exchange Rate; Economic Growth; Export Value

Abstrak.

Perdagangan internasional merupakan alat dalam meningkatkan pertumbuhan ekonomi negara. Penelitian ini bermaksud untuk melakukan analisis kurs terbuka dan kurs nilai tukar terhadap pertumbuhan ekonomi Indonesia. Analisis juga dilakukan terhadap dampak suku bunga, nilai tukar, dan pertumbuhan ekonomi terhadap nilai ekspor Indonesia. Upaya memperoleh hasil ilmiah memerlukan penggunaan metode ilmiah dimana dalam penelitian ini digunakan analisis jalur dengan memanfaatkan program SPSS. Hasil yang diperoleh adalah suku bunga dan nilai tukar memberikan dampak langsung berupa dampak negatif terhadap pertumbuhan ekonomi Indonesia. Pengaruh suku bunga tidak signifikan tetapi positif. Sedangkan pertumbuhan ekonomi Indonesia berpengaruh positif dan signifikan terhadap ekspor. Pertumbuhan ekonomi juga memediasi pengaruh suku bunga dan nilai tukar terhadap nilai ekspor Indonesia.

Kata Kunci: Suku Bunga; Nilai Tukar; Pertumbuhan Ekonomi; Nilai Ekspor

INTRODUCTION

Some world economists such as David Richardo and Adam Smith believe the existence of foreign trade can help stimulate economic growth in the countries that run it. Foreign trade is an export activity that has a major impact on a country's economic condition, one of which can increase a country's income. Indonesia participates in various international cooperation programs aimed at opening trade opportunities between countries (Juliantari and Setiawina 2015). Globalization and economic development have turned countries into interdependence with other countries to meet their needs and sell a variety of high-quality products. This indicates that various countries in the world barter services and goods in order to carry out foreign (international) trade. The country's success in increasing exports reflects the positive dynamic growth rate of increased competitiveness and entrepreneurship (Bustami and Hidayat 2013).

Tambunan in Hariadi explained that the biggest background of non-oil and gas exports getting more attention than oil and gas exports is because Indonesia has entered a free trade era such as the ASEAN Free Trade Area and will then enter a free era. .to enter. Agree. Liberalization at the global level under World Trade Organization (WTO) agreements. Indonesia, which has oil and gas and non-oil and gas production commodities, focuses on natural resource extraction as a comparative advantage. Trade with other countries will be profitable. That is, the ability to buy goods at a lower price and sell them abroad at a higher price ratio. Extraordinary trade from different prices of goods in different countries. Keynesian theory explains that GDP has several factors that have a positive impact: consumption, investment, government spending, and net exports. These four factors are also influenced by other factors, namely interest rates, prices, income, inflation, money supply, exchange rates and foreign interest rates (Hariadi 2008).

The interest rate is the price at which money is agreed to be used over a period of time. When interest rates are low, more money flows in and economic growth picks up. On the other hand, when interest rates are high, a small flow of money will lead to lower economic growth (Sundjaja and Barlian 2003). High interest rates will limit government spending on credit, which will reduce importers' borrowing, which will reduce the cost and volume of imports. In addition, relatively low interest rates can provide increased consumption that will increase income (Bank Indonesia 2017). Indonesian interest rate refers to the interest rate of Bank Indonesia Certificates commonly called BI interest rate.

High interest rates can make money more expensive, and can weaken the competitiveness of exports in global markets, which can hinder businesses from investing in these countries, reduce production, and hinder economic growth (Boediono 1992).

International trade in the form of exports of goods results in exchange rates being the basis for determining commodity price levels. Exchange rates are interpreted by comparing currency prices contained in one country with prices in other countries. Thus, currency appreciation benefits the exporting country and vice versa. The US dollar exchange rate is used in this study because the US dollar exchange rate is an international exchange rate standard for currencies that have stability and is one of the strongest currencies that are easy to trade and anyone accepts it as a means of payment in trade (Latief 2002). Theoretically, if the exchange rate strengthens against the won, exports may increase, and conversely, if the exchange rate decreases against the won, exports may decrease (Sounders and Schumacher 2002).

