Analysis Of The Economic Bilateral Relationship Indonesia – China On Balance Of Payments In Indonesia

Sri Wulandari
Stade University of Medan
Indonesia
Medan, indonesia
Wulandarisri573@yahoo.co.id

Yusuf Harahap
Stade University of Medan
Indonesia
Medan, indonesia

Andri Zainal
Stade University of Medan
Indonesia
Medan, indonesia

***Abstract*—This study aims to analyze how the influence of Indonesia-China bilateral economic relations on the Indonesian economy in 2005-2018. This study uses Indonesia's balance of payments variable to measure the Indonesian economy. By analyzing the theory Balance Of Payment Keynesian so variable in this study include, Indonesia's balance of payments as a dependent variable and the rupiah / yuan exchange rate, Indonesia's gross domestic product (Indonesia's GDP), China's gross domestic product (China's GDP), Indonesia's interest rates, and China's interest rates as an independent variable. The method used in this study is the ECM method (Error Correction Model). The results showed that in the short term the exchange rate IDR / CNY, China's Gross Domestic Product, the BI interest rate had a positive and significant effect on the balance of payments in Indonesia while the Indonesian Gross Domestic Product and Chinese interest rate had a negative and significant effect on the balance of payments in Indonesia. In the long run the exchange rate IDR / CNY has a positive and significant effect, China's Gross Domestic Product has a positive but not significant effect, the BI interest rate has a negative and no significant effect, Indonesia Gross Domestic Product has a negative and significant effect and the Chinese interest rate has a negative and no significant effect on balance of payments in Indonesia**

Keywords*— *Indonesia, China, Indonesia's Balance of Payments, Exchange Rates IDR/CNY, Indonesian GDP, China's GDP, BI Interest Rates, China's Interest Rates

I. INTRODUCTION

Indonesia is one of the countries actively contributing to bilateral and regional economic cooperation and trade cooperation. Indonesia has bilateral relations with many countries, one with China. Bilateral economic relations between Indonesia and China take the flow of trade in goods or capital between countries. Indonesia-China bilateral cooperation makes China one of Indonesia's largest trade partners. In the period 2005 - 2017 the percentage of Indonesia's exports to China by 10.10% was placed in the second position as the destination country for Indonesian exports while for imports China was the most important country of origin in Indonesia, namely 16.01% [1].

In the era of president Jokowi's leadership continued to intensify cooperation in the economic field with China to continue to strengthen. The Indonesian government continues to strengthen relations with China in several economic sectors, especially in the trade, finance, infrastructure, industry, tourism, and community relations sectors. In the last few years, China has been the top five capital contributor country in Indonesia. In 2016 alone, Chinese investment showed a significant increase, from USD 628.34 million in 2015 to USD 2.6 billion. Significant improvement makes China the third largest country of origin of investment in Indonesia with investment realization of 3.4 billion USD under Singapore and Japan (Indonesian Investment Coordinating Board, 2018)

International economic cooperation can have an impact on a country's economy, both positive and negative impacts. With the establishment of international cooperation, a country is able to meet the needs that cannot be fulfilled by its country which is a positive impact of international trade activities, but in addition international economic cooperation can cause shocks in various economic activities of a country caused by changes in the economy of other countries. Thus changes in the Chinese economy will also affect and impact on the condition of the Indonesian economy.

The economic condition of a country itself can be seen from the internal and external sides. And the balance of payments is a condition of a country's external economy that describes a country's international economic activity [2].

The balance of payments will provide an overview of the economic relations that applies between one country and

another, the balance of payments provides information about the values of exports and imports, service transactions, capital flows (service investment and foreign capital inflows) [3].

The following is a chart of Indonesia's balance of payments in 2005: 1-2017: 4.

Indonesia Balance of Payment Graph

The Grand Theory related to an analysis of a country's balance of payments is the Theory of Open Macroeconomics or International Economy. The focus of the analysis of the theory lies in several arguments about why a country must relate to the economic activities of other countries.

In connection with international cooperation, the balance of payments is influenced by many factors, both internal and internal factors caused by the macroeconomic fundamentals of domestic economic shocks and external factors that are influenced by shocks and global economic downturn and the economic conditions of countries that are partners in relation to international trade activities [4]. So as a trading partner that establishes bilateral economic relations with Indonesia, China's economic shocks affect the Indonesian economy. Based on the theory of the Keynesian balance of payments, it is concluded that several factors affecting the balance of payments in Indonesia related to the bilateral relationship between Indonesia and China include, the exchange rate of IDR / CNY, Indonesian GDP, Chinese GDP, BI Interest Rates, and Chinese Interest Rates.