Macroeconomic theory explains that the relationship between national income or economic growth and exports is an equation, this is because imports and exports are part of the level of national income. There are various things that can affect economic growth in a country, some of these factors such as interest rates, money supply, human resources, investment and international trade. Calculation of gross domestic product (GDP) using expenditure methods includes imports and exports. So, if studied in mathematical studies, imports and exports can have an influence on the value of GDP. Because exports can increase GDP and imports can reduce GDP. You can then compare this GDP to see the high and low economic growth rates for the country. Moreover, imports and exports must be related to the strong exchange rate of the country's currency against world currencies. The country will have an interest in increasing its exports at a lower exchange rate for its currency and vice versa. This is due to higher incomes in the home currency earned due to low exchange rates.

LITERATURE REVIEW

In one study, Adam Smith stated that in theory the absolute advantage of a country to export goods where the country has an absolute advantage over other countries. Similarly, in the theory of comparative advantage, Ricardo states that each country has a relatively non-absolute advantage and the Heckscher-Ohlin theory states that the gift of nature and the price of factors of production between countries are the main international determinants (Febriyanti 2019).

Increasing exports is no longer just an option but a necessity to support a country's economic growth. With the increasing development of exports, trade relations between Indonesia and other countries, both directly and indirectly, have an impact on changes in a country's macro indicators (Bustami and Hidayat 2013).

Which explains the correlation between exchange rates and international trade volumes using the Mundell Fleming Model. The model assumes that the price level is fixed and shows the causes of short-run fluctuations in a small open economy with perfect capital mobility. This model shows that changes in currency values will result in changes in exports and imports. If the exchange rate depreciates and the value of the domestic currency relative to foreign currencies decreases, the volume of exports will increase (Mankiw 2007).M

When the value of the currency increases it will benefit the exporting country and vice versa. This result is in accordance with the theory that if the foreign exchange rate increases against the domestic currency, this can increase exports and vice versa if the foreign exchange rate depreciates against the domestic currency, then exports will decrease (Sounders and Schumacher 2002).

The BI rate (Bank Indonesia Interest Rate) has a direct positive and significant effect on economic growth. If the BI rate decreases, the Indonesian economy will increase, and vice versa if the BI rate increases, economic growth in Indonesia will decrease, because the BI rate will affect lending rates and deposit rates, so that an increase or decrease in the BI Rate will affect economic growth (Pratiwi 2015).

RESEARCH METHODS

This research uses an associative quantitative approach. The information source used is a type of secondary data source. Secondary data is in the form of data on interest rates, exchange rates, economic growth and export values for the period 2003-2022. Secondary data for this research was obtained through (BI) Bank Indonesia and (BPS) Central Bureau of Statistics, Ministry of Trade and World Bank. Association studies aim to describe the relationship or influence among variables. This research was conducted to determine the relationship between various variables such as interest rates and exchange rates with the number of exports following Indonesia's economic growth through path analysis.

RESULTS AND DISCUSSION

1. Direct Effect of Interest Rates and Exchange Rates on Indonesia's Economic Growth Substructural Regression Equation I:

The purpose of this test is to determine the direct impact of interest rates and exchange rates on Indonesia's economic growth. The result of the regression equation is shown by the following data:

$$\begin{aligned} Y_1 &= -0,693X_1 - 0,700X_2 + e_1 \\ Sb &= (0,099) \quad (0,190) \quad R_2 = 0,381 \\ T &= (-2.800) \quad (-2.828) \quad F = 4,927 \\ Sig &= (0,013) \quad (0,012) \end{aligned}$$

Information :

X1 = Interest rate

X2 = Exchange rate

Y1 = Economic growth

2. Direct Effect of Interest Rates, Exchange Rate and Economic Growth on Indonesia's Export Value Substructure Regression Equation II:

The purpose of this test is to examine the direct effect of interest rates, exchange rates and economic growth on the value of Indonesian exports. The results of the regression equation are shown in the following data:

$$\begin{aligned} Y_2 &= -0,506X_1 + 0,299X_2 + 0,509Y_1 + e_2 \\ Sb &= (0,199) (0,384) \quad (0,411) \quad R_2 = 0,843 \\ t &= (-3,220) (1,897) (3914) \quad F = 26,798 \\ sig &= (0,006) (0,077) (0,001) \end{aligned}$$

Information :

X1 = Interest rate

X2 = Exchange rate

Y1 = Economic growth

Y2 = Export value

3. Value of the coefficient of total determination

Based on the calculation of the general coefficient of determination, the diversity of data that can be explained by the model is 90.4%, that is, the information included in 90.4% is influenced by the variables in this study. While 9.6% is the influence of other variables.

4. Hypothesis Testing Results

a. Direct Effect of Interest Rate (X1) on Economic Growth (Y1)

The beta of the standard coefficient is -0.693 with a sig of 0.013 smaller than 0.05 which indicates that interest rates have a negative and significant influence on Indonesia's economic growth. Keynes argued that interest rates were a monetary phenomenon. In other words, the demand for money and supply determine the interest rate. As long as money affects interest rates, it will affect economic activity (GNP). Changes in interest rates then affect the willingness to invest and affect GNP. In accordance with Palupi Basundari's research, in the long term the BI rate also has a negative and significant impact on economic growth, so that if the BI rate decreases it has an impact on Indonesia's economic growth, and if the BI rate increases it will have an impact on declining Indonesia's economic growth in the coming year, because the BI ratio will affect both loan and deposit rates, so that an increase or decrease in the BI ratio affects economic growth (Basundari 2016). This is also in accordance with the research of Friselia Renshi Tiva et al that there is a negative and significant influence of interest rates on Indonesia's economic growth in 2005-2014 (Tiwa 2016).

b. Direct Effect of Exchange Rate (X2) on Economic Growth (Y1)

Based on the calculation results, the standard value of the Beta coefficient is -0.700 with a sig of $0.012 > 0.05$ so that it is concluded that the exchange rate has a negative and significant effect on economic growth. There are negative effects between economic growth and exchange rates. The higher the exchange rate, the lower the export value (the difference between imports and exports). This reduction has the effect of decreasing production and causing a decrease in GDP (Mankiw 2007). When the relative price of foreign goods rises, the price of foreign or imported goods becomes higher, so consumers switch from consuming foreign goods to consuming domestic goods. This is in accordance with the research of Widia Ayu Lastri and Ali Anis that there is a significant negative influence between exchange rates on Indonesia's economic growth (Lastri and Anis 2020).

c. Direct Effect of Interest Rate (X1) on Indonesia's Export Value (Y2)

The calculation of the standard value of the Beta coefficient is -0.506 with a sig of $0.006 > 0.05$ so that the conclusion is that the interest rate has a significant and negative influence on Indonesia's exports. When the interest rate on a loan rises, working capital decreases. This leads to a decrease in output which in turn affects exports, which is automatically interpreted as a lower export value, which means there is a negative correlation between loan interest rates and export volumes (Bank Indonesia 2017). This research is in line with research by Suprianto et al. stating that interest rates have a significant and negative influence on U.S.-Indonesian agricultural product exports (Suprianto, Syapsan, and Darmayuda 2017). The results of this study are in accordance with the theory that the amount of working capital that exporters want to receive depends on the interest rate on loans.

d. Direct Effect of Exchange Rate (X2) on Indonesia's Export Value (Y2)

Based on the results of statistical calculations, the standard value of the beta coefficient is 0.299 and sig $0.077 > 0.05$, the conclusion is that the exchange rate has a positive and insignificant effect on Indonesia's exports. This conclusion shows that the decline or increase in the exchange rate does not affect export activities. When the rupiah appreciates against the dollar, exports decline (negative effect). This is because, when the Indonesian currency strengthens (rises), the price of local products in other countries becomes higher, and people in other countries do not

want to import Indonesian goods, so exports decrease. Conversely, if the rupiah depreciates (weakens) against the dollar, exports increase. Therefore, this study does not fit the model of Mundell Fleming Mankew, and a decrease in the value of the rupiah against foreign currencies increases the value of exports and decreases the value of imports (provided that import demand and export supply are sufficiently elastic). In the international market, if the weakness of the domestic market seems attractive, exports experience an increase due to the price of products in the country becoming cheap. The results of this study are in line with the findings of Kharisma Putri who found that exchange rates do not affect exports. When the rupiah depreciates against foreign currencies, the value of exports increases and the value of imports decreases (provided that import demand and export supply are sufficiently elastic). In the international market, if the weakness of the domestic market seems attractive, exports experience an increase due to cheaper prices of domestic goods (Putri 2021).

e. Direct Effect of Economic Growth (Y1) on Indonesia's Export Value (Y2)