II. LITERATURE REVIEW

A. Keynesian Balance of payment Theory

Keynes argued that the balance of payments did not automatically reach a balance but instead needed government intervention. Keynes's thought was later developed by economists thereafter who focused on balance of payment theory.

In its development, the balance of payment theory is divided into several approaches, namely the elasticity, absorption, and monetary and fiscal mix policies.

B. Relationship of Exchange Rates and Balance of Payments

Keynesian theory explains that the relationship between the exchange rate and the balance of payments can be explained through the price mechanism. If an exchange rate appreciates (the value of foreign currency increases and the value of the local currency decreases), the price of goods abroad will be more expensive and the price in the country will be cheaper. This will cause increased export demand and decreased imports so that the international balance of payments will be a surplus. It can be concluded that the exchange rate has a positive effect on the international balance of payments.

C. Relationship between GDP and Balance of Payments

Keynesian theory explains that if for some reason a country's income rises, then through a multiplier process. This can cause increased imports. If the increase in imports is greater than the increase in exports, then this can cause an International Balance of Payment deficit. So it can be concluded that Domestic GDP has a negative effect on Indonesia's Balance of Payments. Whereas foreign GDP has a positive effect on Indonesia's balance of payments.

D. Relationship of Interest Rates and Balance of Payments

The relationship of interest rates and the International Balance of Payments is explained by Keynesian theory through the income mechanism, where if interest rates rise, there will be a decrease in investment and a decrease in aggregate income. This condition will reduce imports and cause a surplus of the International Payment Balance. So it can be concluded that domestic interest rates have a positive effect on Indonesia's balance of payments. While foreign interest rates have a negative effect on Indonesia's balance of payments.

III. RESEARCH METHODOLOGY

The analytical model used in this study refers to the basic model of multiple linear regression equations with the Error Correction Model of the Domowitz-El-Badawi (ECM-DB) method in estimating the short-term and long-term relationships between the Indonesian Balance of Payments variable, theyuan exchange rate IDR/CNY, Indonesian GDP, Chinese GDP, BI interest rates, China interest rates.

BOP = f (E,Y,Y*,i,i*)

$$BOP = \beta_0 + \beta_1 E - \beta_2 Y + \beta_3 Y^* + \beta_4 i - \beta_5 i^* + \varepsilon i$$

Explanation :

BOP	= Balance of payment
E	= Exchange Rate IDR/CNY
Y	=Gross Domestik Product (Indonesia)
Y*	=Gross Domestik Product (China)
i	= BI Interest rate
i*	= China Interest rate
β_0	= constanta
$\beta_1 : \beta_2 : \beta_3 : \beta_4 : \beta_5$	= Regression Coefficient
εi	= disturbance error

The equation function is converted into the form of a natural logarithmic equation as follows

$$LnBOP = \beta_0 + \beta_1 LnE - \beta_2 LnY + \beta_3 LnY^* + \beta_4 Lni - \beta_5 i + ECT$$

Explanation :

Ln	= Natural Logarithm
d	= First Difference
ECT	= Error Correction Term

IV. RESEARCH RESULT

The error correction model can explain the behavior of the short-term and long-term effects of the independent variable on the dependent variable. In this study the value of ECT (Error Correction Term) 0.998395 with probability 0.0000 and t-statistic value 574.6244> t-table α = 5% and table α = 5% and df = nk (df = 52-6 = 46) that is equal to 1.679 . The ECT coefficient value is positive and statistically significant means the ECM Domowitz El Badawi specification model used in this study is valid [5]. The value of the ECT coefficient (Error Correction Term) can affect how quickly or slowly the balance can be reached again.