Based on the calculation results, the standard value of the beta coefficient is 0.509 with a sig of $0.001 < 0.05$, so the conclusion is that economic growth has a positive and significant influence on the value of Indonesia's exports. Sukirno argues that the determinant of exports is the strength of a country in producing goods that can later be used to compete in the external market. So, as a country's GDP increases, so does its output. Therefore, Indonesia's exports will also increase and vice versa. This is in accordance with Ayu Agustina Pratiwi's research which found that GDP variables had a significant effect on Indonesia's exports during the 2006-2016 research period. IV. An increase in a country's national income (GDP) means an increase in people's welfare, which can affect people's productive capacity and eventually exports to other countries. (Agustina Pratiwi and Daryono Soebagyo 2018) Widhi Ari and Meydianawathi's research found that US GDP in 1996-2012 had a significant and positive influence on Indonesia's wood carving exports to the US (Ari, Nyoman, and Meydianawathi 2014). This conclusion is in line with Keynes's theory which explains that income has little effect on imports. For GDP, with the increase in the number of importing countries, it will affect the purchasing power of exports. On the other hand, if the number of importing countries will

decrease, and the purchasing power of export products will also decrease. The results of this study are also according to Adam Smith's classical theory. It is said that the prosperity of the country will be determined depending on the amount of GDP and the contribution of foreign trade to the formation of national GDP.

5. Sobel Test Results

a. Examining the strength of the indirect influence of variable Interest Rate (X1) on Indonesia's Export Value (Y2) through Economic Growth (Y1)

From the calculation results, the calculated Z value of 3.684 is greater than 1.96 which means that the economic growth rate (Y1) mediates the effect of interest rates (X1) on the value of exports (Y2).

b. Examining the strength of the indirect influence of exchange rate variables (X2) on Indonesia's Export Value (Y2) through Economic Growth (Y1)

From the calculation results, the Z value is calculated at $4.293 > 1.96$ which means that economic growth (Y1) mediates the effect of the exchange rate (X2) on the export value (Y2).

The role of mediation according to Baron and Kenny, complete mediation exists when the influence of the independent variable on the mediator is not important, while the influence of the mediation variable on the dependent variable is important. Conversely, if the dependent variable has a major effect on the parameter and the independent variable has a major effect on the parameter, then the results of this study can be said to support the effect of partial mediation. From the results of this study, it can be concluded that economic growth is strong enough to convey the impact of exchange rates and interest rates on Indonesia's exports (Baron and Kenny 1986).

CONCLUSION

From the findings described, we can conclude that: Interest rates and exchange rates are directly but negatively related to Indonesia's economic growth. Interest rates have a significant and negative direct relationship with the value of Indonesia's exports. The exchange rate, on the other hand, has a positive impact on Indonesian exports, but with little direct impact. There is a significant and positive influence between Indonesia's economic growth and the value of Indonesia's exports. Economic growth partly mediates the exchange rate and the effect of interest rates on Indonesia's exports. Based on the

results and conclusions of the analysis, we can provide several suggestions, such as: The government is expected to improve the Indonesian economy by increasing and reducing exports, expanding export destinations and improving the quality of export products. In addition, we can encourage economic growth by diversifying exports and expanding export market targets, as well as striving to make exports the main driving force of Indonesia's economic growth. The Government and the Financial Services Agency (Bank Indonesia) are expected to cooperate in policy making by the government which has an impact on the economic impulse. On the other hand, the central bank's policy is to lower BI interest rates, lower lending rates, borrow more from banks to invest in production, and automatically increase exports. The government and BI must also monitor exchange rate movements, because exchange rates that are too high can cause an increase in commodity prices, especially imported goods. In order to stabilize the rupiah exchange rate against other countries' currencies, the stability of market participants in the foreign exchange market also needs to be maintained by controlling exchange rates. Senior researchers are encouraged to use other methods that are more aligned with economic developments for better results. So that it can use variables other than interest rates and exchange rates to determine economic growth and its impact on the value of economic exports in Indonesia.