Table 1

Variable	Coefficient	t-Statistic	Prob.	Keterangan	Estimasi
D(LNE)	10.45391	46.64072	0.0000	Significant on α=5%	Short Term
D(LNY)	-16.43543	-41.77122	0.0000	Significant on α=5%	
D(LNY*)	3.021357	17.44232	0.0000	Significant on α=5%	
D(LNi)	0.162677	9.262961	0.0000	Significant on α=5%	
D(LNi*)	-2.222666	-63.30460	0.0000	Significant on α=5%	
ECT	0.998395	574.6244	0.0000	-	
C	-92.48134	-25.61168	0.0000	-	
LNE(-1)	1.128513	2.576476	0.0076	Significant on α=5%	Long Term
LNY(-1)	-1.893267	-2.823090	0.0075	Significant on α=5%	
LNY*(-1)	0.157711	1.282348	0.2073	Not Significant to pada α=5%	
LNi(-1)	-0.002229	-0.138099	0.8909	Not Significant to pada α=5%	
LNi*(-1)	-0.001663	-0.046253	0.9633	Not Significant to pada α=5%	

Exchange rate IDR / CNY (E) with a t-statistic value of 46.64072 and probability value of 0.0000, the results of the research data processing showed that the exchange rate IDR / CNY (E) variable had a positive coefficient with a value of 10.45391. It was concluded that the exchange rate of IDR / CNY (E) in the short term had a positive and significant effect on the Indonesian Balance of Payment (BOP). Whereas in the long run the IDR / CNY exchange rate IDR / CNY (Et-1) with a t-statistic value of 2.576476 and the probability value of 0.0076, the results of the research data processing show that the exchange rate IDR / CNY (Et-1) has a positive coefficient with a value of 1.128513. It was concluded that the exchange rate of IDR / CNY (Et-1) in the long run had a positive and significant effect on the Indonesian Balance of Payment (BOP). Keynesian theory also suggests that devaluation can improve the balance of payments. If the balance of payments can be improved by devaluation, it indicates that Marshal-Lerner still exists in Indonesia.

In the short term variable Gross Domestic Product Indonesian (Y) with a t-statistic value of -41.77122 and the probability value of 0.0000, the results of research data processing show that for the variable Indonesian Gross Domestic Product (Y) has a coefficient of negative sign with a value of -16.43543 it means that if there is an increase in the variable Indonesian Gross Domestic Product (Y), it will reduce the Indonesian Balance of Payment (BOP). It was concluded that Gross Domestic Product Indonesia (Y) in the short term had a negative and significant effect on the Indonesian Balance of Payment (BOP). According to research conducted by Murti (2007) explained that GDP and current account balance have a negative relationship. Where any increase in income as measured by the amount of GDP, will create a tendency for people to increase their spending, including imported goods.

Whereas in the long run the Indonesian Gross Domestic Product variable (Y-1) with a t-statistic value of -2.823090 and the probability value of 0.0075, the results of research data processing show that for the variable Gross Domestic Product Indonesia (Y-1) has a coefficient with a negative sign with value of -1.893267. It was concluded that Gross Domestic Product Indonesia (Y-1) in the long run had a negative and significant effect on the Indonesian Balance of Payments (BOP). Keynesian theory explains that if for some reason a country's income rises, then through a multiplier process it can cause increased imports. If the increase in imports is greater than the increase in exports, then this can cause an International Balance of Payment deficit. So it can be concluded that Domestic GDP negatively affects the Domestic International Payment Balance because if a country's GDP rises, imports will rise, the increase in imports will certainly cause the Domestic International Payment Balance to experience a deficit.

In the short term the China's Gross Domestic Product China (Y *) with a t-statistic value of 17.44232 and the probability value of 0.0000, the results of research data processing show that for the variable China Gross Domestic Product (Y *) has a coefficient marked positive with a value of 3.021357 meaning if If there is an increase in the variable China Gross Domestic Product (Y *) it will raise the Indonesian Payment Balance (BOP). It was concluded that the China Gross Domestic Product (Y *) in the short term had a

positive and significant effect on Indonesia's Balance of Payments (BOP). Foreign GDP (Gross Domestic Product) affects the current account through exports because foreign GDP reflects world demand for Indonesian export products.

Whereas in the long run the China Gross Domestic Product variable (Y * -1) with a t-statistic value of -1.282348 and the probability value of 0.2073, the results of research data processing show that for the China Gross Domestic Product variable (Y * t-1) has a coefficient marked positive with a value of 0.157711. It was concluded that the Chinese Gross Domestic Product (Y * -1) in the long run had a positive and not significant effect on the Indonesian Balance of Payment (BOP). The Monetary Theory above supports the research results of [6] who obtained the result that an increase in GDP had no effect on the balance of payments. These findings are in line with research data Tw. II-2013 GDP increased to Rp 2,036,817 billion and in the same period the balance of payments recorded a deficit of USD 2,477 million.

In the short term the BI interest rate variable (i) with a t-statistic value of 9.262961 and the probability value of 0.0000, the results of the research data processing show that for the BI interest rate variable (i) has a coefficient marked positive with a value of 0.162677 meaning there is an increase in the variable variable BI interest (i) will increase Indonesia's balance of payments (BOP). It was concluded that the BI interest rate (i) in the short term had a positive and significant effect on Indonesia's Balance of Payments (BOP). The relationship of interest rates and the International Balance of Payments is explained by Keynesian theory through the income mechanism, where if interest rates rise, there will be a decrease in investment and a decrease in aggregate income. This condition will reduce imports and cause a balance of payments surplus.

Whereas in the long run the BI interest rate variable (i * -1) with a t-statistic value of -0.138099 and the probability value of 0.8909, the results of research data processing show that for the BI interest rate variable (it-1) has a coefficient marked negative with a value -0.002229 means that an increase in the BI interest rate variable (it-1) will reduce the Indonesian Payment Balance (BOP). It was concluded that the BI interest rate (it-1) in the long run had a negative and not significant effect on the Indonesian Balance of Payment (BOP). The results of this study are consistent with research conducted by [7]. The results of this study note that interest rates do not affect the trade balance in Indonesia. The interest rate policy can have an impact on economic activity because high interest rates result in expensive cost of money. This will weaken export competitiveness in the world market. The results of this study are relevant to the research of [8] which states that the interest rate has no effect on the fluctuation of the trade balance in Indonesia.

In the short term the China's interest rate variable (i *) with a t-statistic value of -63.30460 and the probability value of 0.0000, the results of research data processing show that for the China'sinterest rate variable (i *) has a coefficient of negative sign with a value of -2.222666. It was concluded that China's interest rates (i *) in the short term had a negative and significant effect on Indonesia's Balance of Payments (BOP). The mobility of Indonesia's foreign capital flows is basically driven by high domestic interest rates and is also closely related to the level of investor confidence in the condition of Indonesia's economic fundamentals. So investing in Indonesia is quite promising in terms of security and return investment that will be achieved. So that the decline in foreign interest rates is not too a consideration for investors to flow their funds in the Indonesian financial market [9].

Whereas in the long run the China's interest rate variable (i* t-1) with a t-statistic value of -0.046253 and the probability value of 0.9633, the results of research data processing show that for the China's interest variable (i * t-1) has a marked coefficient negative with a value of -0.001663. It was concluded that China's interest rates (i * t-1) in the long run had a negative and not significant effect on the Indonesian Balance of Payments (BOP). Monetary Theory explains that if interest rates rise then through the money market balance, demand for domestic money will increase so that the value of the domestic currency appreciates.

ACKNOWLEDGMENT

Thank you to Dr. M. Yusuf Harahap, M.Sc, & and Mr. Andri Zainal, M.Sc. Ph.D, Ak, CA who helped and provided me completing this paper

REFERENCES

[1] Badan Pusat Statistik. https://www.bps.go.id, 2018

[2] Dede Ruslan, Pengantar Ekonomi Makro, Medan: Stade University of Medan, 2015

[3] Sadono Sukirno, Makroekonomi Modern :Perkembangan Pemikiran dari Klasik Hingga Keynesian Baru. Jakarta: PT Raja GrafindoPersada,2000

[4] R. Handoko, Faktor- Faktor Yang Mempengaruhi Kinerja Transaksi Berjalan Indonesia. Kajian Ekonomi dan Keuangan, Vol. 14, No.4, hal. 1-24, 2015

[5] Wulandari, Pengaruh Inflasi, Produk Domestik Bruto (PDB) Dan Cadangan Valas Terhadap Neraca Pembayaran Indonesia. Edisi Yudisium. Vol.3(2),2015

[6] Badan Koordinasi Penanaman Modal Indonesia, https://www.bkpm.go.id, 2018

[7] Jarita Duasa, The Malaysian Balance of Paymens: Keynesian Approach Versus Monetary Approach. Global Economic Review, Perspective on East Asian Economies and Industries. Vol. 37 (1), 2004

[8] Agus Wijarno, Analisis Ekonometrika dan Statistika dengan Eviews, Edisi Ketiga.Yogyakarta : Unit PenerbitdanPercetakan (UPP STIM YKPN), 2011

[9] Asnawi dan Hasniati, Pengaruh Produk Domestik Bruto, Suku Bunga Terhadap Neraca Perdagangan Indonesia. Jurnal Ekonomi Regional Unimal, Vol 1 No.1, hal.1-7, 2018