REFERENCE

- Agustina Pratiwi, Ayu, and M Ec Daryono Soebagyo. 2018. "Analisis Pengaruh Kurs Dollar as, Pdb Dan Inflasi Terhadap Ekspor Indonesia Tahun 2006. I–2016. IV." Universitas Muhammadiyah Surakarta.
- Ari, Widhi, Ni Nyoman, and Luh Gede Meydianawathi. 2014. "Analisis Beberapa Faktor Yang Mempengaruhi Ekspor Kerajinan Ukiran Kayu Indonesia Ke Amerika Serikat Tahun 1996-2012." *E-Jurnal Ekonomi Pembangunan Universitas Udayana* 3 (6): 44458.
- Bank Indonesia. 2017. "Arah Kebijakan Perekonomian." *Laporan Perekonomian Indonesia 2017* BAB 10: 186–222.
- Baron, Reuben M, and David A Kenny. 1986. "The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology* 51 (6): 1173.
- Basundari, Palupi. 2016. "Pengaruh Bi Rate, Inflasi Dan Nilai Tukar Terhadap Pertumbuhan Ekonomi Di Indonesia Periode 2005.1-2014.4." Universitas Jember.

- Boediono. 1992. *Ekonomi Internasional Seri Sinopsis Pengantar Ilmu Ekonomi No.3. Kedua*. Yogyakarta: BPFE-UGM.
- Bustami, Budi Ramanda, and Paidi Hidayat. 2013. "Analisis Daya Saing Produk Ekspor Provinsi Sumatera Utara." *Jurnal Ekonomi Dan Keuangan* 1 (2): 14876.
- Febriyanti, D Fitri. 2019. "Effect of Export and Import of Gross Domestic Product in Indonesia 2008-2017." *Jurnal Ecoplan* 2 (1): 10–20.
- Hariadi, Pramono. 2008. "Faktor-Faktor Yang Mempengaruhi Kinerja Ekspor Non Mgas Indonesia." *Dalam Jurnal Ventura* 11 (3).
- Juliantari, Desak Putu Emmei, and Nyoman Djinar Setiawina. 2015. "Analisis Pengaruh Kurs Dollar Amerika Serikat, Inflasi Dan Penanaman Modal Asing Terhadap Nilai Ekspor Makanan Dan Minuman Di Indonesia." *E-Jurnal Ekonomi Pembangunan Universitas Udayana* 4 (12): 44586.
- Lastri, Widya Ayu, and Ali Anis. 2020. "Pengaruh E-Commerce, Inflasi, Dan Nilai Tukar Terhadap Pertumbuhan Ekonomi Indonesia." *Jurnal Kajian Ekonomi Dan Pembangunan* 2 (1): 151–60.
- Latief, Dochak. 2002. "Pembangunan Ekonomi & Kebijakan Ekonomi Global." Surakarta.
- Mankiw, N Gregory. 2007. "Makroekonomi,(Terjemahan)." *Harvard University, Edisi Keenam, Erlangga, Jakarta*.
- Pratiwi, Nabilla Mardiana. 2015. "Pengaruh Inflasi, Tingkat Suku Bunga SBI, Dan Nilai Tukar Terhadap Penanaman Modal Asing Dan Pertumbuhan Ekonomi Di Indonesia (Tahun 2004 Sampai Dengan Tahun 2013)." *Jurnal Administrasi Bisnis* 26 (2).
- Putri, Vega Sofie Kharisma. 2021. "Pengaruh Nilai Tukar Dan Produk Domestik Bruto Terhadap Ekspor Textile Dengan Inflasi Sebagai Variabel Intervening." In *UMMagelang Conference Series*, 585–99.
- Sounders, Anthony, and Liliana Schumacher. 2002. "Analysis of the Dollar Exchange Rate." *Journal of Development Economic* 5.
- Sundjaja, Ridwan, and Inge Barlian. 2003. "Manajemen Keuangan 2 Edisi Keempat." *Jakarta: Literate Lintas Media*.
- Suprianto, Suprianto, Syapsan Syapsan, and Darmayuda Darmayuda. 2017. "Analisis Pengaruh Kurs Dan Suku Bunga BI Rate Terhadap Ekspor Pertanian Indonesia Ke Amerika Serikat." Riau University.
- Tiwa, Frisyelia Renshy. 2016. "Pengaruh Investasi, Suku Bunga Sertifikat Bank Indonesia (SBI) Dan Jumlah Uang Beredar Terhadap Pertumbuhan Ekonomi Indonesia Tahun 2005-2014." *Jurnal Berkala Ilmiah Efisiensi* 16 (2).